

Bibliography of Fish Reproduction 1963-1974

Part 1 of 3 Parts

General, Non-teleostean Species and Teleostei, Abramis to Clinostomus

Edward M. Donaldson

Research and Resource Services
4160 Marine Drive
West Vancouver, British Columbia V7V 1N6

September 1977

Fisheries & Marine Service
Technical Report No. 732



Fisheries and Environment
Canada

Fisheries
and Marine Service

Pêches et Environnement
Canada

Service des pêches
et de la mer

Fisheries and Marine Service Technical Reports

These reports contain scientific and technical information that represents an important contribution to existing knowledge but which for some reason may not be appropriate for primary scientific (i.e. *Journal*) publication. Technical Reports are directed primarily towards a world wide audience and have an international distribution. No restriction is placed on subject matter and the series reflects the broad interests and policies of the Fisheries and Marine Service, namely, fisheries management, technology and development, ocean sciences and aquatic environments relevant to Canada.

Technical Reports may be cited as full publications. The correct citation appears above the abstract of each report. Each report will be abstracted in *Aquatic Sciences and Fisheries Abstracts* and will be indexed annually in the Service's index to scientific and technical publications.

Numbers 1-456 in this series were issued as Technical Reports of the Fisheries Research Board of Canada. Numbers 457-714 were issued as Department of the Environment, Fisheries and Marine Service, Research and Development Directorate Technical Reports. The series name was changed with report number 715.

Details on the availability of Technical Reports in hard copy may be obtained from the issuing establishment indicated on the front cover.

Service des pêches et des sciences de la mer Rapports techniques

Ces rapports contiennent des renseignements scientifiques et techniques qui constituent une contribution importante aux connaissances actuelles mais qui, pour une raison ou pour une autre, ne semblent pas appropriés pour la publication dans un journal scientifique. Il n'y a aucune restriction quant au sujet, de fait, la série reflète la vaste gamme des intérêts et des politiques du Service des pêches et de la mer, notamment gestion des pêches, techniques et développement, sciences océaniques et environnements aquatiques, au Canada.

Les Rapports techniques peuvent être considérés comme des publications complètes. Le titre exact paraîtra au haut du résumé de chaque rapport, qui sera publié dans la revue *Aquatic Sciences and Fisheries Abstracts* et qui figurera dans l'index annuel des publications scientifiques et techniques du Service.

Les numéros 1-456 de cette série ont été publiés à titre de Rapports techniques de l'Office des recherches sur les pêcheries du Canada. Les numéros 457-700, à titre de Rapports techniques de la Direction générale de la recherche et du développement, Service des pêches et de la mer, ministère de l'Environnement. Le nom de la série a été modifié à partir du numéro 701.

La page couverture porte le nom de l'établissement auteur où l'on peut se procurer les rapports sous couverture cartonnée.

Fisheries and Marine Service
Technical Report 732

September 1977

BIBLIOGRAPHY OF FISH REPRODUCTION 1963-1974

PART 1 OF 3 PARTS

GENERAL, NON-TELEOSTEAN SPECIES AND
TELEOSTEI, ABRAMIS TO CLINOSTOMUS

by

Edward M. Donaldson

Research and Resource Services Directorate
Fisheries and Marine Service
Department of Fisheries and the Environment
4160 Marine Drive
West Vancouver, British Columbia V7V 1N6

(c) Minister of Supply and Services Canada

Cat. no. Fs 97-6/1977-732 ISSN 0701-7626

CONTENTS OF PART 1

Abstract	vii		
Introduction	1	Torpedo	67
Scope	1	Trygon	69
Arrangement	1	Urolophus	69
Sources	2	Squalomorpha	69
Request for feedback	3	General	69
Acknowledgments	4	Carcharhinus	69
Feedback forms	5	Centrophorus	70
References		Centroscymnus	70
Review	8	Cephaloscyllium	70
Bibliography	11	Cetorhinus	70
General	12	Galeus	71
Agnatha	51	Ginglymostoma	71
General	51	Halaelurus	71
Branchiostoma	51	Heptranchias	71
Caspiomyzon	51	Mustelus	71
Entosphenus	52	Prionace	72
Eptatretus	52	Rhincodon	72
Ichthyomyzon	52	Scyliorhinus	72
Lampetra	52	Scyllium	76
Mordacia	57	Sphyra	77
Myxine	58	Squalus	77
Petromyzon	59	Triakis	80
Polistotrema	60	Dipnoi	81
Holocephali	61	Lepidosiren	81
Chimaera	61	Neoceratodus	81
Hydrolagus	61	Protopterus	81
Elasmobranchii	62	Coelacanthini	83
General	62	Latimeria	83
Rajomorpha	63	Chondrostei	84
Dasyatis	63	General	84
Gymnura	64	Acipenser	84
Narcine	64	Calamoichthys	94
Raia	64	Huso	94
Raja	65	Polyodon	95
Rhinobatus	67	Polypterus	95

Holostei	96	Amphiprion	125
General	96	Amphiuma	125
Amia	96	Anabantidae	125
Lepisosteus	96	Anabas	125
Teleostei	97	Anarhichas	126
General	97	Anchoa	126
Abramis	113	Anchoviella	126
Abudefduf	116	Aencylosetta	126
Acanthemblemaria	116	Anguilla	127
Acanthias	116	Anoplopoma	134
Acanthobrama	116	Anoptichthys	135
Acanthocephola	117	Anotopterus	135
Acanthochromis	117	Antennarius	135
Acanthoclinus	117	Anthias	136
Acanthocybium	117	Apeltes	136
Acanthopagrus	117	Aphyia	136
Acanthuridae	117	Aphyosemion	136
Acerina	117	Apistogramma	136
Acheilognathus	118	Apogon	137
Achirus	118	Arapaima	137
Acrocheilus	118	Arbacia	137
Acyrtops	118	Arctogadus	137
Adinia	119	Areliscus	137
Aequidens	119	Argentina	137
Agonidae	119	Argyrosomus	137
Agonus	119	Ariidae	137
Albula	119	Aristichthys	138
Alburnus	120	Arius	139
Alectis	120	Arothron	140
Alepisaurus	120	Arripis	140
Alestes	120	Aspasma	140
Alosa	121	Aspasmichthys	140
Ambassis	124	Aspidophoroides	140
Ambloplites	124	Aspro	140
Ammodytes	124	Asterropteryx	140
Amphipnous	124	Astrabe	140

Astyanax	141	Brosme	156
Atherestes	141	Bryconalestes	156
Atheresthes	141	Bullisichthys	156
Atherina	142	Bunocephalus	157
Austrofundulus	142	Callinectes	157
Auxis	142	Callionymus	157
Badidae	143	Carangidae	157
Badis	143	Caranx	157
Bagre	143	Carassius	157
Bairdiella	143	Carpioches	168
Barbus	143	Cataetyx	168
Barilius	145	Catla	168
Bathophilus	145	Catostomus	169
Bathygobius	145	Centrarchidae	170
Bathylagus	145	Centrarchus	171
Bathypterois	146	Centrolophus	171
Belone	146	Centrophryne	171
Benthalbella	146	Centropomus	171
Benthenchelys	146	Centropristes	171
Betta	146	Cepola	171
Biwia	147	Ceratias	172
Blennius	148	Cetengraulis	172
Blepharis	148	Chaenocephalus	172
Blicca	148	Chaenogobius	172
Boleophthalmus	149	Chalcalburnus	172
Boops	149	Chalinura	173
Boreogadus	150	Chanda	173
Bothidae	150	Channa	173
Botia	150	Chanos	174
Brachydanio	150	Characodon	174
Brachydeuterus	155	Chasmichthys	174
Brachygalaxias	155	Chasmistes	174
Brachyrhaphis	155	Chasmodes	174
Bregmaceros	155	Cheilodactylus	175
Brevoortia	155	Cheilodipterus	175

Cheilopogon	175
Chelonodon	175
Chloroscombrus	175
Chondrostoma	175
Chromis	176
Chrosomus	176
Chrysichthys	176
Chrysophrys	177
Cichlasoma	177
Cichlidae	178
Cirrhina (Cirrhinus)	179
Citharichthys	181
Clarias	181
Cleisthenes	183
Clinocottus	183
Clinostomus	183

ABSTRACT

Donaldson, E.M. 1977. Bibliography of fish reproduction 1963-1974. Part 1 - General, Non-teleostean species and Teleostei, Abramis to Clinostomus. Part 2 - Teleostei, Clupea to Ompok. Part 3 - Teleostei, Oncorhynchus to Zygonectes and Addendum. Fish. Mar. Serv. Tech. Rep. 732 : 572 p.

This bibliography contains references on all aspects of fish reproduction; ovarian and testicular development, ovulation and spermiation, reproductive behavior, spawning, fertilization, fecundity, development of the egg, hatching and early larval development. All types of fish have been included from Agnathans to Teleosteans. The references have been grouped according to the major classification sub-divisions and within each major grouping alphabetically by genus.

Key words: Bibliography, fish, reproduction, ovary, testis, pituitary, ovulation, spawning, fecundity, hatching.

RÉSUMÉ

Donaldson, E. M. 1977. Bibliography of fish reproduction 1963-1974. Part 1 - General, Non-teleostean species and Teleostei, Abramis to Clinostomus. Part 2 - Teleostei, Clupea to Ompok. Part 3 - Teleostei, Oncorhynchus to Zygonectes and Addendum. Fish. Mar. Serv. Tech. Rep. 732: 572 p.

L'auteur a établi une bibliographie des références relatives aux aspects suivants de la reproduction des poissons: maturation ovarienne et testiculaire; ovulation et spermiation; comportement reproducteur; frai; fécondation; fécondité; développement embryonnaire; incubation et développement larvaire aux premiers stades. Tous les poissons, des agnathes aux téléostéens, ont été répertoriés. Les références sont groupées selon les grandes subdivisions de la classification et rangées par ordre alphabétique suivant le genre.

Mots-clés: bibliographie, poissons, reproduction, ovaire, testicule, hypophyse, ovulation, frai, fécondité, incubation.

INTRODUCTION

The purpose of this bibliography is to provide a solid body of references on reproduction in fish for use by fisheries scientists and fish culturists in both Canada and the other countries of the world where fish provide a significant source of protein. It is intended that the bibliography will be of particular assistance to those scientists in the developing countries who do not have access to search facilities or the larger bibliographic indices and abstract services at their place of work.

The first collection of references on reproduction in fish was included in "The physiology of the pituitary gland of fishes" by Grace E. Pickford and James W. Atz (1957). This compendium of early work in this field is still heavily used by researchers and was followed in 1964 by FAO Fisheries Biology Technical Paper No. 37 (FB/T37) titled "The pituitary gland and its relation to the reproduction of fishes in nature and in captivity. An annotated bibliography for the years 1956-1963" by James W. Atz and Grace E. Pickford. There has been no thorough bibliography prepared on fish reproduction which brings together research carried out since 1963.

SCOPE

To be of the greatest possible assistance the bibliography has been made as comprehensive as possible. It includes approximately 6600 titles from the year 1963 to the year 1974 inclusive. Papers were added through 1975 and 1976 if they had been published prior to January 1975. The only exception to this rule was the inclusion of papers from the EIFAC Workshop on Controlled Reproduction of Cultivated Fishes which was held in 1973 but not published until 1976 as EIFAC/T25. Titles on all aspects of fish reproduction in all species have been included; ovarian and testicular development, ovulation and spermiation, reproductive behaviour, spawning, fertilization, fecundity, development of the egg, hatching and early larval development. The bibliography provides less comprehensive coverage for events occurring after fertilization than those occurring prior to fertilization.

ARRANGEMENT

Titles have been grouped according to the major classification subdivisions and each major group has been arranged alphabetically according to genus or higher taxonomic classification level where the genus is not indicated. Under each heading the papers have been arranged alphabetically by first author and year of publication according to the system used by the

Journal of the Fisheries Research Board of Canada. Journal titles were abbreviated according to the style of the bibliographic source, and citations follow where possible the style of the Journal of the Fisheries Research Board of Canada. While many references were verified (checked against the original) this was not possible for a significant proportion and in a small number of cases the inclusive pagination is not provided. English translations of titles have been used with or without the title in the original language. Where a translation was not available the original language has been used.

References which included research on up to three species were listed separately under each species. References which included more than three species or where specific species are not mentioned in the title or abstract are included under the heading 'general' or if they are known to deal only with, for example, teleosts then they were listed under the heading 'teleostei general'. Where the scientific name of a species has been changed during the time period covered by the bibliography the references were listed according to the name used by the author. References on Indian major carps of unspecified species have been included under the heading "Indian major carp". Appropriate titles have been included under the headings bibliography or review.

To further facilitate use of the bibliography it would have been desirable to produce a subject index of the KWIC (key word in context) or KWOC (key word out of context) type, however, the large number of references in the bibliography made the cost of the computer processing prohibitive.

SOURCES

The following sources were searched for titles:

1. Bibliography of Reproduction, 1963-1975 - Vols. 1-25. Reproduction Research Information Service Limited, 141 Newmarket Road, Cambridge CB5 8HA, England.
2. Aquatic Biology Abstracts, 1970-1971 - Vols. 1-2; name changed to Aquatic Sciences and Fisheries Abstracts, 1971-1975 - Vols. 3-5. Information Retrieval Ltd., London, England and Washington, D.C.
3. Can/SDI Science Citation Index, 1970-1975. Canadian Institute for Scientific and Technical Information, National Research Council, Ottawa, Ontario, Canada.

(weekly search of Science Citation Index tapes by key word profile)

4. Author's personal collection of approximately 1000 papers on fish reproduction.
5. Lists of publications of fish reproduction were obtained from the following individuals:

Dr. V. Apekin	Dr. Ching-Ming Kuo
Dr. R. Billard	Dr. Chan-Lui Lee
Dr. Kun-hsiung Chang	Dr. I-Chiu Liao
Dr. H. Chaudhuri	Dr. R.C. May
Dr. G. Chieffi	Dr. R.H. Meakins
Dr. L. Colombo	Dr. Ch. Meske
Dr. M. Fontaine	Dr. S. Mito
Dr. F.E.J. Fry	Dr. S. Pandey
Dr. J.I. Furtado	Dr. R.E. Peter
Dr. T. Gjedrem	Dr. B.N. Saigal
Mr. J.L. Gaudet	Dr. R.L. Saunders
Dr. N.E. Henderson	Dr. D.B.C. Scott
Dr. K. Hirose	Dr. B.I. Sundararaj
Dr. D.R. Idler	Mr. F.C. Withler
Dr. V.G. Jhingran	Dr. E. Woynarovich

REQUEST FOR FEEDBACK

In compiling a bibliography of this nature it is impossible to locate all relevant references or to ensure that all references included are accurate.

To this end forms have been provided for users of the bibliography to submit omitted references or to provide corrections to inaccurate references. These may be included in a future supplement to the bibliography.

Furthermore, the author wishes to maintain an up-to-date collection of papers on fish reproduction and to this end requests that users of the bibliography send or continue to send reprints of their research papers or technical reports to him at the following address:

Nutrition and Applied Endocrinology Program,
Research and Resource Services Directorate,
Fisheries and Marine Service,
4160 Marine Drive,
West Vancouver, B.C.
Canada V7V 1N6

ACKNOWLEDGMENTS

First of all I wish to thank Mrs. Morva Young who sorted the references by generic name, eliminated duplicates and typed the major part of the bibliography.

George Hunter did an excellent job of searching the Bibliography of Reproduction (Cambridge) and Aquatic Sciences and Fisheries Abstracts as did Ms. Helen M. Dye for CAN/SDI and my personal reprint collection.

Appreciation is also due to Cecilia Cheropita, Satomi Hirano and Valerie Smalley who provided stenographic assistance at various stages.

Support and encouragement for this project by Dr. W.E. Johnson, Acting Director General, Fisheries Management, Pacific Region, Dr. W.E. Razzell, Director, Industry, Technology and Inspection and many other colleagues throughout the world is sincerely acknowledged.

Cut here

Omitted Reference Corrected Reference Page
Species _____ Year _____
Author (s) _____
Title _____

Journal _____
Volume and pages _____

----- fold -----

Omitted Reference Corrected Reference Page
Species _____ Year _____
Author (s) _____
Title _____

Journal _____
Volume and pages _____

----- fold -----

Omitted Reference Corrected Reference Page
Species _____ Year _____
Author (s) _____
Title _____

Journal _____
Volume and pages _____

Omitted Reference Corrected Reference Page

Species _____ Year _____

Author (s) _____

Title _____

Journal _____

Volume and pages _____

----- fold -----

Cut here Omitted Reference Corrected Reference Page

Species _____ Year _____

Author (s) _____

Title _____

Journal _____

Volume and pages _____

----- fold -----

Cut here Omitted Reference Corrected Reference Page

Species _____ Year _____

Author (s) _____

Title _____

Journal _____

Volume and pages _____

Omitted Reference	<input type="text"/>	Corrected Reference	<input type="text"/>	Page	<input type="text"/>	
Species	Year _____					
Author (s)						
Title						
Journal						
Volume and pages						
----- fold -----						
Cut here	Omitted Reference	<input type="text"/>	Corrected Reference	<input type="text"/>	Page	<input type="text"/>
Species	Year _____					
Author (s)						
Title						
Journal						
Volume and pages						
----- fold -----						
Cut here	Omitted Reference	<input type="text"/>	Corrected Reference	<input type="text"/>	Page	<input type="text"/>
Species	Year _____					
Author (s)						
Title						
Journal						
Volume and pages						

REVIEW

- Balon, E.K. 1971. The intervals of early fish development and their terminology (a review and proposals). *Vestnik Cesk. Spolecnosti Zool.* 35: 1-8.
- Bakos, J., L. Horvath, I. Jaczo and G. Tamas. 1973. Breeding habits of the major cultivated fishes of EIFAC region and problems of sexual maturation in captivity. EIFAC Workshop on Controlled reproduction of cultivated fishes EIFAC/T25: 25-42.
- Bhimachar, B.S. and S.D. Tripathi. 1967. A review of culture fisheries activities in India FAO Fish. Rep. 44(2): 1-33.
- Bhowmick, R.M. 1969. Rearing of breeders, sexing and segregation of cultivated fishes - FAO/UNDP Regional Seminar on induced breeding of cultivated fishes, India. FRI/IBCF/9. 23p.
- Blaxter, J.H.S. 1970. Development: eggs and larvae. Chap. In: Fish Physiology, Vol. 3, Hoar, W.S., Randall, D.J. (eds.). Academic Press, Lond. and N.Y. 178-252.
1974. The early life history of fish. Proc. Int. Symp. Dunstaffnage, Mar. Res. Lab. Scottish Mar. Biol. Assoc. Oban, Scotland. Springer-Verlag, N.Y., Heidelberg, Berlin.
- Clemens, H.P. 1968. A review of selection and breeding in the culture of warm-water food fishes in North America. FAO Fish. Res. 44(4): 67-80.
- Dodd, J.M. 1972. Endocrine regulation of gametogenesis and gonad maturation in fishes. (teleosts, cyclostomes, elasmobranchs). Gen. Comp. Endocr. Suppl. 3: 675-687.
- Dodd, J.M., B.K. Follett and P.J. Sharp. 1971. Hypothalamic control of pituitary function in submammalian vertebrates. In: Advances in Comparative Physiology and Biochemistry, Vol. 4. Lowenstein, O. (ed.). 114-224. Academic Press, N.Y. and Lond. U.K.
- Dodd, J.M. and J.P. Wiebe. 1968. Endocrine influences on spermatogenesis in cold-blooded vertebrates. Arch. Anat. (Strasb.). 51: 155-174.
- Donaldson, E.M. 1973. Physiological and physico-chemical factors associated with maturation and spawning. EIFAC Workshop on controlled reproduction of cultivated fishes EIFAC/T25: 53-71.
1973. Reproductive endocrinology of fishes. Am. Zool. 13: 909-928.
- Hoar, W.S. 1965. Comparative physiology: hormones and reproduction in fishes. Ann. Rev. Physiol. 27: 51-70.
1971. Reproduction. Fish Physiology Vol. III. p. 1-72. W.S.

- Hoar and D.J. Randall (eds.). Acad. Press.
- Hoar, W.S. and D.J. Randall (eds.). 1970. Fish Physiology, Vol. 2. Endocrine system. 447p. Academic Press, Lond.
1970. Fish Physiology, Vol. 3, Reproduction and growth; bioluminescence, pigments and poisons. 450p. Academic Press, Lond.
1971. Fish Physiology, Vol. VI. Environmental relations and behaviour, xiv, 559p. Academic Press, Lond.
- Holliday, F.G.T. 1969. The effects of salinity on the eggs and larvae of teleosts. Fish Physiology, Vol. 1: 293-311, W.S. Hoar and D.J. Randall (eds.). Academic Press, Lond.
- Jhingran, V.G. 1969. Review of the present status of knowledge on induced breeding of fishes and problems for future research. FAO/UNDP Regional seminar on induced breeding of cultivated fishes. FRI/IBCF/27.
- Kausch, H. 1973. Breeding habits of the major cultivated fishes of EIFAC region and problems of sexual maturation in captivity. EIFAC Workshop on controlled reproduction of cultivated fishes EIFAC/T25: 43-52.
- Liley, N.R. 1970. Hormones and reproductive behavior in fishes. Chap. In: Fish Physiology, Vol. 3, W.S. Hoar and D.J. Randall (eds.). Academic Press, Lond.
- Nakano, E. 1970. Fishes (fertilization mechanisms). Chap. In: Fertilization: Comparative Morphology, Biochemistry, and Immunology, Metz, C.B. and Monroy, A. (eds.). Academic Press, Lond.
- Reinboth, R. 1970. Intersexuality in fishes. In: Hormones and the Environment, Benson, G.K. and Phillips J.G. (eds.). 515-543. Cambridge Univ. Press, Lond.
- Shehadeh, Z.H. 1970. Controlled breeding of culturable species of fish - a review of progress and current problems. Indo-Pacific Fisheries Council, 14th Session, Bangkok, Thailand, IPFC/C70/SYM2: 1-33.
1972. Controlled breeding of culturable species of fish - a review of progress and current problems (In: Coastal aquaculture in the Indo-Pacific region, Pillay, T.V.R. (ed.), Fishing News (Books) Ltd., 180-194.
1973. Induced breeding techniques - a review of progress and problems. EIFAC Workshop on controlled reproduction of cultivated fishes EIFAC/T25: 72-89.
- Simpson, T.H. 1968. Hormones in fish - a review. Rep. Challenger Soc. 3(20): 38.

- Sundararaj, B.I. and S.V. Goswami. 1973. Comparative aspects of oocyte maturation in submammalian vertebrates: a review. Proceedings of the Indian National Science Academy, B, 39: 286-295.
- deVlaming, V.L. 1972. Environmental control of teleost reproductive cycles: a brief review. J. Fish Biol. 4(1): 131-140.
- Woynarovich, E. 1973. The role of induced breeding in fish culture development. EIFAC Workshop on controlled reproduction of cultivated fishes EIFAC/T25: 18-24.
- Yamamoto, T.O. 1970. Sex differentiation. Chap. In: Fish Physiology, Vol. 3, W.S. Hoar and D.J. Randall (eds.). 117-175. Academic Press, Lond.
- Yamazaki, F. 1969. Gonadotropin of fishes (review). Bull. Jap. Soc. Sci. Fisheries. 35(7): 695.

BIBLIOGRAPHY

- Anon. 1963-1974. Bibliography of Reproduction. Vols. 1-24. Reproduction Research Information Service Ltd. Cambridge, England. CB5 8HA.
- Anon. 1971. Bibliography of aquaculture Washington, D.C. The George Washington University. Biological Sciences Communication Project, Wilmington, North Carolina 28401, Coastal Plains Cent. Mar. Develop. Services, P.O. Box 3643, USA, 1-245.
- Atz, J.W. 1968. Dean Bibliography of fishes. 512pp. The American Museum of Natural History, New York, N.Y.
1969. Dean Bibliography of fishes. 853pp. The American Museum of Natural History, New York, N.Y.
- Atz, J.W. and G.E. Pickford. 1964. Pituitary gland and its relation to the reproduction of fishes in nature and in captivity. (annotated bibliography 1956-1963). FAO Fisheries Biol. Techn. Paper No. 37.
- Bern, H. and G. Chieffi. 1968. Bibliography on the steroid hormones of fishes. Pubbl. Staz. Zool. Napoli. 36: 287-320.
- Dangel, J.R., P.T. Macy and F.C. Withler. 1973. Annotated bibliography of interspecific hybridization of fishes of the subfamily Salmoniae. N.O.A.A. TEch. Mem. NMFS NWFC-1. 48pp.
- Jones, S. and P. Bensam. 1968. Annotated bibliography on the breeding habits and development of fishes of the Indian region. Bull. Cent. Mar. Fish. Res. Inst. No. 3: i-ii, 1-154.
- May, R.C. 1972. An annotated bibliography of attempts to rear the larvae of marine fishes in the laboratory. Spec. Sci. Rep. U.S. Fish. Wildl. Serv., 632: 1-24.
- Schwartz, F.J. 1972. World literature to fish hybrids with an analysis by family, species, and hybrid. Publ. Gulf Coast Res. Lab. Mus., 3: 328p.

GENERAL

- Abramova, N.B. 1968. Isolation of mitochondria and yolk structures from developing fish embryos. *Tsitologiya*. 10(4): 481-487. Rus. sum. in En.
- Abrosimoua, N.M. and R.I. Tatarskaya. 1963. Properties of adenosine triphosphatase in various fractions of fish eggs. *Biokhimiya*. 28: 486-496.
- Acher, R., J. Chauvet, M.T. Chauvet and D. Crepy. 1966. Phylogeny of neurohypophyseal peptide hormones (mammals, birds, amphibia, fish). *Bull. Soc. Chim. Biol.* 47: 2279-2291.
- Ahlstrom, E.H. 1968. What might be gained from an oceanwide survey of fish eggs and larvae in various seasons. *Rep. Calif. Coop. Oceanic Fish. Invest.* 12: 64-67.
1971. Kinds and abundance of fish larvae in the eastern tropical Pacific, based on collections made on EASTROPAC I. *Fish. Bull. US Dep. Commer.*, 69(1): 3-77.
1972. Distributional atlas of fish larvae in the California Current region: six common mesopelagic fishes - Vinciguerria lucetia, Triphoturus mexicanus, Stenobrachius leucopsarus, Leuroglossus stilbius, Bathylagus wesethi, and Bathylagus ochotensis, 1955 through 1960. *Rep. Calif. Coop. Oceanic Fish. Invest.* 17: 306p.
1972. Kinds and abundance of fish larvae in the eastern tropical Pacific on the second multivessel EASTROPAC survey, and observations on the annual cycle of larval abundance. *Fish. Bull. Natl. Oceanic Atmos. Adm.* 70(4): 1153-1209.
- Akimova, N.V., D.K. Mal'dutite and M.M. Schikhshabekov. 1969. Development of sex cells of fishes under natural and changed conditions. Demonstrations presented at the 9th International Embryological Conference, Moscow, 25-29th August 1969. Publishing House, Nauka, Moscow.
- Almazov, A.M. 1966. Changes of regime and the natural reproduction of fish stocks in the Dnieper under conditions of regulated flow. In: *Ekologiya Vodnykh Organizmov*, Anon: 110-119.
- Altukhov, Yu.P. 1974. Population genetics of fishes. Original title: *Populyatsionnaya Genetika Ryb*. From *Populyatsionnaya Genetika Ryb*, *Fishchevaya Promyshlennost'* Press, Moscow. 1-248. *Fish. Mar. Serv. Transl. Ser. No. 3548-1975*.
- Anderson, J.W. and P.H. Poe. 1968. Spawning surveys in the Kvichak District in 1968. *Contr. Univ. Wash. College (Sch.)*. Fish. 300: 25-26.
- Anderson, W.A. and P. Personne. 1970. Localization of glycogen in the spermatozoa of various invertebrate and vertebrate species. *J. Cell Biol.* 44: 29-51.

- Andriashev, A.P. 1965. General review of the Antarctic fish fauna. (incl. reproduction). Monographine Biol. 15: 491-450.
- Anon. 1966. Report on international roundtable on steroid hormones in fishes at the Stazione Zoologica of Naples. Gen. Comp. Endocr. 7: 203-204.
1968. Proceedings XII International Congress of Genetics, Tokyo, Japan, 19-28 August 1968, Proc. XII Int. Congress Genet. 1: 1-354.
1970. Distribution of fish eggs and larvae in the Indian Ocean. Indian Ocean Biological Centre, Plankt. Atlas Indian Ocean Biol. Cent. 2(2): unpag. 91.
1970. Species of fishes bred in zoos and other institutions, 1968. In: International Zoo Year Book Vol. 10. J. Lucas (ed.). 309-310. Pub. Zoological Society, London.
1971. The ninth annual congress of the Australian Society for Limnology held at Colac, Victoria in Feb. 1970. Bull. Aust. Soc. Limnol. 3: 14-24.
1972. FAO ad hoc working party on genetic selection and the conservation of genetic resources of fish. FAO Fish. Rep. (119): 13 p.
1972. Handbook to the international zooplankton collections. Vol. 3: Proceedings of the workshop on plankton methods. Indian Ocean Biological Centre, Cochin, Indian Ocean Biol. Cent. 64p.
1972. UFAW Handbook on the care and management of laboratory animals, 4th Ed. 624p. Churchill Livingstone, Edinburgh and Lond., U.K.
1973. Fish eggs and larvae. Nature. 243: 376-377.
1974. Species of fishes bred in captivity during 1972. Int. Zoo Yb. 14: 330-331.
- Anstee, D.J., P.D.J. Holt and G.I. Pardoe. 1973. Agglutinins from fish ova defining blood groups B and P. Vox. Sang. 25(4): 347-360.
- Antalfi, A. and I. Tolg. 1968. Növényevő halak Mezőgazdasági Kiadó, Budapest.
1971. Halgazdasági ABC Mezőgazdasági Kiadó, Budapest. 1-218.
1972. Növényevő halak (2.kiadás) Mezőgazdasági Kiadó, Budapest. 1-202.

Arrignon, J. 1970. Aménagement piscicole des eaux intérieures. Paris, Sedetec S.A. 643p.

Arvy, L. 1971. Enzymic activity of the gonads. Ch. V. 417-483. From: Histoenzymology of the Endocrine Glands. Pergamon Press. Oxford.

Atz, J.W. 1973. Comments on "Reproductive Endocrinology of fishes" by E.M. Donaldson. (Am. Zool. 13: 909-928). Am. Zool. 13: 929-932.

Backiel, T. 1966. On the dynamics of an intensively exploited fish-population. Verhandl. Int. Ver. Limnol. 16: 1237-1244.

Backstrom, J. 1969. Distribution studies of mercuric pesticides in quail and some fresh-water fishes. Acta pharmac. tox. 27, Suppl. 3: 103p.

Bagenal, T.B. 1970. Fish eggs and next generation. 2: 383.

1971. The interrelation of the size of fish eggs, the date of spawning and the production cycle. J. Fish. Biol. 3(2): 207-219.

Baggerman, B. 1968. Hormonal control of reproductive and parental behaviour in fishes. In: Perspectives in endocrinology, Barrington, E.J.W. and Jorgensen, C.B. (eds.). 351-404. Academic Press.

Baker, P.C. and W.B. Quay. 1969. 5-hydroxytryptamine metabolism in early embryogenesis, and the development of brain and retinal tissues. A review. (mammals, birds, amphibia, fish). Brain Res. 12: 273-295.

Ball, J.N. 1970. Prolactin (fish prolactin or paralactin) and growth hormone. Chap. In: Fish Physiology, Vol. 2, W.S. Hoar and D.J. Randall (eds.). Academic Press, Lond.

Ball, J.N. and B.I. Baker. 1970. Pituitary gland: anatomy and histo-physiology. (fish). Chap. In: Fish Physiology, Vol. 2, W.S. Hoar and D.J. Randall (eds.). Academic Press, Lond.

Barannikova, I.A. 1973. Gonadotrophic and sex hormones and their effects in cold blooded vertebrates. 685-710. From: I.E.P.T. Section 85, M.J. Michelson (ed.). Pergamon Press, Oxford and New York.

Barannikova, I.A. and N. Gerbilskii. 1969. Endocrinological basis for adaptations to ecology in fishes. Gen. Comp. Endocrinol. Suppl. 2: 227-237.

Bardach, J.E. and J.H. Todd. 1970. Chemical communication in fish. 205-240. In: J.W. Johnston Jr., D.G. Moulton, and A. Turk (eds.). Communication by chemical signals. Appleton-Century-Crofts. New York, N.Y.

Barr, W.A. 1965. Endocrine physiology of fishes. Oceanogr. Mar. Biol. Ann. Rev. 3: 257-298.

Barr, W.A. 1968. Patterns of ovarian activity. (amphibia, fishes). In: Perspectives in endocrinology, E.J.W. Barrington and C.B. Jorgensen (eds.). 164-238. Academic Press.

Barrington, E.J.W. 1968. Steroid hormones: patterns of production and adaptive diversification of hormones and targets. (phylogenetic perspectives: reptiles, amphibia, fishes). In: Perspectives in endocrinology, E.J.W. Barrington and C.B. Jorgensen (eds.). 19-25. Academic Press.

Barrington, E.J.W. and C.B. Jorgensen (eds.). 1968. Perspectives in endocrinology: Hormones in the lives of lower vertebrates. (reptiles, amphibia, fishes). 583p. Academic Press.

Barton, R. 1970. Fish behaviour. World Fish. 19(10): 52-62.

Beckert, W.H. 1967. Comparative study of nuclei of various types of cells in representative species of the subphylum vertebrata, with respect to the sex chromatin body. (bony fishes, amphibians, reptiles, birds, g. pig, mouse, rat, rabbit). Diss. Abstr. 27: 3782-3B. Order No. 67-4801. abstr. (original 115p.).

Bell, G.R. 1967. A guide to the properties, characteristics and uses of some general anesthetics for fish. Fish. Res. Bd. Canada, Bulletin 148: 9p.

Benirschke, K. and T.C. Hsu. 1974. Chromosome Atlas: fish, amphibians, reptiles and birds. Vol. 2. 230p. Springer-Verlag, N.Y. Inc., U.S.

Berg, A. and E. Grimaldi. 1966. Ecological relationships between planktrophagic fish species in the Lago Maggiore (Italy). Verhandl. Int. Ver. Limnol. 16: 1065-1073.

Bern, H.A. 1967. Hormones and endocrine glands of fishes. Science, N.Y. 158: 455-462.

Billard, R. 1965. La spermatogenèse des Poissons. D.E.A., Fac. Sci., Lyon.

1966. Influence des facteurs externes sur le cycle sexuel des Poissons. Séminaire Labo. Biol. Gén. Appl., Fac. Sci., Lyon.

Billard, R. and B. Breton. 1970. Modifications ultrastructurales et cytochimiques des spermatozoïdes après dilution, chez les Poissons d'eau douce. Soc. Fse Microsc. électron. VIIème Congr. Intern. Microsc. électron., Grenoble 1970, 637-638.

Blum, V. 1968. Immunological investigation into anterior pituitary hormones with antibodies of mammals and fish. Acta Endocr. Copenh. 59: 379-389. Ger. sum. in En.

Blum, V. and K. Fiedler. 1972. (On the influence of prolactin and

- gonadotropins on the skin of some Mediterranean fish) Der einfluss von prolaktin und gonadotropinen auf die haut einiger mittelmeerfische. Zool. Jahrb. Allg. Zool. Physiol. Tiere. 76(3): 324-339.
- Boarder, A. 1968. Breeding habits of fishes. Aquarist Pondkpr. 33: 484-485.
- Boffa, G.A., B. Martin, J.J. Winchenne and R. Ozon. 1972. Steroid-protein interactions in human, amphibian and cyclostoma sera. Analytical ion exchange chromatography. Biochimie. 54(9): 1137-1146.
- Breder, C.M. and D.E. Rosen. 1966. Modes of reproduction in fishes. 94lp. Nat. Hist. Press. N.Y.
- Brett, J.R. 1970. 3. Temperature, 3:3 Animals, 3:32 Fishes. From: Marine Ecology. Vol. 1: Environ. Factors part 1; 513-560, O. Kinne (ed.).
- Breuer, H. and R. Ozon. 1965. Metabolism of androgens and oestrogens in lower vertebrates. Arch. Anat. Micr. Morph. Exp. 54: 17-34.
- Brezeanu, Gh. and V. Zinevici. 1971. (Contribution to the study of ichthyoplankton from the mixture zone of fresh and marine waters of Sulina Arm's mouth (Danube Delta)) Contributii la studiul ihtioplanc-tonului din zona de amestec a apelor dulci si marine de la varsarea bratului Sulina. Bul. Cercet. Piscic. 30(2): 49-56.
- Brown, V.M. and W.L. Templeton. 1964. Resistance of fish embryos to chronic irradiation. Nature (Lond.). 203: 1257-1259.
- Browning, H.C. 1973. Evolutionary history of the corpus luteum. Biol. Reprod. 8: 128-157.
- Brusle, J. 1971. (The germinal ultrastructure of precocious males (gonocytes, spermatogonia and spermatocytes). I.) Les infrastructures germinales males précoce (Gonocytes, spermatogonies et spermatocytes). I. Ann. Biol. 10(7-8): 353-402.
- Burton, J. 1973. Virgin birth in vertebrates. New Scient. 59: 334-335.
- Burton, R. 1972. Engineering better fish. Sea Frontiers. 18: 175-180.
- Butskaia, N.A. 1965. Cytochemical study of the testis in fishes. 1. Nucleic acids, proteins and polysaccharides. Arkh. Anat. 48: 17-23.
1966. Cytochemical study of the testis of fishes. 2. Lipids. Arkh. Anat. 51: 81-86.
- Calaprice, J.R. 1970. MS. Genetics and mariculture. Fish. Res. Bd. Canada Tech. Rept. 222: 10 p.
- Carmignani, M.P. and G. Zacccone. 1973. Histochemical analysis of the

- neurosecretory product in fishes. *Acta Histochem.* (Jena) 45: 232-240.
- Chadwick, A. 1966. Prolactin like activity in the pituitary gland of fishes and amphibians? *J. Endocr.* 35: 75-81.
- Channing, C.P., P. Licht, H. Papkoff and E.M. Donaldson. 1974. Comparative activities of mammalian, reptilian, and piscine gonadotropins in monkey granulosa cell cultures. *Gen. Comp. Endocr.* 22: 137-145.
- Chatterjee, N. 1964. New mode of nutrition of the growing oocytes of the fish and of the frog. *Cellule.* 64: 337-342.
- Chave, E.H., P.S. Lobel, J.B. Culp, K.E. Chave and G.S. Losey. 1974. Marine and freshwater aquarium systems for tropical animals. Hawaii Univ. Sea Grant Advisory Rep., UNIHI-Seagrant-AR-74-01, 96p.
- Cheprakova, J.I. 1969. Changes in the Fe content in the course of fish embryonic development. Demonstrations presented at the 9th International Embryological Conference, Moscow, 25-29th Aug. 1969. Publ. House, Nauka, Moscow.
- Chester Jones, I., D.K.O. Chan, I.W. Henderson and J.N. Ball. 1970. Adrenocortical steroids and adrenocorticotropin. (fish). Chap. In: Fish Physiology, Vol. 2, W.S. Hoar and D.J. Randall (eds.). Academic Press, Lond.
- Cheze-Viriot, G. 1974. L'épiphysé des poissons téléostéens, techniques d'approche, recherches morphologiques et expérimentales. Ph.D. Thesis. Univ. Toulouse, Toulouse, France. 352p.
- Chieffi, G. 1965. Onset of steroidogenesis in the vertebrate embryonic gonad. In: "Organogenesis", Holt, Rinehart and Winston, Inc. New York. 653-671.
1967. Occurrence of steroids in gonad of nonmammalian vertebrates and sites of their biosynthesis. *Excerp. Med. Intern. Cong.* 132: 1047-1057.
- Chieffi, G. and H. Bern. 1966. Report on International roundtable on steroid hormones in fishes at the Stazione zoologica of Naples. *Gen. Comp. Endocr.* 7: 203-204.
- Chieffi, G. and V. Botte. 1970. The problem of "Luteogenesis" in non-mammalian vertebrates. *Boll. Zool.* 37: 85-102.
- Chikova, V.M. 1966. State of spawning association, flocks of fishes and their propagation in the Cheremshank and Suskansk bays of the Kujbyshev reservoir. *Trudy Inst. Biol. Vnutrennikh. Vod.* 10(13): 29-45.
- Christ, E.J. and D.A. Van Dorp. 1972. Comparative aspects of PG biosynthesis in animal tissues (incl. mammals, birds, fish, invertebrates).

- Biochim. Biophys. Acta 270: 537-545.
- Christiansen, H.E., S.R. Brodsky and M.E. Cabrera. 1973. (Microscopical methods, applied at population level, on the gonads of marine vertebrates and invertebrates) La microscopia aplicada con criterio poblacional en el estudio de las gonadas de los vertebrados e invertebrados marinos. Physis (A), B. Aires, 32(85): 467-480.
- Christie, G.A. 1968. Comparative histochemistry of the yolk-sac. (cat, dog, ferret, rat, rabbit, g. pig, human, chick, oviparous fish). J. Anat. 102: 580.
- Christmas, J.Y., R. Waller and A. Perry. 1974. Investigations of coastal pelagic fishes. Completion Rep., Gulf Coast Res. Lab., 1970-1973, Vol. 1: 43p, Vol. 2: 210p.
- Ciechomski, J.D. 1965. Development of fish embryos in a non-aqueous medium. Acta Embryol. Morph. Exp. 8: 183-188.
- Clark, J.R. and S.E. Smith. (n.d. 1969?) Migratory fish of the Hudson River. In: Hudson River ecology Proceedings of a symposium. New York University, G.P. Howells and G.J. Lauer (eds.). pp. 293.
- Cline, G.B. and L.F. Doggett. 1973. Fish egg and fish larvae isolation from plankton samples. In: Advances with zonal rotors. E. Reid (ed.). 253-259. Longman, Lond., U.K.
- Cole, H.A. 1973. Implications of disposal of wastes to the North Sea. Effects on living resources, especially fisheries. Chem. Ind. 4: 162-166.
- Colombo, L., S. Pasavento and D.W. Johnson. 1972. Patterns of steroid metabolism in teleost and ganoid fishes. Gen. Comp. Endocr. Suppl. 3: 245-253.
- Conand, F. and C. Franqueville. 1973. (Identification and seasonal variation of carangid larvae of Senegal and Gambia). Identification et distribution des larves des principales especes de Carangidae des cotes du Senegal et de la Gamble. ORSTOM/UNDP, Dakar, DSP No. 47, 36p.
- Cornell, J.H. 1970. Impact of reservoir operation on fish populations. Proc. 19th South. Water Resour. Pollut. Control Conf., held at Duke Univ., USA, 9, 10 April, 1970. 28-36.
- Coutant, C.C. 1969. Temperature, reproduction and behavior. Chesapeake Sci. 10: 261-274.
- Cox, G.F. 1969. Report on a spawning of tropical marine fishes. Aquarist Pondkpr. 34: 108-109.
- Cruea, D.D. 1969. Some chemical and physical characteristics of fish sperm.

- Trans. Am. Fish Soc. 98: 785-788.
- Cruea, D.D., L.L. Eller and N. Priddy. 1969. A new stain for fish sperm. Prog. Fish. Cult. 31: 148.
- Cuerrier, J.P., J.A. Keith and E. Stone. 1967. Problems with DDT in fish culture operations. Naturaliste Can. 94: 315-320.
- Cushing, D.H. 1969. Regularity of the spawning season of some fishes. J. Cons. Perm. Int. 33: 81-92.
1969. The dates at which fish spawn. Proc. Challenger Soc. 4: 33.
- Czeczuga, B. 1973. Comparative studies of the occurrence of carotenes and xanthophylls in reproductive cells of water animals (Presented at the Polish Histochemical and Cytochemical Society, 11th Annual Meeting, Lublin (Poland), 30-31 May 1972). Folia Histochem. Cytochem. 11(3-4): 277.
- Dahlberg, M.D. 1970. Frequencies of abnormalities in Georgia estuarine fishes. Trans. Am. Fish. Soc. 99: 95-97.
- David, A., B.V. Govind, N.G.S. Rao and K.V. Rajagopal. 1967. Fish 'seed' resources of some rivers in south India. Indian J. Fish. 14(1-2): 54-84.
- Davis, W.P. 1970. Closed systems and the rearing of fish larvae. Helgolander Wiss. Meeresuntersuch. 20: 691-696.
- Deery, D.J. 1974. Determination by radioimmunoassay of luteinizing hormone releasing hormone (LHRH) content of hypothalamus of rat and some lower vertebrates. Gen. Comp. Endocr. 24: 280-285.
- Dekhnik, T.V. 1969. Black Sea fishes classified in relation to their modes of reproduction. Vop. Ikhtiol. 9: 829-832.
- Dekhnik, T.V. and V.I. Sinyukova. 1964. Distribution of pelagic eggs and larvae of fishes in the Mediterranean (1st Communication). Trud. Sevast. Biol. Sta. 17: 77-115.
- DeLacy, A.C., B.S. Miller and S.F. Borton. 1972. Ecology and distribution of Puget Sound fishes. Res. Fish. Coll. Fish. Univ. Wash. 1971(355): 48.
- Dementiev, A.F. and M.L. Shenderovich. 1964. Simple chamber for studying egg development in running water. (fish). Zool. Zh. 43: 1087-1089.
- Dischkov, A. 1970. Induced breeding. FAO Aquacult. Bull. 3(1): 3.
- Disler, N.N. 1971. Lateral line sense organs and their importance in fish behaviour: translated from the Russian. Publ. by: Israel Program for Scientific Transl., Jerusalem.

- Doak, W. 1972. Fishes of the New Zealand region. 132p. Publ. by: Hodder and Stoughton, 52, Cook St., Auckland, New Zealand.
- Dodd, J.M. 1967-68. Contributions to comparative endocrinology in lower vertebrates. D.Sc. Thesis, St. Andrews U, UK.
- Doroshev, S.I. 1967. Influence produced by sodium and calcium ions upon freshwater fish sperms. Dokl. Akad. Nauk SSSR 172(5): 1238-
- Doroshev, S.I. and V.K. Gorelov. 1964. Mobility of Azov and Araian fishes' spermatozoa in seawater of different salinity. Dokl. Akad. Nauk. SSSR 159: 1402-1404.
- Dryagin, P.A. 1963. Fundamental directions for studying the life-cycles of fishes. Trud. Akad. Nauk Latv. SSR Inst. Biol. 23: 199-204.
- Duka, L.A. and A.D. Gordina. 1973. (On the ichthyoplankton number and larval fish nutrition in the Western Mediterranean and adjoining Atlantic area) O chislyennosti ikhtiolanktona i pitanii lichinok ryb v zapadnoy chasti spyedizyemnogo morya i prilezhashchikh rayonakh atlantiki. Gidrobiol. Zh. 9(2): 87-93.
- Einarsson, H. and G.C. Williams. 1968. Planktonic fish eggs of Faxaflooi, Southwest Iceland 1948-1957. Rit. Fisk. 4, 5, 1-15.
- Elrod, J.H. 1967. Dynamics of a fish population subjected to intensive harvesting. Diss. Abstr. 27: 3712B, Order no. 67-4674. abstr. (original 82p.).
- Emmart, E.W. and R.W. Bates. 1968. Use of immunochemical binding and sephadex filtration in procedures toward the purification of ovine and piscine "prolactin". Gen. Comp. Endocr. 11(3): 580-594.
- Emmart, E.W. and A.E. Wilhelm. 1968. Immunochemical studies with prolactin-like fractions of (bony) fish pituitaries. Gen. Comp. Endocr. 11(3): 515-526.
- Ensor, D.M. and J.N. Ball. 1968. Bioassay of fish prolactin. J. Endocr. 40: iii-iv. abstr.
- Etkin, W. and L.I. Gilbert (eds.). 1968. Metamorphosis: a problem in developmental biology (incl. amphibians and lower chordates). Appleton-Century-Crofts/North Holland Publ. Company.
- Fadeev, N.S. 1970. Data on fecundity of some benthal and demersal fishes in the south-eastern part of the Bering Sea. Izv. tikhocean. Nauchno-issled. Inst. Ryb. Khoz. Okeanogr. 74: 47-53.
- Fagetti, E. and R. Marak. 1972. Ichthyoplankton studies in west Africa-a review. FAO Fish. Circ., (137): 1-11.

- Fahy, W.E. 1964. Temperature controlled salt-water circulating apparatus for developing fish eggs and larvae. *J. Cons. Int. Explor. Mer.* 28: 364-384.
- Faleeva, T.I. 1965. Analysis of ovocyte atresia in fish in connection with adaptive role of this phenomenon. *Vopr. Ikhtiol.* 5: 455-470.
- Faustov, V.S. and A.I. Zotin. 1965. Changes in the heat of combustion of the eggs of fishes and amphibia during development. *Dokl. (Proc.) Acad. Sci. USSR Biol.* 162: 320-323.
1965. Variations in the heat emitted by eggs of fishes and amphibians during their development. *Dokl. Akad. Nauk. SSSR.* 162(4): 965-
- Faustov, V.S., A.L. Zotin, L.I. Radzinskaja and I.S. Nikolskaja. 1968. Adenosine triphosphate during embryonal development and echinoderms, fishes and amphibians. *Zh. Evol. Biokh. Fiziol.* 4: 224-230.
- Fedorova, G.V. 1964. Absorption and radioactive carbon penetration in embryo and postembryo periods of development (fish). *Vestn. Leningr. Univ.* 12: 39-50. Rus. sum. in En.
1965. Entry of C-14 into the spawn and larva of autumn spawning fish. *Radiobiologia.* 5: 690-692. Rus.
1972. The biological effect of radiocarbon (C^{14}) on fish in early development stages. *J. Ichthyol. (Vopr. Ikhtiol. (Eng. Ed.))*. 12(1): 173-177.
- Fenwick, J.C. 1970. Demonstration and effect of melatonin in fish. *Gen. Comp. Endocr.* 14: 86-97.
1970. The pineal organ. In: *Fish Physiology*, Vol. 4, W.S. Hoar and D.J. Randall (eds.). 91-108. Academic Press, N.Y. and Lond.
- Fielding, J.R. 1968. New systems and new fishes for culture in the United States. *FAO Fish. Rep.* (44)5: 143-161.
- Fiedler, K. 1969. Neural regulation of behaviour in fish. *Umschau.* 69: 807-808.
1970. Hormonal control of fish behaviour. *Umschau.* 70: 508-509.
1974. Hormones and behaviour in fishes. *Fortschr. Zool.* 22: 268-309.
- Fiedler, K. and V. Blum. 1972. Prolactin-sensitive neurons in the forebrain of some fishes. *Experientia.* 28: 1384-1385. Sum. in Ger.
- Fijan, N. 1971. Present status and prospects of fish culture in Yugoslavia. *Proc. Symp. New Ways of Freshwater Fish Intensification.* p 17.

Fischer, W. and F. Balbontin. 1970. On the investigation of ovarian cycle and fecundity of fish with special reference to partial spawners. Ber. Dt. Wiss. Kommn Meeresforsch. 21: 56-77. Sums. in Fr. Ger. Sp.

Fives, J.M. 1970. Investigations of the plankton of the west coast of Ireland. VI. Larval and post-larval stages of fishes taken from the plankton of the west coast in surveys during the years 1958-1966. Proc. R. Irish Acad. 70(3): 15-89.

Flemer, D.A., W.L. Dovel, H.T. Pfitzenmeyer and D.E. Ritchie. 1968. Biological effects of spoil disposal in Chesapeake Bay. J. Sanit. Eng. Div. Proc. Amer. Soc. Civil Eng. 94: 683-706.

Flickinger, S.A. 1971. Pond culture of bait fishes. Iss. in furtherance of Coop. Ext. Work in agriculture and home economics, Acts of May 8 and June 30, 1914, in coop. with the U.S. Depart. of Agric. Lowell H. Watts, Dir. of Ext. Serv., Colorado State Univ. 39pp.

Florin, J. 1964. Experiences with breeding of fish in round basins. Verh. Int. Ver. Limnol. 15: 974.

Follett, B.K. 1963-64. Neurohypophysial hormones of fish and amphibia. Ph.D. Thesis, Bristol. U., UK.

1970. Effects of neurohypophysial hormones and their synthetic analogues on lower vertebrates. In: Pharmacology of the endocrine system and related drugs: Neurohypophysis. H. Heller and B.T. Pickering (eds.). 321-350. Pergamon Press, Oxford.

Fontaine, M. 1963. Evolution of form and function of endocrine organs with special reference to the adrenal gland. Proc. of the XVI Internat. Congr. of Zool. 3: 25-34.

1965. Quelques aspects des mécanismes physiologiques des phénomènes migratoires. 135-145, In: La distribution temporelle des activités animales et humaines. Publisher, Masson et Cie, Paris.

1969. La spécificité zoologique des hormones hypophysaires et de leurs activités. Colloq. Int. C.N.R.S. 177: 412p.

1969. Les poissons migrants. Atomes 271(24): 715-720.

1970. Glandes endocrines et comportements chez les poissons. Les Hormones et le comportement No. 14: 335-348.

1970. Les hormones et le comportement. Problèmes actuels d'endocrinologie et de nutrition. Séries n° 14. Glandes endocrines et comportements chez les Poissons. Expansion Scientifique Française, Paris. 335-348.

1971. Some considerations on migrant fishes and their

breeding. *Piscic. Fr.* 28: 31-36.

Fontaine, M. 1972. Endocrine glands and various forms of fish behaviour. Trudy of Central Lab. for Replenishing fish stocks, Central Inst. Fish Studies of Mar. Fish of USSR. 158-166. Transl. Ser. No. 2847.

1973. Experimental genital maturation and endocrine diseases in fish. *Mar. Sci. Spec. Symp.*, Hong Kong. 7-14 Dec. 1973.

Fontaine, M., E. Burzawa-Gerard and Y.A. Fontaine. 1966. Spécificité zoologique des hormones gonadotropes. Intérêt en recherche fondamentale et appliquée. *Bull. Acad. Nat. Med.* 150: 45-49.

Fontaine, M., F. Lachiver and Y.A. Fontaine. 1965. Quelques contributions de la physiologie comparée à la biochimie des hormones de nature protéique. *Annales d'Endocrinol.* 26(5): 665-661.

Fontaine, M. and J. Leloup. 1965. Central nervous system and thyroid and gonadotropic function in poikilotherms. (fishes and amphibia). Proc. 2nd Internat. Congress of Endocrinol. 487. London, August 1964. Excerpta Medica Internat. Congress, series n° 83: 487-494.

Fontaine, Y.A. 1968. Taxonomic specificity of hormones: thyrotropins and related pituitary glycoproteins. Rapport au 3me Congrès international d'Endocrinology, Mexico, 1968. Excerpta Med. Int. Congress, Series n° 184, Progress in Endocrinology. 453-457.

1969. La spécificité zoologique des protéines hypophysaires capables de stimuler la thyroïde. Thesis. Fac. Sci. Paris. 1968. In: *Acta Endocrinol.* (Suppl. 136) 60: 153p.

Fontaine, Y.A., E. Burgawa-Gerard, C. Salmon, E. Fontaine-Bertrand and N. Delerue-LeBelle. 1974. Pituitary gonadotropins and their stimulation of ovarian adenylycyclase activity, comparative study in fish and mammals. Proc. 5th Asia and Oceania Congr. Endocrinol. G.K. Rastogi (ed.). 351-360 Endocrine Soc. of India.

Forbes, T.R. 1963. Castration of fish in the eighteenth century. *Gen. Comp. Endocr.* 3: 437-438.

Foster, N.R. 1968. Utility of egg and larval characters in the classification of atheriniform fishes. *Amer. Zool.* 8: 807.

Frank, S. 1970. Influence of certain abiotic factors on embryonic and larval development and survival of aquarium fishes. *Vertebr. Zpravy.* 2: 103-105. Cz. sum. in En.

Fricks, H.W. 1973. Behaviour as part of ecological adaptation In situ studies in the coral reef. *Helgolaender Wiss. Meeresunters.* 24(1-4): 120-144.

Fry, F.E.J. 1964. Animals in aquatic environments: fishes. In: D.B.

Dill (ed.). "Handbook of Physiology" 4: Adaptation to the environment. Amer. Physiol. Soc. Washington: 715-728.

Fry, F.E.J. 1967. Responses of vertebrate poikilotherms to temperature. In: A.H. Rose (ed.) "Thermobiology". Academic Press, Lond. 375-409.

1971. The effect of environmental factors on the physiology of fish. In: Fish Physiology, Vol. VI, W.S. Hoar and D.J. Randall (eds.). 1-98. Academic Press, Lond. and N.Y.

Fuhrman, F.A., G.J. Fuhrman, D.L. Dull and H.S. Mosher. 1969. Toxins from eggs of fishes and Amphibia. J. Agr. Food Chem. 17: 417-424.

Gabe, M. 1971. Handbuch der Histochemie, Band 2, Teil 3. Polysaccharides in Lower vertebrates. (incl. pituitary, genital organs, and in early embryonic development in submammalian vertebrates). 543p.

Georgiev, J. 1963. Number of eggs produced by some Black Sea fishes. Izv. Tsentr. Nauch.-Izst. Inst. Rib. Varna. 3: 173-182. Fr.

Ghittino, P. 1971. (World wide views on developments in intensive fish farming). Panoramiche sullo sviluppo mondiale della piscicoltura intensiva. Riv. Ital. Piscic. Ittiopatol. 6(2): 33-43.

Ghosh, M.C. and R.K. Barua (decd.). 1972. Occurrence of 3-dehydroretinyl ester and anhydrovitamin A₁ in eggs of certain species of freshwater fishes of Assam. Indian J. Biochem. Biophys. 9: 209.

Gillespie, A. 1973. Interrelationship between oxytocin (endogenous and exogenous) and PGs. In: Advances in the biosciences, Vol. 9, S. Bergstrom (ed.). 761-766. Pergamon, Oxford, UK.

Ginsburg, A.S. 1968. Cortical reaction in physiologically monospermic eggs of fishes and other animals (other non-fish chordates). In: Fertilization in fishes and the problem of polyspermy, same author. 244-263. In Rus.

1968. Differences in morphology and properties of gametes in fishes and their importance for the elaboration of adequate methods of A.I. VI Congres de Reproduction et insemination artificielle 22-26 July 1968. Paris, Resumé only. Publ. by the Institute National de la Research Agronomique.

1968. Egg. (mostly fishes). In: Fertilization in fishes and the problem of polyspermy, same author. 5-94. Nauka, Moskva. In Rus.

1968. Mechanism of the block to polyspermy. (fishes, other vertebrates and some invertebrates). In: Fertilization in fishes and the problem of polyspermy, same author. 264-294. Nauka, Moskva (In Rus.)

1968. Number of spermatozoa penetrating the egg at fertilization

and the fate of supernumerary spermatozoa (fishes, amphibians, reptiles, birds, mammals, as well as invertebrates). In: Fertilization in fishes and the problem of polyspermy, same author. 186-243. Nauka, Moskva. In Rus.

1968. Oplodotvorenie u ryb i problema polispermii. (fertilization in fishes and the problem of polyspermy). 358p. 2 Rbl. 23 Kop. Nauka, Moskva. (In Rus. sum in En.).

1968. Sperm-egg association (esp. fishes). In: Fertilization in fishes and the problem of polyspermy, same author. 155-185. Nauka, Moskva. In Rus.

1968. Spermatozoon. (fishes). In: Fertilization in fishes and the problem of polyspermy, same author. 95-154. Nauka, Moskva. In Rus.

1972. Fertilization in fishes and the problem of polyspermy (Transl. of: Oplodotvorenie u rby i problema polispermii, Moscow, Izdatel'stvo Nauka, 1968). Publ. Israel Program for Scientific Transl. 366p.

Girsa, I.I. 1969. Reaction to light in some freshwater fishes in the course of early development and in altered physiological states. Vop. Ikhtiol. 9: 126-135.

Goldberg, E. 1964. Lactate dehydrogenases and malate dehydrogenases in sperm: studied by polyacrylamide gel electrophoresis. (man, bull, rabbit, fish, invertebrates.). Ann. N.Y. Acad. Sci. 121: 560-570.

Gorbunova, N.N. and P.P. Shirshov. 1971. Vertical distribution of eggs and larvae of fish in the western tropical Pacific (In: Life activity of pelagic communities in the ocean tropics. Based on data of the 44th Cruise of the R/V 'Vityaz', M.E. Vinogradov (ed.), Israel Program for Scientific Translation (Jerusalem), 1973; Translation of: Funktsionirovaniye pelagicheskikh soobshchestv tropicheskikh raionov okeana, 'Nauka', Moscow, 1971, 256-269).

Gorodnichiy, A. Ye. 1971. (Ways of amelioration of natural spawning grounds of semimigratory fishes of the Don). Puti myelioratsii yesteyestvyennykh ryb Dona. Gidrobiol. Zh. 7(4): 51-56.

Greene, G.N. 1964. Reproduction control factor in fishes. Diss. Abstr. 25, Diss. No. 11. 012. 71p.

Grimes, C.B. 1971. Thermal addition studies of the Crystal River steam electric station. Prof. Pap. Mar. Res. Lab., Fla. Dep. Nat. Resour., 11: 1-53.

Grimes, C.B. and J.A. Mountain. 1971. Effects of thermal effluent upon marine fishes near the Crystal River steam electric station. Prof. Pap. Ser. Fla. Dep. Nat. Resour. No. 17: 1-64.

- Guerrero, R.D. and W.L. Shelton. 1974. An aceto-carmine squash method for sexing juvenile fishes. *Progr. Fish. Cult.* 36(1): 56.
- Gulidov, M.V. 1968. Peculiarities in the embryonic development of fishes in temporarily dry tropical water reservoirs. In: Morphoecological research in the development of fish, N.N. Disler (ed.). 136-141. Akad. Nauk SSSR Inst. Evol. Morfol. Ekol. Severtsov (in Rus.)
- Gulland, J.A. (ed.). 1971. The fish resources of the ocean. Revised edition of FAO fish. Tech. Pap. (97). London, Fishing News (Books) Ltd. 225p.
- Guraya, S.S. 1963. Histochemical studies on the yolk-nucleus in fish oogenesis. *Z. Zellforsch.* 60: 659-666.
- Hagenmaier, H.E. 1974. (How do fish hatch?) Wie Schlüpfen fische?. *Umschau.* 74(5): 156-157.
- Haigh, E.H. 1972. Larval development of three species of economically important South African fishes. *Ann. S. Afr. Mus.* 59(3): 47-70.
- Halford, M.D.A. 1967-68. Fish gonadotrophins and sialic acid synthesis. Ph.D. Thesis, Birmingham, UK.
- Hanh, J.D. and F. Neumann. 1969. Action of gestagens on the morphology and function of genital tract in snails, beetles and non-mammalian vertebrates. In: Handbuch der Experimentellen Pharmakologie, Bd. 22, Die Gestagene, Teil 2, Junkmann, K. (ed.). 314-340. Springer-Verlag, Berlin (in Ger.).
- Hannerz, L. 1968. Experimental investigations on the accumulation of mercury in water organisms. Fishery Board of Sweden, Institute of Fresh Water Research, Drottningholm, Report 48: 120-176.
- Hare, D. 1965-66. Ecological model of a system of fish populations. Ph.D. Thesis, Liverpool U., UK.
- Harrington, R.W. 1974. Sex determination and differentiation in fishes. In: Control of sex in fishes. C.B. Schreck (ed.). 4-12.
- Harris, G.S. 1973. A simple egg box planting technique for estimating the survival of eggs deposited in stream gravel. *J. Fish. Biol.* 5(1): 85-88.
- Hart, J.L. 1973. Pacific Fishes of Canada ix + 740p. Publ. Fish. Res. Board Can. (Bull. 180), Ottawa, Canada.
- W.L. Hartman. 1972. Lake Erie: effects of exploitation, environmental changes and new species on the fishery resources. *J. Fish. Res. Board Can.* 29(6): 899-912.

- Hartman, W.L. 1973. Effects of exploitation, environmental changes, and new species on the fish habitats and resources of Lake Erie. Tech. Rep. GLFC, No. 22. 43p.
- Hasan, S.H. 1967-68. Fate in vivo of neurohypophysial hormones in non-mammalian vertebrates. Ph.D. Thesis, Bristol, UK.
- Heller, H. 1972. The effect of neurohypophyseal hormones on the female reproductive tract of lower vertebrates. Gen. Comp. Endocr. Suppl. 3: 703-714.
- Hempel, G. and H. Weikert. 1972. The neuston of the subtropical and boreal north-eastern Atlantic Ocean. A review. Mar. Biol. 13(1): 70-88.
- Hennemuth, R.C. and J.A. Posgay. 1971. Reports on researches in the ICNAF area in 1970. United States research report, 1970. Redbook, ICNAF, 1971 (Pt. 2): 156-169.
- Hickling, C.F. 1971. Fish culture. 2nd edition. Publ. by. Faber and Faber, 3, Queen Square, London.
- Hile, R. 1973. Structure and senses of fish. Mar. Fish. Rev. 35(5-6): 48-53.
- Hiltibrand, R.C. 1967. Effects of some herbicides on fertilized fish egg and fry. Trans. Am. Fish. Soc. 96: 414-416.
- Hoar, W.S. 1965. The endocrine system as a chemical link between the organism and its environment. Trans. Royal. Soc. Canada, 4th series, 3: 175-200.
- Hoesch, H.D. 1966. Spawning of marine fishes in the Port Aransas, Texas area as determined by the distribution of young and larvae. Diss. Abstr. 26, Diss. No. 66-1921, 150p.
- Hoffman, R.A. 1970. Epiphyseal complex in fish and reptiles. Am. Zool. 10: 191-200.
- Hogarth, P.J. 1968. Immunological aspects of foetomaternal relations in lower vertebrates (esp. fish, amphibia). J. Reprod. Fert. Suppl. 3: 15-27.
- Hognestad, P.T. 1969. Survey of fish eggs and young off the North Norwegian coast and Viking bank in May and June 1967. Fisk. Havet Bergen. 1-3.
1972. (Records of fish larvae in northern Norwegian coastal waters with R.V. 'Asterias' in spring 1971). Registrering av fiskelarver i Nord-Norske kyst-og bankfarvann med F/F 'Asterias' våren 1971. Fisk. Havet. 2: 19-23.

- Holmes, W.N. and E.M. Donaldson. 1969. The body compartments and the distribution of electrolytes. In: Fish Physiology, Vol. 1, W.S. Hoar and D.J. Randall (eds.). 1-89, Academic Press, New York.
- Houde, E.D. and A.J. Ramsay. 1971. A culture system for marine fish larvae. Prog. Fish-Cult. 33(3): 156-157.
- Huet, M. 1970. Traité de pisciculture. 4e édition. Edition Chr. de Wyngaert, Bruxelles.
- Huet, M. and J.A. Timmermans. 1971. Textbook of fish culture. Breeding and cultivation of fish. 4th Edition. Translated from the fourth French edition of 'Traité de Pisciculture' published by Editions Ch. Ed Wyngaert, Brussels, 1970. (H. Kahn, Transl.), London, Fishing News (Books) Ltd. 436p.
- Hylen, A., J.H. Lahn-Johannessen and G. Naevdal. 1972. (Investigations on demersal fish species in northern Norway and the Barents Sea, January-May 1970) Bunnfiskundersøkelser i Nord-Norge og Barentshavet første halvår 1970. Fiskets Gang. 58: 97-107. Also in: Fisk. Havet. 1972(1): 10-20.
- Hyodo-Taguchi, Y., H. Etoh and N. Egami. 1973. RBE of fast neutrons for inhibition of hatchability in fish embryos irradiated at different developmental stages. Radiat. Res. 53: 385-391.
- Ida, H. 1972. Some ecological aspects of larval fishes in waters off Central Japan. Bull. Jap. Soc. Sci. Fish. 38(9): 981-984.
1972. Variability in the number of fish taken by larva nets. Bull. Jap. Soc. Sci. Fish. 38(9): 965-980.
- Idler, D.R. 1969. Steroidogenesis in fish. In: Fish in research, O.W. Neuhaus and J.E. Halver (eds.). 121-133. Academic Press, N.Y.
- (ed.). 1972. Steroids in non-mammalian vertebrates. 518p. Academic Press, N.Y., US and Lond., UK.
1972. Why comparative endocrinology? (non-mammalian vertebrates). Chap. In: Steroids in Non-mammalian vertebrates. Academic Press, N.Y., US and Lond., UK.
- Idler, D.R. and H.C. Freeman. 1967. Protein binding of steroids in fish plasma. Gen. Comp. Endocr. 9(3): 459. abstr.
1968. Binding of testosterone, 1α -hydroxy-corticosterone and cortisol by plasma proteins of fish. Gen. Comp. Endocr. 11(2): 366-372.
1973. Stability to freezing of steroid binding proteins in fish plasma. Comp. Biochem. Physiol. 44(1B): 179-183.

- Idler, D.R. and B. Truscott. 1972. Corticosteroids in fish. Chap. In:
Steroids in Non-mammalian vertebrates, D.R. Idler (ed.). Academic Press,
 N.Y., US and Lond. UK.
- Idler, D.R., B. Truscott and H.C. Stewart. 1969. Some distinctive aspects
 of steroidogenesis in fish. Progress in Endocrinology Proceedings of
third International Congress of Endocrinology, Mexico, 30th June - 5th
 July, 1968. Gual, C. and F.J.B. Ebling (eds.). Excerpt. Medica
 Foundation.
- Ikehara, K. 1968. Ecological aspect of the eggs and larvae of a few
 species of fish and squids, based on the materials taken by means of
 two kinds of plankton nets. Bull. Jap. Sea Reg. Fish. Res. Lab.
 20: 71-82.
- Iles, T.D. 1974. The tactics and strategy of growth in fishes (In:
Sea fisheries research, F.R. Harden Jones (ed.). Paul Elek (London),
 331-345).
- Iljina, L.K. 1963. Time of spawning of fishes in Rybinsk reservoir.
In: Data on the biology and hydrology of the Volga reservoirs,
 Moscow, Leningrad. B.S. Kuzin (ed.). 93-94.
- Imura, K. and T. Saito. 1968. Nucleic acid contents in various tissues
 of some fishes. Bull. Fac. Fish. Hokkaido Univ. 19: 132-139.
- Ingalls, T.H. 1966. Cyclopin malformations in fish, mice, and sheep:
 A study in comparative epidemiology. Arch. Environm. Hlth. 13: 719-725.
- Inoue, S. and M. Fuke. 1970. An electron microscope study of deoxyribo-
 nucleoprotamines. Biochim. Biophys. Acta. 204: 296-303.
- Iurovitskii, Iu. G. 1966. Determination of sex in fish. Usp. Sovr. Biol.
 62: 148-160. Rus.
- Ivankov, V.V. and V.P. Kurdyayeva. 1973. (Systematic differences and
 ecological significance of ovocyte membrane structure in fish)
Sistematische razlichiy i ekologicheskoe znachenie stroeniya
obolochek yajtsekletok ryb. Vopr. Ichthyol. 13(6): 1035-1045.
- Iwamatsu, T. 1966. Role of germinal vesicle materials on the acquisition
 of developmental capacity of the fish oocyte. Embryologia (Nagoya)
 9: 205-221.
- Iwata, K., K. Kobashi and J. Hase. 1974. (Studies on muscle alkaline
 protease-III. Distribution of alkaline protease in muscle of freshwater
 fish, marine fish and in internal organs of carp). Bull. Jap. Soc. Sci.
Fish. 40(2): 201-209.
- Jackiwicz, T.P. Jr., and L.N. Kuzminski. 1973. The effects of the
 interaction of outboard motors with the aquatic environment - a review.

- Environ. Res. 6(4): 436-454.
- Jafri, A.K. and D.K. Khawaja. 1967. Acid and alkaline phosphatase activity in the eggs of some freshwater fishes. Broteria. 36: 95-101.
- Jegorow, J.N. and J.S. Muslin. 1971. Gaining of roe from living fishes. Lebensmittel Industrie. 18: 25.
- Jhingran, V.G. and V. Gopalakrishnan. 1974. Catalogue of cultivated aquatic organisms. FAO Fish. Tech. Pap. FAO-FIRI/T130. 83p.
- Jhingran, V.G. and A.V. Natarajan. 1968. Fishery resources of the Chilka Lake and its bearing on fisheries in adjacent areas of Bay of Bengal. Symp. Living Resources Seas Around India, Indian Counc. Agr. Res. 12.
- Johnson, L.G. and R.L. Morris. 1974. Chlorinated insecticide residues in the eggs of some freshwater fish. Bull. Environ. Contam. Toxicol. 11(6): 503-510.
- Johnson, P.W., J. McN.Sieburth, A. Sastry, C.R. Arnold and M.S. Doty. 1971. Leucothrix mucor infestation of benthic Crustacea, fish eggs, and tropical algae. Limnol. Oceanogr. 16(6): 962-969.
- Jones, I.C., D. Bellamy, D.K.O. Chan, B.K. Follett, I.W. Henderson, J.G. Phillips and R.S. Snart. 1972. Biological actions of steroid hormones in non-mammalian vertebrates. Chap. In: Steroids in Nonmammalian vertebrates, D.R. Idler (ed.). Academic Press, N.Y., US and Lond. UK. 414-450.
- Jones, R.W. 1964. Hyperplasia induced by a Δ^{16} steroid, (oestra-compound; fish and Rana embryos). Proc. Soc. Exp. Biol. (N.Y.). 115: 923-924.
- Jorgensen, C.B. 1968. Central nervous control of adenohypophysial functions. (amphibia and fishes). In: Perspectives in endocrinology, E.J.W. Barrington and C.B. Jorgensen (eds.). 469-541. Academic Press.
- Jorgensen, N.C. 1972. Actomyosin-like ATPase activity at the surface of fish eggs. Exp. Cell Res. 71(2): 460-464.
- Kafanova, V.V. 1968. Biological importance of sexual dimorphism in fishes. Ikhtiol. Ozer. Ryb. Khoz. Mater. XI Konf. Vnutr. Vod Pribalt. 1. no. 1 Akad. Nauk Latv. SSR Inst. Biol. Riga. 77-80. Rus.
- Kashkina, A.A. 1972. Summer ichthyoplankton of the Bering Sea (In: Soviet fisheries investigations in the north-eastern Pacific. Part 5. P.A. Moiseev (ed.). Moscow, 'Pishchevaya Promyshlennost'', 1970, Israel Program for Scientific Translations, Jerusalem, 1972). 225-247.
- Kellner, K.R. and J.B. Hamilton. 1973. Apparatus for development of aquatic embryos in controlled environments under continuous observation. Copeia. 4: 809-810.

- Kennedy, M., P. Fitzmaurice and T. Champ. 1973. Pelagic eggs of fishes taken on the Irish Coast. *Irish Fish. Invest.* (B), 8: 1-23.
- Kerr, F.J. 1968. Mutations. (fish). *Trop. Fish Hobby.* 16(8): 88-94.
- Khan, H.A. 1972. Induced breeding of air-breathing fishes. *Indian Farming.* 22(4): 44-45.
- Khrapkova, N.V. 1961. Spawning assemblages of food fishes in the Kronotsk Gulf. *Trudy. Inst. Okeanol. Akad. SSR.* 36: 123-142.
- Kihlström, J.E., E. Lakomaa and H. Hall. 1971. A probably nongonadotropic sperm-releasing activity in the pituitary gland from mammals, amphibians, and fishes. *Gen. Comp. Endocr.* 17(3): 573-575.
- Kirpichnikov, V.S. 1973. Biochemical polymorphism and microevolution processes in fish (In: *Genetics and Mutagenesis of fish, Proceedings of the ichthyological symposium on Genetics and Mutagenesis held at Neuherberg, Munich (GFR), 13-15 Oct. 1972*, Schroder, J.H. (ed.). Springer-Verlag, 223-241).
- Kleerekoper, H. 1969. Olfaction in fishes viii, 222p. Publ. by Indiana University Press. (Publication date in UK: 28th Apr. 1970).
- Kolokolova, G.P. and M.I. Potapov. 1974. Finding of new antibody-like substances (protectins) in fish spawn which react with human blood group antigens. *Zh. Obshch. Biol.* 35: 140-143. Rus. sum in En.
- Konchin, V.V. 1971. The use of rotating closed vessels to determine the rate of oxygen consumption by fish eggs. *J. Ichthyol. (Vopr. Ikhtiol. Eng. Ed.).* 11(2): 286-288.
- Konradt, A.G. and A.M. Sakharov. 1970. An artificial method for producing commercial fish larvae. *Isr. Program Sci. Transl., Jerusalem* (Originally from: *Izv. Gos. Nauchno-Issled. Inst. Ozern. Rechn. Rybn. Khoz.*, 61 (1966)). Cat. No. 5737, 184-197.
- Konstantinov, K.G. and A.S. Noskov. 1971. Reports on researches in the ICNAF area in 1970. 9. USSR research report, 1970. Redbook, ICNAF, 1971(Pt. 2), 123-152.
- Koshelev, B.V. 1968. Changes in the rate of development of sexual glands and rhythm of maturation of fish oocytes as a way of adaptation to essential environmental conditions. In: *Tempo of individual development of animale and its changes during evolution*, S.V. Emil'Yanov (ed.). 38-65. Izdatl'stvo 'Nauka' Moskva. Inst. Morfol. Zhirotnykh im A.N. Severtsova. Akad. Nauk SSSR, Leningrad. (In Rus.)
1969. Peculiarities of the development of sex cells in fresh-water fishes in connection with specific features of biology of their reproduction. Demonstrations presented at the 9th International Embryological Conference, Moscow, 25-29th August 1969. Publ. House,

Nauka, Moscow.

Kowtal, G.V. 1967. Occurrence and distribution of pelagic fish eggs and larvae in the Chilka lake during the years 1964 and 1965. Indian J. Fish. 14(1-2): 198-214.

Kozlovskiy, D.A. 1968. Resorption of the sexual products in fishes as a stimulus to biological modification. Probl. Ichthyol. 8: 803-807.

Krakatitsa, V.V. and M.F. Sapin. 1971. A pelagic egg incubator for use on ships. Vopr. Ikhtiol. (Eng. Ed.). 11(3): 431-435.

Krantz, G.E. 1966. Effects of increasing mortality on growth and reproduction of a mixed population of warm-water fishes. Diss. Abstr. 27(5), Diss. No. 66-10,470, 102p.

Krigsgaber, M.R., A.A. Kostomarova, T.A. Terekhova and T.A. Burakova. 1971. Synthesis of nuclear and cytoplasmic proteins in the early development of fishes and echinoderms. J. Embryol. Exp. Morph. 26: 611-622.

Krishnamurthi, B. 1972. Some points for consideration on estuarine fish farming (In: Proceedings of Seminar on mariculture and mechanised fishing, Madras (India), 28 & 29 Nov. 1972. 101-102).

Kryzhanovsky, S.G., A.P. Makejeva, A.I. Smirnov and B.V. Verigin. 1969. Regularities of development of individuals produced at distant hybridization in fish. Demonstrations presented at the 9th International Embryological Conference, Moscow, 25-29th August 1969. Publ. House, Nauka, Moscow. 48-49.

Kulikov, N.V., V.G. Kulikova and S.A. Lyubimova. 1971. (Migration of strontium-90 and caesium-137 from fish with eggs at spawning time) Migratsiya strontsiya-90 i iseziya-137 iz organizma ryb s ikroy vo vremya neresta. Ekologiya. 4: 12-16.

Kuronuma, K. 1968. New systems and new fishes for culture in the Far East. FAO Fish. Rep. (44)5: 123-142.

Kuthalingam, M.D.K. and A. Chellam. 1971. Results of the exploratory trawl fishing off Cannanore by the Indo-Norwegian Project Vessels. Indian J. Fish. 18(1-2): 156-164.

Kuznetsova, G.P. 1971. Hemagglutinins (protectins) in fish eggs. Sud. Med. Ekspert. 14: 35-40. Rus.

Lapointe, J.L. 1974. Relative potencies of synthetic, naturally occurring neurohypophysial hormones on oviducts isolated from marine fishes. Amer. Zool. 14: 1285.

Larkin, P.A., R.F. Raleigh and N.J. Wilimovsky. 1964. Alternative premises for constructing theoretical reproduction curves (fishes).

- J. Fish. Res. Board Can. 21: 477-484.
- Lasker, R., R.H. Tenaza and L.L. Chamberlain. 1972. The response of Salton Sea fish eggs and larvae to salinity stress. Calif. Fish Game. 58(1): 58-66.
- Lederis, K., T.E. Bridges, C.R. Richards, R.C. Santolaya and P.R. Zelnik. 1971. Ultrastructural and subcellular investigations on exocytosis as a likely mechanism of hormone secretion from the urophysis and the neurohypophysis (fish, rat). In: Neurohypophysial hormones, G.E.W. Wolstenholme and J. Birch (eds.). 45-47. Churchill Livingstone, Edinburgh and Lond. UK.
- Legand, M. and J. Rivaton. 1970. Biological cycles of mesopelagic fishes in the eastern Indian Ocean. Fourth note: Variations in the distribution of 7 species. Synthesis of the various cycles described. Cah. ORSTOM, Sér. Océanogr. 8(1): 59-79.
- Lewis, J.B. and A.G. Fish. 1969. Seasonal variation of the zooplanktonic fauna of surface water entering the Caribbean Sea at Barbados. Caribb. J. Sci. 9: 1-24.
- Liley, N.R. 1963-64. Reproductive isolation in some sympatric species of fishes. D. Phil. Thesis. Balliol Coll., Oxford, UK.
- Lim, J.Y., M.K. Jo and M. ja Lee. 1970. (The occurrence and distribution of the fish eggs and larvae in the Korean adjacent sea). Rep. Fish. Resour. Fish. Res. Dev. Agency, Pusan. 8: 7-29.
- Lindquist, A. 1964. Size of spawning area of a pelagic spawning fish. Rapp. Cons. Explor. Mer. 155: 171-173.
1968. Fish eggs and larvae in the Skagerak. Sarsia. 34: 347-354.
1970. On the distribution of fish eggs and larvae in the Skagerak during the months May and June. Rep. Inst. Mar. Res. Lysekil. 19: 1-82.
- Lisovskaya, V.I. 1973. (Lipid composition in some fish species). Issledovanie sostava lipidov u nekotorykh vidov ryb. Rbyn. Khoz. 11: 78-80.
- Lofts, B. 1968. Patterns of testicular activity. (reptiles, amphibia, fishes). In: Perspectives in Endocrinology, E.J.W. Barrington and C.B. Jorgensen (eds.). 239-304. Academic Press.
- Lofts, B. and H.A. Bern. 1972. Functional morphology of steroidogenic tissues. (non-mammalian vertebrates). Chap. In: Steroids in non-mammalian vertebrates, D.R. Idler (ed.). Academic Press.
- Longwell, A.C. 1974. Some impressions regarding genetics and the fisheries

of Japan (In: Proceedings of the First U.S.-Japan Meeting on Aquaculture, held in Tokyo, Japan, 18-19 Oct. 1971). NOAA Tech. Rep., NMFS, Circ. 388: 123-133.

Lotfi El-Saed, M. 1968. New data on fish spawn and larvae in the region of Odessa Bay. *Gidrobiol. Zh.* 4(5): 78-81. Rus.

Loubens, G. 1968. (Ichthyological researches in Chad). Recherches ichthyologiques au Tchad. In: IBP Report of the regional meeting of hydrobiologists in Tropical Africa. Kampala, Uganda, 20-28 May, 1968, 113-121.

Loya, Y. and L. Fishelson. 1969. Ecology of fish breeding in brackish water ponds near the Dead Sea (Israel). *J. Fish. Biol.* 1: 261-278.

Lueken, W. and W. Foerster. 1969. Chromosome studies on fish, using a simplified cell culture technique. *Zool. Anz.* 183: 168-176.

Lukowicz, M.V. 1973. (The controlled reproduction of cultivated fishes (Conclusion)) Die kontrollierte Vermehrung von kultivierten Fischen (Schluss). *Fischwirt.* 23(10): 134-136.

Lusk, S. 1970. Symposium on breeding and reproduction of fishes. *Vertebr. Zpravy.* 2: 113-115. Cz. sum. in En.

MacKelvie, R.M. 1971. A device for rapid removal of embryos from fish eggs. *J. Fish. Res. Board Can.* 28(1): 100-102.

McNeil, W.J. (ed.). 1970. Marine aquaculture: selected papers from the conference on marine agriculture, Oregon State University, Marine Science Center, Newport, Oregon, May 23, 24, 1968. 172p. Publ. by: Corvallis, Oregon State Univ. Press.

Maetz, J. and B. Lahlou. 1974. Actions of neurohypophyseal hormones in fishes. In: Handbook of Physiology. Sect. 7: Endocrinology, Vol. 4. The pituitary gland and its neuroendocrine control, Pt. 1, E. Knobil and W.A. Sawyer (eds.). 521-544. Williams and Wilkins, Balt., Md. 21202, US.

Mahoney, R. 1966. Embryological techniques. (fish, amphibians, birds, mammals). In: Laboratory Techniques in Zoology, same author. 267-280. Butterworths.

Maitland, P.S. 1972. A key to the freshwater fishes of the British Isles, with notes on their distribution and ecology. Publ. by: The Freshwater Biological Assoc., Westmorland, UK.

Maksunov, V.A. 1971. Non-annual spawning of some fishes of Soviet Central Asia. *J. Ichthyol. (Vopr. Ikhtiol. Eng. Ed.)*. 11(2): 192-198.

Malikova, E.M. 1967. Problems of reproduction and management of fish

- resources in Latvia. Vop. Ikhtiol. 7: 961-966. Rus.
- Malyukina, G.A., G.V. Devitsyna and E.A. Marusov. 1974. (Olfaction in fish) Obonyanie ryb. (In: (The main features of fish behaviour and orientation) Osnovnye osobennosti povedeniya i orientatsii ryb 7-35, publ. by Nauka (Moscow, USSR), Mantejfel', B.P. (ed.).
- Malyukina, G.A. and Y.A. Marusov. 1971. Study of the olfaction of fishes by electrocardiography. J. Ichthyol. (Vopr. Ikhtiol. (Eng. Ed.)). 11(6): 959-966.
- Mann, H. 1971. (Investigations on the effects of washing enzymes on fishes and other water organisms) Untersuchungen über die Wirkung von Waschmittelenzymen auf Fische und andere Wasserorganismen. Arch. Fischereiwiss. 2: 146-154.
- Mansueti, A.J. and J.D. Hardy. 1967. Development of fishes of the Chesapeake Bay region. An atlas of egg, larval and juvenile stages. Pt. 1. Baltimore (Univ. Maryland). 1-202.
- Marcato, P.S. and A. Andreucci. 1973. Main technological and pathological aspects of marine fish breeding. Nuova Vet. 49(1): 34-68. It. sum in En.
- Matsuhashi, E. and K. Kobayashi. 1967. Data on fish larvae collected with a larva net. Data Rec. Oceanogr. Observ. Explor. Fish. 11: 219-226.
- Matsuura, Y. 1971. (Report of the exploratory fishing research in the region of the continental shelf of Rio Grande do Sul. Appendix 1. Preliminary report on the distribution of eggs and larvae of fish in waters of the continental shelf of the State of Rio Grande do Sul). Relatório sobre prospecção e pesca exploratória na plataforma continental do Rio Grande do Sul. Apêndice 1. Relatório preliminar sobre a distribuição de ovas e larvas de peixes nas águas da plataforma continental do estado do Rio Grande do Sul. Contrib. Inst. Oceanogr. Univ. São Paulo (Oceanogr. Biol.). 25: 23-30.
- Mazin, A.L., B.F. Vanyushin and A.N. Belozerskij. 1973. (On the nature of the nucleotide sequences of the DNA of some fish species) O kharaktere nukleotidnoj posledovatel'nosti DNK nekotorykh ryb. Dokl. Akad. Nauk SSSR. 210(1): 232-235.
- Mead, G.W. 1964. Reproduction among deep sea fishes. Deep-sea Res. 11: 569-596.
- Meier, A.H. 1969. Diurnal variations of metabolic responses to prolactin in lower vertebrates. Gen. Comp. Endocr. Suppl. 55-62.
- Meshkov, M.M. 1966. Reproduction and development of fishes in Lake Peipsi-Pskov. Hudrobiol. Unrim. 4: 249-269.
- Meske, Ch. 1968. Das problem der konservierung von eiern und spermien

- und seine Bedeutung für die Fischzüchtung. Theoretical and Applied Genetics. 38: H. 5, 202-203.
- Meske, Ch. 1970. Die Technik der Fischzüchtung. Tierzüchter. 22: H.5, 140-142.
- Meyer-Rochow, V.B. 1972. A scanning electron microscope study of marine fish larvae. J. Mirosc. 13(2): 169-172.
- Miller, R.J. 1967. Nestbuilding and breeding activities of some Oklahoma fishes. SWest. Nat. 12: 463-468.
- Miller, R.V. 1969. Continental migrations of fishes (RV). Underwat. Natur. 6, 1, 15-23 & 44.
- Miller, R.W. 1972. Three methods for determining dissolved oxygen concentrations near fish embryos. Prog. Fish Cult. 34(1): 39-42.
- Milman, L.S. and Yu.G. Yurowitzky. 1973. Regulation of Glycolysis in the early development of fish embryos. 107p. S. Karger, Basel, Switzerland.
- Mito, S. 1963. Pelagic fish eggs from Japanese waters 8, 9 and 10. Ibid.-VIII. Cottina. Ibid, 11(3-6), 65-79, Pl.19-28, 1963.
Ibid.-IX. Echeneida and Pleuronectida. Ibid., 11(3-6), 81-102, Pl. 29-41, 1963.
Ibid.-X. Gadida and Lophiida. Ibid., 11(3-6), 103-113, Pl. 42-45, 1963. Jap. J. Ichthyol. 11: 65-113.
- Moav, B., A. Goldberg and Y. Avivi. 1974. Fractionation of somatic and sperm chromatin during spermatogenesis in fish. Exp. Cell Res. 83(1): 37-46.
- Moricard, R., A. Sallusto, M. Gordji and M. Guerrier. 1969. Comparative ultrastructural appearance of the human oocyte. Is the follicular fluid analogous with the vitellus of a fish egg. Gynéc. Obstét. 68: 129-150.
- Morozov, A.V. and L.S. Oven. 1968. Principles of reproduction in spawning ratio of Black Sea fishes. In: Biological investigations of the Black Sea and its industrial resources: 199-204. Akad. Nauk SSSR Okeanogr. Komissiya, Leningrad (In Rus.).
- Moscalev, J.V. 1967. Experience of preparation of Kuban estuary for breeding valuable species of fish. Izv. Gosud. Nauchno-issled. Inst. Ozern. Rechn. Rybn. Khozyaist. 64: 42-43. Rus. sum. in En.
- Mounib, M.S. 1967. Metabolism of pyruvate, acetate and glyoxylate by fish sperm. Comp. Biochem. Physiol. 20: 987-992.
1967. Metabolism of pyruvate in testes of fish and rabbits with particular reference to p-nitrophenol and 2,4-dinitrophenol.

- Comp. Biochem. Physiol. 22: 539-548.
- Mounib, M.S. 1974. NAD and NADP-malic enzymes in spermatozoa of mammals and fish. FEBS letters 48: 80-85.
- Mounib, M.S. and J.S. Eisan. 1969. Alanine and aspartate aminotransferases in egg and sperm of fish. Life Sci. 8(10(2)): 531-534.
1972. Fixation of carbon dioxide by the testes of rabbit and fish. Comp. Biochem. Physiol. 43(2B): 393-401.
- Muller, A. 1970. On the occurrence of fish larvae in the Kiel Bight. Ber. Deut. Wiss. Komm. Meeresforsch. 21: 349-368.
- Munro, J.L., V.C. Gaut, R. Thompson and P.H. Reeson. 1973. The spawning seasons of Caribbean reef fishes. J. Fish. Biol. 5(1): 69-84.
- Murphy, G.I. 1968. Pattern in life history and the environment. Amer. Natur. 102: 391-403.
- Musienko, L.N. 1970. Reproduction and development of the Bering Sea fish. Trudy Vses. Nauchno-issled. Inst. Morsk. Ryb. Khoz. Okeanogr. 70: 166-224. Rus.
1972. Reproduction and development of Bering Sea fishes (In: Soviet fisheries investigations in the northeastern Pacific. Pt. 5. Moiseev, P.A. (ed.). Moscow, 'Pishchevaya Promyshlennost', 1970, Israel Program for Scientific Transl. Jerusalem) 161-224.
- Muus, B.J. 1971. Freshwater fish of Britain and Europe. 222p. Illustrated by P. Dahlstrom; edited by A. Wheeler. Publ. by: Collins, St. James's Place, London.
- Nabiev, A.I. and P.K. Melikova. 1965. New hybrid of fish in the Varvarin water-reservoir. Izv. Akad. Nauk Azerbaidj. SSR Biol. 3: 131-134. Rus.
- Nakano, E. and M. Ishida-Yamamoto. 1968. Uptake and incorporation of labeled amino acids in fish oocytes. Acta Embryol. Morph. Exp. (Palermo) 10: 109-116.
- Nath, V. 1968. Animal Gametes: A morphological and cytological account of yolk formation in oogenesis. (mammals, birds, reptiles, amphibia, fishes, invertebrates). 195p. + 200 figs. Rs.60, Asia Publ. House, Bombay.
- Natohin, Y.V. and E.A. Lavrova. 1974. Influence of water salinity and stage in life history on ion concentration of fish blood serum. J. Fish. Biol. 6: 545-555.
- Nayyar, R.P. 1964. Yolk nucleus of fish oocytes. Quart. J. Mic. Sci. 105: 353-358.

Nellen, W. 1973. (Investigations on the distribution of fish larvae and plankton near and above the Great Meteor Seamount) Untersuchungen zur Verteilung von Fischlarven und Plankton im Gebiet der Grossen Meteorbank. Meteor Forschungsergebn. (D), 13: 47-69.

1973. Kinds and abundance of fish larvae in the Arabian Sea and the Persian Gulf (In: The biology of the Indian Ocean (Proceedings of a SCOR/IBP(PM)/Unesco/FAO/IABO Symposium held at Kiel (West Germany), 31 March-6 April 1971), B. Zeitzschel and S.A. Gerlach (eds.). Springer-Verlag (Berlin). Ecol. Stud. 3: 415-430.

Nellen, W. and G. Hempel. 1970. Observations on the ichthyoneuston of the North Sea. Ber. Deut. Wiss. Komm. Meeresforsch. 21: 311-348.

Nevenzel, J.C. 1970. Occurrence, function and biosynthesis of wax esters in marine organisms. Lipids. 5: 368-319.

New, D.A.T. 1966. Culture of embryos of mammals, chicks reptiles, amphibia and fishes. Chaps. In: The Culture of Vertebrate Embryos, New D.A.T. Academic Press.

Newburg, H.J. 1974. Planarians as a mortality factor on spawned fish eggs. Prog. Fish Cult. 36: 227-230.

Neyfakh, A.A., M.A. Glushankova, N.S. Korobtsova and A.A. Kusakina. 1973. Expression of genes controlling FDR-alcoholase in fish embryos. Thermostability as a genetic marker. Dev. Biol. 34(2): 309-320.

Nicoll, C.S. and H.A. Bern. 1964. "Prolactin" and the pituitary glands of fishes. Gen. Comp. Endocrin. 4: 457-471.

Nikolsky, G.V. 1968. The theory of animal population dynamics as shown in the dynamics of fish populations. Vest. Akad. Nauk SSR. 38(5): 47-56.

1970. On some zonal features in the process of fish production in waterbodies of different latitudes. Ber. Deut. Wiss. Komm. Meeresforsch. 21: 27-32.

Ohtsuka, E. 1964. Studies on the invisible cortical change of the fish egg. Embryologia. 8: 101-114.

Okubo, H., T. Miyajima and H. Koyana. 1968. Increasing fish production by fertilization in farm ponds. 4. Relation between stocked fish species and their harvest. Bull. Freshwat. Fish. Res. Lab., Tokyo 18: 103-111. Jap. sum. in En.

Olivereau, M. 1963. Cytophysiologie du lobe distal de l'hypophyse des agnathes et des poissons, a l'exclusion de celle concernant la fonction gonadotrope. Coll. Internat. du Centre national de la Recherche Scient. 128: 315-335.

- Olivereau, M. 1967. Hypothalamic control of hypophyseal functions in fish. Rev. Eur. Endocr. 4(2): 175-196. Fr.
1967. Notions actuelles sur le contrôle hypothalamique des fonctions hypophysaires chez les Poissons. Rev. Europ. Endoc. 4, n° 2, 175-196.
- Olivier, S.R. 1971. (Elements of ecology. The aquatic environment) Elementos de ecología. El ambiente acuático. Viedma Argentina, Cent. Invest. Cien. Rio Negro. 174p.
- Oppenheimer, J. 1970. Mouthbreeding in fishes. Anim. Behav. 18: 493-503.
- Ozawa, T. and H. Tsukahara. 1971. (On the distribution of pelagic fish larvae and juveniles in the East China Sea and its adjacent regions). Jap. J. Ichthyol. 18(3): 139-146.
- Ozon, R. 1966. Isolation and identification of steroid hormones in lower vertebrates and birds. Annls. Biol. Anim. Biochim. Biophys. 6(4): 537-551. Fr. sum. in En.
1969. Steroid biosynthesis in larval and embryonic gonads of lower vertebrates. Gen. Comp. Endocr. Suppl. 135-140.
1972. Androgens in fishes, amphibians, reptiles and birds. Chap. In: Steroids in Non-mammalian vertebrates, D.R. Idler (ed.). Academic Press. 328-289.
1972. Estrogens in fishes, amphibians, reptiles and birds. Chap. In: Steroids in non-mammalian vertebrates, D.R. Idler (ed.). Academic Press. 390-413.
- Pankova, N.V. 1964. Cytochemical study of nucleic acids in the early embryogenesis of fishes. Dokl. Akad. Nauk. SSSR. 156(5): 1182-1184.
1964. Cytological investigation of nucleic acids in the early embryogenesis of fish. Dokl. Akad. Nauk. SSSR (En. ed. transl. by Consultants Bureau). 156: 335-337. (original pages 1182-1184).
- Pannella, G. 1971. Fish otoliths: daily growth layers and periodical patterns. Science (Wash.). 173(4002): 1124-1127.
- Pavolovskaya, R.M. 1970. Spawning conditions and an estimate of recruitment of the major summer-spawning food fishes of the Black Sea in 1965-1968. J. Ichthyol. 10(2): 229-234.
- Pearson, W.E. 1970. Fish farming and some associated problems. Tropical Sci. 12: 143-150.
- Pederson, R.A. 1971. DNA content, ribosomal gene multiplicity, and cell

- size in fish. J. Exp. Zool. 177(1): 65-78.
- Penyaz, V.S. 1965. Fertility of fishes in Western Dzwina. Vestsi Akad. Nauk. Beloruss. SSR Biol. 1: 110-115. Beloruss, SSR Biol. 1: 110-115. Belorussian.
1969. Biology of reproduction in fishes of Belorussian Rivers. In: Fauna and ecology of animals of Belorussia, M.F. Nikitenko (ed.). 141-161. Akad. Nauk Belorussia SSR Minsk Izdatel'stvo Nauka i Tekhnika (In Rus.).
- Penyaz, V.A. and P.I. Zhukov. 1969. Material on ecology of the fish spawning in the Rivers Prypet and Dneper. In: Hydrobiology and fishery of inland waters of Baltic, Hydrobiol. Uurim: 190-193. (In Rus.)
- Perks, A.M. 1970. Neurohypophysis. (fish). Chap. In: Fish Physiology, Vol. 2, W.S. Hoar and D.J. Randall (eds.). Academic Press, Lond.
- Persov, G.M. 1972. Functional lability of the reproductive system of fish. J. Ichthyol. (Vopr. Ikhtiol (Eng. Ed.)). 12(2): 226-240.
- Phillips, A.P. 1969. A study of factors influencing the retention of DNA by membrane filters. Biochim. Biophys. Acta. 195: 186-196.
- Pignalberi, C. 1967. Observations about the gonads of certain fishes in the middle Parana River. Acta Zool. Liloana. 23: 163-171.
- Pikhu, E.R. 1963. Sexual cycles in economic fish in the Lake Virtsyarv. Trud. Akad. Nauk Latv. SSR Inst. Biol. 23: 221-225.
- Pillay, T.V.R. (ed) 1972. Coastal aquaculture in the Indo-Pacific region. Publ. by: Fishing News (Books) Ltd., 23 Rosemount Ave., West Byfleet, Surrey, UK.
- Pitcher, T.J. and P.D.M. Macdonald. 1973. A numerical integration method for fish population fecundity. J. Fish Biol. 5(4): 549-553.
- Pollock, R.D. 1969. Tehema-Colusa Canal to serve as spawning channel. Prog. Fish Cult. 31: 123-130.
- Polyakov, G.D. 1968. Interrelationship between variability in the fertility of fishes and the numbers structure and feeding conditions of a population. Probl. Ichthyol. 8: 49-60.
- Porter, P.E. and R.G. Porter. 1972. Propagation: fishes. (spawning, fertilization, no. of eggs or young, parental care). In: Biology data book, 2nd Ed. Vol. 1. P.L. Altman and D.S. Dittmer (eds.). 149-152. Federation Amer. Societies Exp. Biol. Bethesda, Md., US.
- Prasad, R.R. and P.R.S. Tampi. 1972. Fisheries research in India: present and future. Indian Farming. 22(5): 62-64.

- Prewitt, R. 1973. Rambling along. Amer. Fish Farmer. Aug. p.17-18.
- Qasim, S.Z. 1966. Sex-ratio in fish populations as a function of sexual difference in growth rate. Curr. Sci. 35: 140-142.
- Rablein, E.M. and R.A. Kudentsova. 1969. Preparation of monolayer tissue cultures from the gonads of fishes. Izv. Gosud. Nauchno-Issled. Inst. Ozern. Rechn. Rybn. Khozyaist. 69: 166-169.
- Raja, B.T.A. 1971. Comments on the reported method of employing greater magnification for the ova-diameter studies in fishes. Indian J. Fish. 18(1-2): 174-176.
- Rao, T.S.S. 1973. Zooplankton studies in the Indian Ocean (In: The biology of the Indian Ocean (Proceedings of a SCOR/IBP(PM)/Unesco/FAO/IABO symposium held at Kiel (West Germany), 31 March-6 April 1971). B. Zeitzschel and S.A. Gerlach (eds.). Springer-Verlag (Berlin). Ecol. Stud. 3: 243-255.
- Reichenback-Klinke, H.H. 1974. Damage to fish eggs in rivers and lakes caused by oil pollution. Tierarztl. Praxis. 2(2): 231-236.
- Reinboth, R. 1974. Studies about the steroid metabolism of ambisexual fish. Fortschr. Zool. 22(2-3): 350-361.
- Reznichenko, P.N. 1969. Development of the mechanisms of external respiration and gas transportation in fish ontogenesis. Demonstrations presented at the 9th International Embryological Conference, Moscow, 25-29 August, 1969. Publ. House, Nauka, Moscow.
- Reznichenko, P.N., L.G. Soloviev and M.V. Gulidov. 1968. Process of entering of oxygen in the respiratory surfaces of fish embryo. In: Morphoecological research in the development of fish, N.N. Disler (ed.). 120-35.
- Richards, W.J. 1969. Elopoid leptocephali from Angolan waters. Copeia. 515-518.
- Ritchie, J.C. 1972. Sediment, fish, and fish habitat. J. Soil Water Conserv. 27(3): 124-125.
- Roede, M.J. 1972. Color as related to size, sex, and behavior in seven Caribbean labrid fish species (genera Thalassoma, Halichoeres and Hemipteronotus). Vitg. Natuurwet. Studiekr. Suriname. 73(138): 1-264.
1973. Intersexuality and sex reversal in fishes. Int. Res. Communications System, P.O. Box 500, Lancaster, UK. No. (73-9) 15-14-12.
- Romanycheva, O.D. 1970. Measures to ensure reproduction of fish transplanted in the Azov Sea basin. Trudy veses. Nauchno-issled. Inst. Morsk. Ryb. Khoz. Okeanogr. 76: 70-76. Rus. sum in En.
- Royce, W.F. 1972. Introduction to the fishery sciences. Publ. by: Academic Press.

- Rubin, B.L. 1968. Assay of Δ^5 - 3β -hydroxysteroid dehydrogenase in fish ovaries. *Gen. Comp. Endocr.* 11: 251-253.
- Rusek, J. 1970. Marine aquarium. 5. Breeding live bearers in a marine aquarium (fish). *Ziva. Prague.* 18: 67-68.
- Russell, F.S. 1969. On the seasonal abundance of young fish. XI. The year 1966. *J. Mar. Biol. Ass. UK.* 49: 305-310.
- Russell, F.S., A.J. Southward, G.T. Boalch and E.I. Butler. 1971. Changes in biological conditions in the English Channel off Plymouth during the last half century. *Nature, Lond.* 234(5330): 468-470.
- Sadleir, R.M.F.S. 1973. The reproduction of vertebrates. (fishes, amphibians, reptiles, birds, mammals, man). 227p. Academic Press, N.Y., US and Lond., UK.
- Sage, M. 1968. Sex determination in fishes. *Aquarist Pondkpr.* 32: 350-351.
1973. The evolution of thyroidal function in fishes. *Amer. Zool.* 13: 899-905.
- Sanders, M.J. 1971. Australian studies Japanese fish culture techniques. *Austr. Fish.* Oct, 1971. p. 3-9.
- Sandor, T. and D.R. Idler. 1972. Steroid methodology. (non-mammalian vertebrates). Chap. In: *Steroids in non-mammalian vertebrates*, D.R. Idler (ed.). Academic Press. 6-36.
- Sathyanesan, A.G. 1969. Hypothalamohypophyseal neurosecretory systems of fishes under some experimental conditions. *Gen. Comp. Endocr. Suppl.* 268-274.
- Sato, S. 1971. Studies relevant to history and development of the oceanography and fishery biology in Japan. 2. Historical development of theories on characteristics of useful organisms and biological production. *Bull. Tohoku Reg. Fish. Res. Lab.* 31: 1-79.
- Sawyer, W.H. 1971. Evolution of neurohypophysial peptides among the non-mammalian vertebrates. In: *Neurohypophysial hormones*, G.E.W. Wolstenholme and J. Birch (eds.). 5-18, Churchill Livingstone, Edinburgh and Lond., UK.
- Sawyer, W.H. and H.B. VanDyke. 1963. Principles resembling oxytocin in neurohypophyses of fishes. *Fed. Proc.* 22: 386. abstr.
- Schreck, C.B. 1974. Hormonal treatment and sex manipulation in fishes. In: *Control of sex in fishes*. C.B. Schreck (ed.). 84-106.
- Schwassman, H.O. 1971. Biological rhythms. From: *Fish Physiology*, Vol. VI: Chap. 6, 371-428, W.S. Hoar and D.J. Randall (eds.).

- Scott, T.W. 1973. Lipid metabolism of spermatozoa. *J. Reprod. Fert.*, Suppl. 18: 65-76.
- Sedov, S.I. and S.B. Krivasova. 1973. (Comparative analysis of intra-specific heterogeneity of Caspian fishes with reference to blood protein polymorphism) Sravnitel'nyj analiz vnutrividovoj geterogennosti ryb Kaspiya po polimorfizmu belkov krovi (In: Biochemical genetics of fishes, Leningrad, 1973). 183-187.
- Serebrov, L.I. 1971. The importance of rivers of the Volga Delta for fish reproduction. *J. Ichthyol.* (Vopr. Ikhtiol. Eng. Ed.), 11(1): 129-133.
- Servis, R.E. 1970. Fish pheromones. (population limiting: test for, using embryos). *Diss. Abstr. Int.* 31B: 596. Abstr. order no. 69-21, 271 (original 309p.).
- Shabalina, A.A. 1971. Comparative analysis of the results of determination of lipids in fishes by the methods of Soxhlet and Folch. *J. Ichthyol.* (Vopr. Ikhtiol. Eng. Ed.). 11(1): 85-88.
- Shapiro, A.P. and V.L. Andreyev. 1969. Optimum relationship between artificial and natural reproduction for commercial populations of fishes. *Vop. Ikhtiol.* 9: 45-49.
- Shelbourne, J.E. 1964. Artificial propagation of marine fish. Chap. In: Advances in marine biology, F.S. Russell (ed.): Vol. 2. Academic Press.
- Shetty, H.P.C., J.C. Malhotra, K.K. Ghosh, A.N. Ghosh, H.A. Khan, A.G. Jhingran, D.V. Pahwa, K.P. Srivastava, K.V. Rao, N.G.S. Rao, M.Y. Kamal, A.G. Godbole, S.D. Gupta, P.L.N. Rao, T.D. Nangpal and R.K. Saxena. 1971. Report on fish spawn prospecting investigations, 1967; Andhra Pradesh, Madras, Bihar, Uttar Pradesh and Rajasthan. *Bull. Cent. Inland Fish. Res. Inst.*, Barrackpore. 15: 60p.
- Shetty, H.P.C., K.K. Ghosh, A.G. Jhingran, J.C. Malhotra, K.P. Srivastava, S.D. Gupta, S.C. Pathak, R.K. Saxena, M. Sinha and N.K. Srivastava. 1971. Report on fish spawn prospecting investigations, 1968; Rajasthan and Uttar Pradesh. *Bull. Cent. Inland Fish. Res. Inst.*, Barrackpore. 14: 45p.
- Shetty, H.P.C., K.K. Ghosh, R. Chandra, A.G. Jhingran, P.S. Prasad, D.V. Pahwa, V.R. Desai, K.V. Rao, M. Sinha, A.G. Godbole, L.H. Rao, G.R. Rao, S.D. Gupta, S.C. Pathak, S.K. Tewari, D. Prasad, and R.K. Saxena. 1971. Report on fish spawn prospecting investigations, 1969; Rajasthan, Uttar Pradesh, Bihar, Assam, Tamilnadu and Mysore. *Bull. Cent. Inland Fish. Res. Inst.*, Barrackpore. 16: 1-49.
- Shetty, H.P.C., K.K. Ghosh, R. Chandra, A.G. Jhingran, K.V. Rao, M. Sinha, A.G. Godbole, N.K. Srivastava, S.C. Pathak, S.K. Das and

- R.K. Saxena. 1971. Report on fish spawn prospecting investigations, 1970; Assam, Bihar, West Bengal and Uttar Pradesh. Bull. Cent. Inland Fish. Res. Inst., Barrackpore. 17: 43p.
- Shetty, H.P.C., K.K. Ghosh, K.V. Rao, M.Y. Kamal, P. Das, S.K. Wishard, S.D. Gupta, N.K. Srivastava and P.M. Mathew. 1971. Report of fish spawn prospecting investigations, 1971; Assam, Bibar, West Bengal and Uttar Pradesh. Bull. Cent. Inland Fish. Res. Inst., Barrackpore. 18: 35p.
- Shcherbukha, A.Ya. 1971. The growth and condition of fishes of the northern Donets and its tributary, the Aydar, in the area affected by warm water discharged from Lugansk power station. J. Ichthyol. (Vopr. Ikhtiol. Eng. Ed.). 11(2): 231-240.
- Shevtsova, T.M. 1970. (The fertility of some commercial species of fish in waters of Belorussian Polesye) Plodovitost nekotorykh promyslovykh vidov ryb vodoemov Belorusskogo Polesya. Vestsi Akad. Navuk Belarus. SSR (Biyal. Navuki). 2: 94-97.
- Shikhshabekov, M.M. 1971. Resorption of the gonads in some semi-diadromous fishes of the Arakum lakes (Dagestan ASSR) as a result of the regulation of discharge. Vopr. Ikhtiol. (Eng. Ed.). 11(3): 427-431.
- Shirkova, A.P. 1974. Contribution to the methods of determining the fecundity of fish populations (Transl. of: K metodike opredeleniya populyatsionnoy plodovitosti ryb; From: Tr. Karel. Otd. GosNIORKh, 5(1): 320-323 (1967)). Transl. Ser. Fish. Res. Board Can. 2875.
- Shirota, A. 1970. Studies on the mouth size of fish larvae. Bull. Jap. Soc. Sci. Fish. 36: 353-368.
- Shul'man, G.E. 1973. (Characteristic features of fat accumulation in thermophilic and frigophilic Mediterranean fishes) Osobennosti zhironakopleniya u teplolyubivykh i kholodolyubivykh sredizemnomorskikh ryb. Ekologiya. 3: 100-102.
- Simon, R.C. 1964. Fixation and fat extraction before staining and squashing, for chromosomes of fish embryos. Stain Technol. 39: 45-47.
- Sjostrand, N.O. 1965. Adrenergic innervation of the vas deferens and the accessory male genital glands. Acta physiol. scand. 65 Suppl. 257: 82p.
- Smirnov, A.I. 1964. Spawning stage of development and its specificity. Dokl. (Proc.) Acad. Sci. U.S.S.R. (En. translation by Consultants Bureau) 159: 771-773. (original pages 431-433).
- Smirnova, E.N., M.Z. Vladimirov and R. Vol'skis. 1970. (Embryonic and postembryonic development) Razvitiye. In: Biology and fisheries of Vimba in Europe, Vilnius, Lithuanian S.S.R. 'Mintis', 188-290).

- Smith, C.C., Jr. 1970. Mechanism of action of a fish pituitary hormone. Diss. Abstr. Int. 31B: 2945-6, Abstr. order no. 70-21 838 (original 110p.).
- Smith, L.L., Jr. and D.M. Oseid. 1974. Effects of hydrogen sulphide on development and survival of eight freshwater fish species. In: The early life history of fish, J.H.S. Blaxter (ed.). 417-430. Springer-Verlag, Berlin, Ger., N.Y., US.
- Soin, S.G. 1966. Development, types of structure and phylogenesis of the vascular system of the vitelline sac in fish embryos, performing respiratory function. Zool. Zh. 45: 1382-1397. Rus. sum. in En.
1969. Embryonic adaptations to respiration in fishes. Demonstrations presented at the 9th International Embryological Conference, Moscow, 25-29 August 1969. Publ. House, Nauka, Moscow.
- Soloninova, L.N. 1969. Problem of reproduction of spring spawning fishes in the Bukhtarmin water-reservoir. In: Hydrobiology and ichthyology, V.A. Maksunov (ed.). 164-178. Akad. Nauk. Tadzhikskoi SSR, Inst. Zool. im E.M. Pavlovski, Dushanbe. (In Rus.).
- Somero, G.N. and M. Soule. 1974. Genetic variation in marine fishes as a test of the niche-variation hypothesis. Nature. 249(5458): 670-672.
- Sperlich, D. 1970. Populations genetics. II. Fortschr. Zool. 20: 208-268.
- Stahl, A. 1963. Cytophysiologie de l'adenohypophyse des poissons (spécialement en relation avec la fonction gonadotrope). In: Cytologie de l'Adenohypophyse - Colloques Internationaux du Centre National de la Recherche Scientifique. J. Benoit C. DaLage No. 128, p. 331-344.
- Struchkov, V.A. and N.B. Strazhevskaya. 1968. The role of single breaks in the mechanism by which ionising radiation acts on supra-molecular DNA in the cell. Radiobiologiya. 8: 787-795.
- Suga, N. 1963. Change of the toughness of the chorion of fish eggs. Embryologia. 8: 63-74.
- Sukhanova, E.R., R. Vol'skis, V.N. Moroz and V. Ehrm. 1970. (River period of the young life). Rechnoi period zhizni molodi. In: Biology and fisheries of Vimba in Europe. Vilnius, Lithuanian SSR, 'Mintis', 291-342.
- Suzuki, R. 1969. Notes on the endematous fry in fish hybrids. Bull. Freshw. Fish. Res. Lab. Tokyo. 19: 17-21.
- Sylvester, J.R. 1972. Possible effects of thermal effluents on fish: a review. Environ. Pollut. 3(3): 205-215.

- Talukder, M.S.A. 1967-68. Fate in vitro of neurohypophyseal hormones in non-mammalian vertebrates. Ph.D. Thesis. Bristol. UK.
- Tamaoki, B., Arai, B., Tajima, H. and K. Suzuki. 1970. Comparative aspects of steroidogenesis in testicular tissue of vertebrates. Exe. Med. Internat. Congr. Ser. No. 219. 976-982.
- Tan, E.O. 1968. Contribution to the investigations on the osmoregulation in fish eggs. Philippine J. Fish. 8: 59-70.
- Terner, C. and G. Korsh. 1963. Oxidative metabolism of pyruvate, acetate and glucose in isolated fish spermatozoa. J. Cell. Comp. Physiol. 62: 243-249.
- Terner, C. and E.S. Minassian. 1965. Lipid biosynthesis by spermatozoa of man, fish and bull. 1965. Fed. Proc. 24(2,i): 476. abstr.
- Thayer, G.W., D.E. Hoss, M.A. Kjelson, W.F. Hettler, Jr. and M.W. Lacroix. 1974. Biomass of zooplankton in the Newport River estuary and the influence of postlarval fishes. Chesapeake Sci. 15(1): 9-16.
- Thibault, C. 1973. Sperm transport and storage in vertebrates. J. Reprod. Fert. Suppl. 18: 39-53.
- Thong, L.H. 1972. Gonades de quelques grands pelagiques polynesiens. Trav. Labo. Biol. Halieutique, Univ. Rennes. 6: 85-131.
- Tiews, K. 1972. ICES C.M. 1972/J. Pelagic fish (Southern) Committee. Administrative report.
- Todd, J.H. 1971. The chemical languages of fishes. Sci. Amer. 224(5): 99-108.
- Todd, J.H., J. Atema and D.B. Boylan. 1972. Chemical communication in the sea. Mar. Technol. Soc. J. 6(4): 54-56.
- Traykina, G.L. 1971. Use of quantitative assessment to characterize the state of fish ovaries. J. Ichthyol. (Vopr. Ikhtiol. Eng. Ed.). 11(1): 120-123.
- Trifonov, G.P. 1963. Reproduction of semi-migratory fish in the Ural-Caspian region. Trud. Inst. Ikhtiol. Akad. Nauk. Kazakh. SSR 4: 19-32.
- Turner, C.D. 1966. Biology of sex and reproduction. In: General endocrinology, 4th Ed.: 375-422. W.B. Saunders.
- Ueck, M. 1974. Comparative aspects to the neuroendocrine activity of the pineal complex of fishes, amphibia and birds. Sonderdruck aus Fortschritte der Zool. 22(2/3): 167-203.
- Unbehaun, V., J. Grunberg and G. Jung. 1967. Studies on NAD and NADP

- content of the ovary. *Med. Welt.* 52: 3194-3195.
- Uyeno, T. and R.R. Miller. 1972. Second discovery of multiple sex chromosomes among fishes. *Experientia* 28: 223-225. Sum. in Ger.
- Van de Kamer, J.C., J. Mellinger, M.R.N. Prasad, A. Stahl and B.I. Sundararaj. 1965. Table Ronde sur la nature et les fonctions du sac vasculaire des poissons. In: IVth Symposium International D'Endocrinologie Comparee (Ed. L. Gallien). Archives D'Anatomie Microscopique et de Morphologie Experimentale. 54: 613-625.
- Van Oordt, P.G.W. 1968. Analysis and identification of the hormone-producing cells of the adenohypophysis. (amphibia and fishes). In: Perspectives in endocrinology, E.J.W. Barrington and C.B. Jorgensen (eds.). 405-468. Academic Press.
- VanTienhoven, A. 1968. Environment and reproduction. In: Reproductive physiology of vertebrates, same author. 388-425. W.B. Saunders.
1968. Hormonally induced reproductive behavior. In: Reproductive physiology of vertebrates, same author. 426-465. W.B. Saunders.
- Vanyushin, B.F., S.G. Tkacheva and A.N. Belozersky. 1970. Rare bases in animal DNA. *Nature* (London). 225: 948-949.
- Varma, S.K. and S.S. Guraya. 1968. Localization and functional significance of alkaline phosphatase in the vertebrate ovary. (fish, amphibia, birds, mammals). *Experientia*. 24: 398-399.
- Vasnetsov, V.V. and N.N. Disler. 1969. Periodicity of development. (fish). Demonstrations presented at the 9th International Embryological Conference, Moscow, 25-29 August, 1969. Publ. House, Nauka, Moscow.
- Vatanachai, S. 1974. The identification of fish eggs and larvae obtained from the survey cruises in the South China Sea (In: p.111-130 Proceedings of the Indo Pacific Fisheries Council, 15th Session, Wellington, New Zealand, 18-27 October, 1972. Section 3. Symposium on coastal and high seas pelagic resources. Publ. by IPFC, Bangkok, Thailand, 1974, 511p.).
- Verigin, B.V. 1970. The embryology of fishes and the general theory of the individual development of organisms. *J. Ichthyol.* 10(2): 165-177.
- Vernberg, W.B. and F.J. Vernberg. 1972. Environmental physiology of marine animals. x, 346p. Publ. by: Springer-Verlag.
- Vinogradov, A.K. 1970. Some ecologico-morphological adaptations of the ichthyoneuston of the Black Sea. *Zool. Zh.* 49: 1366-1369.
- Vladimirov, V.I. 1970. Difference of ontogeny quality as a factor in the dynamics of fish school quantity (investigational problems). *Gidrobiol. Zh.* 6(2): 14-26.

- Vladimirov, V.I. 1973. (The effect of the growth rate of spawners on the survival and abundance of progeny). Vliyanie skorosti rosta proizvoditelej na vyzhivaemost'i chislennost' potomstva u ryb. Vopr. Ichthyol. 13(6): 963-976.
- Vlasenko, M.I. 1969. Ultraviolet rays as a method for the control of diseases of fish eggs and young fishes. Vop. Ikhtiol. 9: 697-705.
- Volodin, V.M. 1966. Comparative characteristic of fish resistance to phenol in early stages of development. Trudy Inst. Biol. Vnutrennikh Vod. 10(13): 300-310.
- Votinov, V.P. 1969. Preliminary estimates and problems of artificial fish breeding in connection with the tendency of formation of fish fauna in the water reservoirs of the upper Irtish. In: Hydrobiology and ichthyology, V.A. Maksunov (ed.). 157-163. Akad. Nauk. Tadzhikskoi SSR, Inst. Zool. im E.M. Pavlovski, Dushanbe.
- Waldichuk, M. 1974. Coastal marine pollution and fish. Ocean Manage. 2(1): 1-60.
- Warren, C.E. and G.E. Davis. 1971. Laboratory stream research: objectives, possibilities and constraints. Annu. Rev. Ecol. Syst. 2: 111-144.
- Webb, B.F. 1973. Fish populations of the Avon-Heathcote estuary. 2. Breeding and gonad maturity. N.Z. J. Mar. Freshwat. Res. 7(1-2): 45-66.
- Webb, C.J. 1974. Fish chromosomes: a display by scanning electron microscopy. J. Fish Biol. 6(1): 99-100.
- Whitt, G.S. 1970. Developmental genetics of the lactate dehydrogenase isozymes of fish. J. Exp. Zool. 175: 1-36.
- Whitt, G.S., E.T. Miller and J.B. Shaklee. 1973. Developmental and biochemical genetics of lactate dehydrogenase isozymes in fishes (In: Genetics and mutagenesis of fish, Proceedings of the ichtyological symposium on genetics and mutagenesis held at Neuherberg, Munich (GFR), 13-15 Oct. 1972, J.H. Schroder (ed.). Springer-Verlag, 1973, 243-276).
- Wiley, M.L. and B.B. Collette. 1970. Breeding tubercles and contact organs in fishes: their occurrence, structure and significance. Bull. Am. Mus. Nat. Hist. 143(3): 1-216.
- Williamson, G.F. 1971. Aquaculture in Japan-2. Can methods be used by the poorer nations? Fish. News Int. 19(6): 32-33.
- Witkowski, A. 1974. Several interesting cases of deformation in the construction of fish fins and vertebral column. Zool. Pol. 23(3-4): 245-251. Sums. in Pol. Rus.
- Witschi, E. 1972. Time variations in developmental stages: equivalent

- numerical designations for staging systems: amphibians and fishes.
In: Biology data book, 2nd Ed., Vol. 1, P.L. Altman and D.S. Dittmer
 (eds.). 173. Federation Amer. Societies Exp. Biol., Bethesda, Md., US.
- Wolf, U. 1970. (Gene duplication in the evolution of vertebrates)
 Genduplikation in der Evolution der Wirbeltiere. Zool. Anz. 185(1-2):
 1-8.
- Wollitz, R.E. 1972. The effect of acid mine drainage on the limnology
 of a small impoundment in Southwest Virginia (In: Proceedings of the
 Twenty-sixth Annual Conference, Southeastern Association of Game and
 Fish Commissioners, held at Knoxville, TN (USA) 22nd-25th Oct. 1972.
 A.L. Mitchell (ed.). 442-460).
- Woynarovich, E. 1963. Zur Frage der Vermehrung des Zanderbestandes in
 Balaton. Allg. Fish. Ztg. 88(22): 646-649.
1968. New systems and new fishes for culture in Europe.
 FAO Fish. Rep. (44)5: 162-181.
1972. A general lay-out of a warm water fish hatchery,
 J. Inland Fish. Soc. of India. (accepted for publ. at 1974, under
 printing).
1973. Report: regarding the tannic acid treatment of
 fish eggs to prevent premature hatching and fungus (Saprolegnia)
 attack. FAO Aquaculture Bull. 5.2. p.18. (the report has not a
 definite title).
1973. The role of induced breeding in fish culture
 development, EIFAC Workshop on controlled reproduction of cultivated
 fishes, 21-25 May, 1973. Hamburg. EIFAC/T25.
- Wu, H.W. and L. Chung. 1964. Progress and achievements in the artificial
 propagation of four fishes in China. Con. 1964 Peking Symposium,
 Gen. (10): 203-218.
- Wunder, W. 1972. (Application of hypophysis in hatching). Die hypop-
 hysierung in der fischzucht. Allg. Fischereiztg. 97(7): 314-315.
1972. Hypophysization in pisciculture. Gen. Fish. J. Fish
 Game. 97: 1972.
- Yamagishi, H. 1969. Postembryonal growth and its variability of the
 three marine fishes with special reference to the mechanism of growth
 variation in fishes. Res. Population Ecol. 11: 14-33.
- Yamamoto, K. 1973. Endocrinological studies related to the artificial
 propagation of fish. In: 1st Japan-USSR Symp. Aquac. Pacific Ocean.
 S. Matoda (ed.). Tokai Univ., Tokyo. 27p.

- Yarzhombek, A.A. and N.V. Maslennikova. 1971. Nitrogenous metabolites of the eggs and larvae of various fishes. J. Ichthyol. (Vopr. Ikhtiol. Eng. Ed.). 11(2): 276-280.
- Yasuzumi, F. 1972. Fine structure of nucleus of fish oocyte. J. of Electron Microscopy. 21: 245-246.
- Yevdokimova, Ye.B. and I.G. Kuznetzova. Parasitic ciliates of the family Urceolariidae (Peritricha, Mobilia) from some fishes of the southwest Atlantic. Inst. Fishing Ind. and Fisheries, Kaliningrad, USSR.
- Yurovitsky, Yu.G. 1965. Embryonic development of fish under various oxygen conditions. Zh. Obshch. Biol. 26: 63-73.
1966. Determination of sex in fishes. Usp. Sovrem. Biol. 62: 148-160.
- Zahnd, J.P. and A. Porte. 1966. Morphological signs of transfer of nuclear material in the cytoplasm ovocytes of some fish. C.R. Acad. Sci. (Paris) Ser. D. 262: 1977-1978.
- Zotin, A.I. 1965. Uptake and movement of water in embryos. (incl. fish). Symp. Soc. Exp. Biol. 19: 365-384.
- Zotin, A.I. and Yu.G. Danykov. 1967. Influence of vibration on the embryonic development of amphibia and fish. Izv. Akad. Nauk. SSSR, Biol. Ser. 879-882.
- Zotin, A.I. and B.F. Poglazov. Excitability of superficial layer of cytoplasm and cleavage of fish and amphibian eggs. Dokl. Akad. SSSR. 143: 1233-1236. Rus. 339-343 (transl.).

AGNATHA

General

- Aler, G., G. Bage and B. Fernholm. 1971. Existence of prolactin in cyclostomes. *Gen. Comp. Endocr.* 16(3): 498-503.
- Cox, K.W. 1963. Egg-cases of some elasmobranchs and a cyclostome from California waters. *Calif. Fish Game.* 49: 271-289.
- Dodd, J.M. 1972. Endocrine regulation of gametogenesis and gonad maturation in fishes. (teleosts, cyclostomes, elasmobranchs). *Gen. Comp. Endocr. Suppl.* 3: 675-687.
1972. Ovarian control in cyclostomes and elasmobranchs. *Am. Zool.* 12: 325-342.
- Jasinski, A. 1969. Vascularization of the hypophyseal region in lower vertebrates (cyclostomes and fishes). *Gen. Comp. Endocr. Suppl.* 510-521.
- Plisetskaya, E.M. and V.V. Kuz'mina. 1972. Glycogen content in organs of Agnatha (Cyclostomata) and fish (Pisces). *J. Ichthyol. (Vopr. Ikhtiol. (Eng. Ed.))*. 12(2): 297-306.
- Rai, B.P. 1972. Gonadotrops in Agnatha, fishes and Amphibia. *Acta Anat.* 81(1): 42-52.
- Weisbart, M. 1974. Steroids in cyclostomes. *J. Steroid Biochem.* 5: 398. abstr.
- Zhukov, P.I. 1969. New data on the biology of freshwater lampreys in White Russia. *Vop. Ikhtiol.* 9: 181-186.

Branchiostoma

- Guraya, S.S. 1972. Histochemical observations on degenerating eggs and interstitial gland cells of ovary of Branchiostoma. *Gen. Comp. Endocr.* 19: 582-586.

Caspiomyzon

- Agamaliev, A.S. 1970. Reproduction of Caspian lamprey in the Kura River watershed in conditions of construction of hydro-electric power station. *Trudy Mold. Uchen.* 4: 112-118. Rus. sum in En.
- Ginzburg, Ya. I. 1970. Reproduction of the lamprey (*Caspiomyzon wagneri* (Kessler)) below the Volgograd dam and the development of its larvae. *J. Ichthyol.* 10(4): 485-493.

Entosphenus

Kitada, J.I. 1970. The fine structure of the liver cell in larval and adult brook-lamprey, Entosphenus reissneri, observed by electron microscope. Jap. J. Ichthyol. 17(4): 161-165.

Eptatretus

Kobayashi, H., T. Ichikawa, H. Suzuki and M. Sekimoto. 1972. (Seasonal migration of the hagfish, Eptatretus burgeri). Jap. J. Ichthyol. 19(3): 191-194.

Kobayashi, H. and H. Uemura. 1972. Neurohypophysis of the hagfish, Eptatretus burgeri. Gen. Comp. Endocr. Suppl. 3: 114-124.

Tsuneki, K., A. Urano and H. Kobayashi. 1974. Monoamine oxidase and acetylcholinesterase in the neurohypophysis of the hagfish, Eptatretus burgeri. Gen. Comp. Endocr. 24(3): 249-255.

Ichthyomyzon

Braem, R.A. and E.L. King, Jr. 1971. Albinism in lampreys in the upper Great Lakes. Copeia. 1: 176.

Case, B. 1970. Spawning behaviour of the chestnut lamprey (Ichthyomyzon castaneus). J. Fish. Res. Board Can. 27: 1872-1874.

Piavis, G.W., J.H. Howell and A.J. Smith. 1970. Experimental hybridization among 5 species of lampreys from the great lakes. Copeia. 29-37.

Potter, I.C. and J.R. Bailey. 1972. The life cycle of the Tennessee brook lamprey, Ichthyomyzon hubbsi Raney. Copeia. 3: 470-476.

Lampetra

Afzelius, B.A., L. Nicander and I. Sjoden. 1968. Fine structure of egg envelopes and the activation changes of cortical alveoli in the river lamprey, Lampetra fluviatilis. J. Embryol. Exp. Morph. 19: 311-318.

Barnes, K. and M.W. Hardisty. 1972. Ultrastructural and histochemical studies on the testis of the river lamprey, Lampetra fluviatilis (L.). J. Endocrinol. 53(1): 59-69.

Bentley, P.J. and B.K. Follett. 1965. Fat and carbohydrate reserves in the river lamprey during spawning migration. Life Sci. 4: 2003-2007.

Braem, R.A. and E.L. King, Jr. 1971. Albinism in lampreys in the upper Great Lakes. Copeia. 1: 176.

Brigham, W.U. 1973. Nest construction of the lamprey, Lampetra aepyptera. Copeia. 1: 135-136.

- Buchwald, D.G. and J.R. Nursall. 1969. Triaenophorus crassus in Arctic lampreys of the Northwest Territories, Canada. J. Fish. Res. Board Can. 26: 2260-2261.
- Busson-Mabillot, S. 1966. Presence of glandular theca interna in primary follicle of the lamprey. C.R. Acad. Sci. (Paris). 262: 117-118.
1967. Gonadogenesis, sexual differentiation and structure of the larval ovary in Lampetra planeri. Archs. Zool. Exp. Gen. 108: 293-318. Fr. sum. in En.
1967. Ovarian structure in the adult Lampetra planeri. Archs. Zool. Exp. Gen. 108: 413-446. Fr. sum. in En.
1967. Ovarian structure in adult lamprey, Lampetra planeri. J. Microsc. 6(5): 577-598. Fr.
1967. Ovarian structure of adult lamprey, Lampetra planeri. J. Microsc. 6(6): 807-838. Fr.
- Cabezas, J.A. and M.D. Frois. 1966. Neuraminic acid. 6. Acetylneuraminic acids in lamprey liver and eggs, and in eggs from 2 teleostei species. Rev. Esp. Fisiol. 22: 147-152.
- deVos, R., deWolf-Peeters, C. and V. Desmet. 1973. A morphologic and histochemical study of biliary atresia in lamprey liver. Mikrosk. Anat. 136(1): 85-96.
- Dockray, G.J. and A.D. Pickering. 1972. Influence of the gonad on the degeneration of the intestine in migrating river lampreys: Lampetra fluviatilis (Cyclostomata). Comp. Biochem. Physiol. 43: 279-286.
- Evennett, P.J. and J.M. Dodd. 1963. Endocrinology of reproduction in the river lamprey. Nature (Lond.). 197: 715-716.
1963. Pituitary gland and reproduction in the lamprey (Lampetra fluviatilis). J. Endocr. 26: xiv-v. abstr.
- Follenius, E. 1965. Electron microscope study of structure of spermatozoa of Lampetra planeri (lamprey) (especially specialised acrosome). J. Ultrastruct. Res. 13: 459-468. Fr. sum. in En.
1965. Ultrastructure of interstitial cells (Leydig) in Lebistes reticulatus, Gasterosteus aculeatus and Lampetra planeri. Gen. Comp. Endocr. 5: 677. abstr. Fr.
- Grodzinski, Z. 1967. The yolk of the river lamprey Lampetra fluviatilis (L.). Acta Biol. Cracov. Ser. Zool. 10: 63-68.
- Hardisty, M.W. 1964. Fecundity of lampreys. Arch. Hydrobiol. 60: 340-357.

Hardisty, M.W. 1970. The relationship of gonadal development to the life cycles of the paired species of lamprey, Lampetra fluviatilis (L.). and Lampetra planeri (Bloch). J. Fish Biol. 2: 173-181.

1971. Gonadogenesis, sex differentiation and gametogenesis In: The biology of lampreys. Vol. 1. M.W. Hardisty and I.C. Potter (eds.). Academic Press, Lond. 295-359.

1972. Quantitative and experimental studies on interrenal tissues of upstream migrant stage of river lamprey, Lampetra fluviatilis L. Gen. Comp. Endocr. 18: 501.

Hardisty, M.W. and K. Barnes. 1968. Steroid 3β -ol-dehydrogenase activity in the cyclostome gonad. Nature, Lond. 218: 880.

Hardisty, M.W. and J. Gosh. 1966. Primordial germ cells and fecundity. (lampreys). Nature, Lond. 210: 1370-1371.

Hardisty, M.W. and R.J. Huggins. 1970. Larval growth in the river lamprey, Lampetra fluviatilis. J. Zool. (London). 161: 549-559.

Hardisty, M.W. and I.C. Potter (eds.). 1971. The biology of lampreys. Vol. 1. xiv, 423p. Publ. by: Academic Press. London and N.Y.

Hardisty, M.W., I.C. Potter and R. Sturge. 1970. A comparison of the metamorphosing and macropthalmia stages of the lampreys Lampetra fluviatilis and L. planeri. J. Zool. Lond. 162: 383-400.

Holcik, J. 1970. On the occurrence of Lampetra planeri (Bloch, 1784) in the Poprad river (Northern Slovakia) and notes to its taxonomy and ecology. Vestn. Cesk. Spol. Zool. 34: 22-32.

Huggins, R.J. and A. Thompson. 1970. Communal spawning of brook and river lampreys, Lampetra planeri Bloch and Lampetra fluviatilis L. J. Fish Biol. 2: 53-54.

Hughes, R.L. and I.C. Potter. 1969. Studies on gametogenesis and fecundity in the lampreys Mordacia praecox and M. mordax (Petromyzonidae). Austral. J. Zool. 17: 447-464.

Joss, J.M.P. 1973. Pineal-gonad relationship in the lamprey, Lampetra fluviatilis. Gen. Comp. Endocr. 21(1): 118-122.

Kott, E. 1971. Liver and muscle composition of mature lampreys. Can. J. Zool. 49(6): 801-805.

Larsen, L.O. Possible factors involved in initiation of sexual maturation in river lampreys (Lampetra fluviatilis). In: The development and maturation of the ovary and its functions, H. Peters (ed.). 156-157. Excerpta Medica, ICS No. 267.

Larsen, L.O. 1965. Lipids and cholesterol in the testis of normal and hypophysectomized river lamprey, Lampetra fluviatilis. Gen. Comp. Endocr. 5: 695. abstr.

1969. Effects of gonadectomy in the cyclostome, Lampetra fluviatilis. Gen. Comp. Endocr. 13(3): 516-517. abstr.

1969. Effects of hypophysectomy before and during sexual maturation in the cyclostome, Lampetra fluviatilis. Gen. Comp. Endocr. 12(2): 200-208.

1969. Hypophyseal functions in river lampreys. Gen. Comp. Endocr. Suppl. 522-527.

1970. The lamprey egg at ovulation (Lampetra fluviatilis L. Gray). Biol. Reprod. 2: 37-47.

1972. Endocrine control of intestinal atrophy in normal lampreys and of intestinal hypertrophy in gonadectomized lampreys, Lampetra fluviatilis. Gen. Comp. Endocr. 18: 602.

1973. Development in adult freshwater river lampreys and its hormonal control. Starvation, sexual maturation and natural death. Univ. Copenhagen, Denmark. 172pp.

1974. Effects of oestradiol-17 β and testosterone on intact male and female river lampreys (Lampetra fluviatilis). Gen. Comp. Endocr. 22: 384.

1974. Effects of testosterone and oestradiol on gonadectomized and intact male and female river lampreys (Lampetra fluviatilis). Gen. Comp. Endocr. 24: 305-313.

Larsen, L.O. and P. Rosenkilde. 1971. Iodine metabolism in normal, hypophysectomized, and thyrotropin-treated river lampreys, Lampetra fluviatilis (Gray) L. (Cyclostomata). Gen. Comp. Endocr. 17(1): 94-104.

Larsen, L.O. and B. Rothwell. 1972. Adenohypophysis. Ch. 10. The biology of lampreys. M.W. Hardisty and I.C. Potter (eds.). Academic Press, N.Y. and London. 466pp.

Lohnisky, K. 1966. Spawning behaviour of the brook lamprey, Lampetra planeri. Vest. Csl. Spol. Zool. 30: 289-307.

McIntyre, J.D. 1969. Spawning behavior of the brook lamprey, Lampetra planeri. J. Fish. Res. Board Can. 26(12): 3252-3254.

Meiniel, A. and J.P. Collin. 1971. (The pineal complex of the ammocoete (Lampetra planeri). Connections of the pineal and parapineal organs with the epithalamic roof). La complexe pineal de l'ammocète (Lampetra planeri, Bl.). Identification du ganglion sous-jacent à l'organe

- parapinéal et relations épithalamiques des organes pinéal et parapinéal.
 Z. Zellforsch. Mikrosk. Anat. 117(3): 354-380.
- Morris, R. and D.S. Islam. 1969. The effect of hormones and hormone inhibitors on blood sugar regulation and the follicles of Langerhans in ammocoete larvae. Gen. Comp. Endocr. 12: 81-90.
- Nicander, L., B.A. Afzelius and I. Sjoden. 1968. Fine structure and early fertilization changes of the animal pole in eggs of the river lamprey. J. Embryol. Exp. Morph. 19: 319-326.
- Nicander, L. and I. Sjoden. 1968. Acrosomal complex and the acrosomal reaction in spermatozoa of the river lamprey. J. Ultrastruct. Res. 25: 167. abstr.
1971. Electron microscopical study of the acrosomal complex and its role in fertilization in the river lamprey Lampetra fluviatilis. J. Submicrosc. Cytol. 3: 309-318.
- Pfister, C. and Z. Mikrosk. 1971. (Elective demonstration of postembryonal matrix zones in the brain of Lampetra planeri (Bloch) (Cyclostomata) and Salmo (Trutta) irideus (Teleostei) with pseudoisoxyanin). Elektive darstellung postembryonaler matrixzonen im gehirn von Lampetra planeri (Bloch) (Cyclostomata) und Salmo (Trutta) irideus (Teleostei) mit pseudoisoxyanin. Anat. Forsch. 84(2/3): 286-292.
1971. (The matrix of the brain of lamprey embryos (Lampetra planeri (Bloch 1784))). Die matrix im gehirn von nenaugenembryonen (Lampetra planeri (Bloch 1784)). Anat. Forsch. 84(4): 485-492.
- Piavis, G.W. 1971. Embryology. In: The biology of lampreys, Vol. 1. M.W. Hardisty and I.C. Potter (eds.). 361-400. Academic Press, Lond.
- Piavis, G.W., J.H. Howell and A.J. Smith. 1970. Experimental hybridization among five species of lampreys from the Great Lakes. Copeia. 29-37.
- Pickering, A.D. 1972. Effects of hypophysectomy on the activity of the endostyle and thyroid gland in the larval and adult river lamprey, Lampetra fluviatilis L. Gen. Comp. Endocr. 18(2): 335-343.
1974. Oestrogenic stimulation of vitellogenesis in river lamprey. Gen. Comp. Endocr. 22: 391.
- Pickering, A.D. and G.J. Dockray. 1972. The effects of gonadectomy on osmoregulation in the migrating river lamprey: Lampetra fluviatilis L. Gomp. Biochem. Physiol. (Physiol). 41(1A): 139-147.
- Poltorykhina, A.N. 1971. Metamorphosis of the Arctic brook lamprey (Lampetra japonica kessleri (Anikin)) in the Upper Irtysh. J. Ichthyol. (Vopr. Ikhtiol. Eng. Ed.). 11(2): 281-285.

- Rembiszewski, J.M. 1968. Observations on hybrids of Lampetra planeri x Lampetra mariae. *Vest. Csl. Spol. Zool.* 32: 390-393.
- Seiler, K., R. Seiler and G. Sterba. 1970. Histochemical studies on interrenal system of Lampetra planeri Bloch. *Acta Biologica et Medica Germanica.* 24: 553.
- Shalumovich, V.N. and Iu.N. Shuvalov. 1966. Ultra-structure of the allantoic membrane of the oocytes of Lampetra fluviatilis. *Dokl. Akad. Nauk. SSSR.* 166: 211-214.
- Smith, A.J., J.H. Howell and G.W. Piavis. 1968. Comparative embryology of five species of lampreys of the upper Great Lakes. *Copeia.* 461-469.
- Stanley, H.P. 1967. Fine structure of spermatozoa in the lamprey Lampetra planeri. *J. Ultrastruct. Res.* 19: 84-99.
- Sterba, G. 1969. Endocrinology of the lampreys. *Gen. Comp. Endocr. Suppl.* 2: 500-509.
- Sterba, G., C. Pfister and W. Naumann. 1965. Start of neurosecretion and secretion of the subcommisural organ in lamprey embryos. *Z. Mikr. Anat. Forsch.* 74: 33-38.
- Suzuki, S. and Y. Kondo. 1973. Thyroidal morphogenesis and biosynthesis of thyroglobulin before and after metamorphosis in the lamprey, Lampetra reissneri. *Gen. Comp. Endocr.* 21(3): 451-460.
- Thompson, A. 1971-72. Quantitative and cytological studies on the adenohypophysis of Lampetra planeri and Lampetra fluviatilis, with special reference to metamorphosis. MSc Thesis, Bath U, UK.
- Van Noorden, S., J. Greenberg and A.G.E. Pearse. 1972. Cytochemical and immunofluorescence investigations on polypeptide hormone localization in the pancreas and gut of the larval lamprey. *Gen. Comp. Endocr.* 19(1): 192-199.
- Wallace, R.A., D.W. Jared and A.Z. Eisen. 1966. General method for the isolation and purification of phosvitin from vertebrate eggs (chicken, turtle, frog, trout, lamprey). *Can. J. Biochem.* 44: 1647-1655.
- Mordacia
- Hughes, R.L. and I.C. Potter. 1969. Studies on gametogenesis and fecundity in the lampreys Mordacia praecox and M. mordax (Petromyzonidae). *Austral. J. Zool.* 17: 447-464.
- Potter, I.C. 1970. The life cycles and ecology of Australian lampreys of the genus Mordacia. *J. Zool. (London).* 161: 487-511.
- Robinson, E.S. and I.C. Potter. 1969. Meiotic chromosomes of Mordacia praecox and a discussion of chromosome numbers in lampreys. *Copeia.*

824-828.

Strahan, R. and J.L. Maclean. 1969. A pancreas-like organ in the larva of the lamprey, Mordacia mordax. *Austral. J. Sci.* 32: 54-55.

Myxine

Fernholm, B. 1969. A third embryo of Myxine: considerations on hypophysial ontogeny and phylogeny. *Acta Zool. (Stockholm)*. 50: 169-177.

1972. Is there any steroid hormone formation in the ovary of Myxine? (Symposium on Myxine glutinosa, Goteborg, Sweden, April 28-29, 1972). *Acta Regiae Soc. Sci. Litt. Gothob. Zool.* 8: 33-34.

1972. Is there any steroid hormone formation in the ovary of the hagfish, Myxine glutinosa? *Acta Zool. Stockh.* 53(2): 235-242.

1972. Neurohypophysial-adenohypophysial relations in hagfish (Myxinoidea, Cyclostomata). *Gen. Comp. Endocr. Suppl.* 3: 1-10.

Fernholm, B. and R. Olsson. 1965. Effects of gonadectomy and estrogen treatment on the Myxine adenohypophysis. (fish). *Gen. Comp. Endocr.* 5: 676. abstr.

1969. Cytopharmacological study of the Myxine (hagfish) adenohypophysis. (testosterone, oestradiol, gonad-ectomies involved). *Gen. Comp. Endocr.* 13: 336-356.

Grodzinski, Z. and W. KilarSKI. 1971. Yolk of the Atlantic hagfish, Myxine glutinosa. *Folia Histochem. Cytochem. (Krakow)* 9: 3-12.

Nygren, A. and M. Jahnke. 1972. Cytological studies in Myxine glutinosa (Cyclostomata) from the Gullmaren Fjord in Sweden. *Swedish J. Agric. Res.* 2(2): 83-88.

Patzner, R.A. 1974. (The early stages of the oogenesis in Myxine glutinosa L. (Cyclostomata). Light and electron microscopical investigations). Die fruhen stadien der oogenese bei Myxine glutinosa L. (Cyclostomata). Licht-und elektronenmikroskopische Untersuchungen. *Norw. J. Zool.* 22(2): 81-93.

Wainwright, S.D., P. Bright-Asare and J.C. Campbell. 1967. Exploratory studies of the liver glutamic dehydrogenase of the hagfish Myxine glutinosa: lack of regulation of activity by ADP and diethylstilbestrol in a physiological saline. *Can. J. Biochem.* 45: 614-618.

Weisbart, M. and D.R. Idler. 1970. Re-examination of the presence of corticosteroids in two cyclostomes, the Atlantic hagfish (Myxine glutinosa L.) and the sea lamprey (Petromyzon marinus L.). *J. Endocr.* 46: 29-43.

Petromyzon

- Botticelli, C.R., F.L. Hisaw, Jr. and W.D. Roth. 1963. Estradiol-17 β , estrone and progesterone in the ovaries of lamprey Petromyzon marinus. Proc. Soc. Exp. Biol. Med. (N.Y.) 114: 255-257.
- Braem, R.A. and E.L. King, Jr. 1971. Albinism in lampreys in the upper Great Lakes. Copeia. 1: 176.
- Hardisty, M.W. 1969. A comparison of gonadal development in the ammocoetes of the landlocked and anadromous forms of the sea lamprey Petromyzon marinus L. J. Fish Biol. 1: 153-166.
1969. Information on the growth of the ammocoete larva of the anadromous sea lamprey, Petromyzon marinus in British rivers. J. Zool. Lond. 159: 139-144.
- Karasaki, S. 1967. Electron microscope study on the crystalline structure of the yolk platelets of the lamprey egg. J. Ultrastruct. Res. 18: 377-379.
- Kott, E. 1970. Differences between livers of spawning male and female sea lamprey (Petromyzon marinus). Can. J. Zool. 48: 745.
1971. Liver and muscle composition of mature lampreys. Can. J. Zool. 49(6): 801-805.
- Lewis, J.C. and D.B. McMillan. 1965. Development of the ovary of the sea lamprey (Petromyzon marinus). J. Morph. 117: 425-466.
- Lowe, D.R., F.W.H. Beamish and I.C. Potter. 1973. Changes in the proximate body composition of the landlocked sea lamprey Petromyzon marinus (L.) during larval life and metamorphosis. J. Fish Biol. 5(6): 673-682.
- Mangia, F. and G. Palladini. 1970. A histochemical study on the mucocartilage of the lamprey larva during its ontogenesis. Arch. Anat. Microscop. 59: 283-288.
- Manion, P.J. 1968. Production of sea lamprey larvae from nests in two Lake Superior streams. Trans. Am. Fish. Soc. 97: 484-486.
1969. Evaluation of lamprey larvicides in the Big Garlic River and Saux Head Lake. J. Fish. Res. Board Can. 26: 3077-3082.
1972. Fecundity of the sea lamprey (Petromyzon marinus) in Lake Superior. Trans. Am. Fish. Soc. 101(4): 718-720.
- Manion, P.J. and A.L. McLain. 1971. Biology of larval sea lampreys (Petromyzon marinus) of the 1960 year class, isolated in the Big Garlic River, Michigan, 1960-1965. Tech. Rep. Great Lakes Fish.

Comm. (16): 35.

Pederson, H.J., D.L. Van Horn and H.F. Edelhauser. 1971. Ultrastructural changes associated with loss of transparency in the primary spectacle and cornea of spawning sea lamprey. *Exp. Eye Res.* 12(1): 147-150.

Percy, R. and J.F. Leatherland. 1973. Fine structure of pituitary gland in larval sea lampreys (Petromyzon marinus L.). *J. Endocrinol.* 59: 40-41.

Piavis, G.W. and J.H. Howell. 1969. Rearing of sea lamprey, Petromyzon marinus, embryos in distilled water. *Copeia.* 204-205.

Piavis, G.W., J.H. Howell and A.J. Smith. 1970. Experimental hybridization among five species of lampreys from the Great Lakes. *Copeia.* 29-37.

Sawyer, W.H. 1965. Active neurohypophysial principles (incl. oxytocin) from a cyclostome (Petromyzon marinus) and two cartilaginous fishes (Squalus acanthias and Hydrolagus collei). *Gen. Comp. Endocr.* 5: 427-439.

Weisbart, M. and D.R. Idler. 1970. Re-examination of the presence of corticosteroids in two cyclostomes, the Atlantic hagfish (Myxine glutinosa L.) and the sea lamprey (Petromyzon marinus L.). *J. Endocrinol.* 46: 29-43.

Weisbart, M. and J.H. Youson. 1974. In vitro incubations of presumptive adrenocortical cells and testicular tissue obtained from sea lamprey, Petromyzon marinus during their parasitic life stage. *Am. Zool.* 14: 1296.

Youson, J.H. 1971. Blood cell destruction in the opisthonephric kidney of the sea lamprey, Petromyzon marinus L. *Can. J. Zool.* 49(6): 962-963.

1972. Structure and distribution of interstitial cells (presumptive interrenal cells) in opisthonephric kidneys of larval and adult sea lamprey, Petromyzon marinus L. *Gen. Comp. Endocr.* 19: 56.

1973. Comparison of presumptive interrenal tissue in opisthonephric kidney and dorsal vessel region of larval sea lamprey, Petromyzon marinus L. *Can. J. Zool.* 51: 796-799.

Polistotrema

Rurak, D.W. and A.M. Perks. 1974. Pharmacological characterization of arginine vasotocin in pituitary of pacific hagfish (Polistotrema stoutii). *Gen. Comp. Endocr.* 22: 480-488.

HOLOCEPHALI

Chimaera

Case, G.R. and M.K. Braun. 1972. Capture of Chimaera in False Bay, South Africa. Underwat. Nat. 7(3): 28-30.

Tue, Vu Tan. 1971. Contribution to histological study of interrenal and of chromaffin systems of Chimaera monstrosa. Vie et Milieu. Serie A. Biologie Marine. 21: 373-387.

1971. Histologie du complexe hypothalamo hypophysaire chez Chimaera monstrosa Linne (Holocephali). Bull. Biol. Fr. Belg. 105(3): 253-294.

1972. Cyclic variations of the gonads and some endocrine glands in Chimaera monstrosa Linne (Pisces, Holocephali). Ann. Sci. Naturelles (Zool.) 14(1): 49-94.

1972. (Cyclical variations of gonads and some endocrine organs of Chimaera monstrosa Linnaeus (Pisces, Holocephali)) Variations cycliques des gonades et de quelques glandes endocrines chez Chimaera monstrosa Linne (Pisces, Holocephali). Zool. et Biol. An. 14(1): 49-94.

Hydrolagus

Bols, N.C. and H.E. Kasinsky. 1974. Cytochemistry of sperm histones in three cartilaginous fish. Can. J. Zool. 52(4): 437-439.

Pickering, B.T. and H. Heller. 1969. Oxytocin as a neurohypophysial hormone in the holocephalian elasmobranch fish, Hydrolagus colliei. J. Endocr. 45: 597-606.

Sathyanesan, A.G. 1966. Egg laying of the chimaeroid fish Hydrolagus colliei. Copeia. 132-134.

Sawyer, W.H. 1965. Active neurohypophysial principles (incl. oxytocin) from a cyclostome (Petromyzon marinus) and two cartilaginous fishes (Squalus acanthias and Hydrolagus colliei). Gen. Comp. Endocr. 5: 427-439.

Sawyer, W.H., R.J. Freer and T.C. Tseng. 1967. Characterization of a principle resembling oxytocin in the pituitary of the holocephalian ratfish (Hydrolagus colliei) by partition chromatography on sephadex columns. Gen. Comp. Endocr. 9(1): 31-37.

Stanley, H.P. 1965. Fine structure of the tail flagella in the spermatozoa of 2 chondrichthyan fishes, Squalus suckleyi and Hydrolagus colliei. Anat. Rec. 151: 419. abstr.

ELASMOBRANCHII

General

- Callard, I.P. and J.H. Leathem. 1965. In vitro steroid synthesis by the ovaries of elasmobranchs and snakes. Arch. Anat. Micr. Morph. Exp. 54: 35-48.
- Cox, K.W. 1963. Egg-cases of some elasmobranchs and a cyclostome from California waters. Calif. Fish and Game. 49: 271-289.
- D'Aubrey, J. 1963. Elasmobranch reproduction. Bull. S. Afr. Mar. Biol. Ass. 4: 25-30.
- Di Prisco, C.L., V. Botte and G. Chieffi. 1966. Further observations on biosynthesis of steroid hormones in the ovary of selachians. Boll. Zool. 33: 208-209.
1966. Steroid biosynthesis in the ovary of elasmobranch fishes. In International Congress on hormonal steroids, Milan, 23-28 May, 1966. E.B. Romanoff and L. Martini (eds.). 1966 International Congress Series III, Excerpta Medica Foundation.
- Dodd, J.M. 1972. Endocrine regulation of gametogenesis and gonad maturation in fishes. (teleosts, cyclostomes, elasmobranchs). Gen. Comp. Endocr. Suppl. 3: 675-687.
1972. Ovarian control in cyclostomes and elasmobranchs. Am. Zool. 12: 325-342.
- Grant, W.C., Jr. and P.M. Banks. 1968. Immunologic investigation of elasmobranch pituitary hormones. Bull. Mt. Desert Isl. Biol. Lab. 8: 31-32.
- Grimm, A.S. 1974. In vitro production of 1-alpha-hydroxycorticosterone by interrenal tissue from several elasmobranch species. Gen. Comp. Endocr. 22: 342-343.
- Heller, H. and B.P. Roy. 1965. Elasmobranch neurohypophysial hormones, (oxytocic principles). J. Physiol. (Lond.). 177: 50-1P, short comm.
1967. Differences between the pharmacological properties of the neurohypophysial hormones of selachian and holocephalean cartilaginous fishes. Gen. Comp. Endocr. 9(3): 458, abstr.
- Joubart, J. 1963. Elasmobranch reproduction. Bull. S. Afr. Biol. Ass. 4: 25-30.
- Perks, A.M. 1966. Pharmacological and chromatographic studies of the

neurohypophysial activities of the pituitary of further elasmobranch species. Gen. Comp. Endocr. 6: 428-442.

Perks, A.M. and M.H.I. Dodd. 1963. Evidence for a neuro-hypophyseal principle in the pituitary gland of certain elasmobranch species. Gen. Comp. Endocr. 3: 286-299.

1963. Properties of the oxytocic, milk ejection and antidiuretic principle of the neurointermediate lobe of the elasmobranch pituitary. Gen. Comp. Endocr. 3: 184-195.

Polenov, A.L. 1968. Evolution of the median eminence the proximal neurosecretory contact region in some fishes (Elasmobranchii, Chondrosteoidei). Arch. Anat. (Strasb.). 51: 551-561.

Read, L.J. 1968. Urea and trimethylamine oxide levels in elasmobranch embryos. Biol. Bull. 135(3): 537-547.

Roy, B.P. 1966-67. Neurohypophysial hormones in elasmobranchs. Ph.D. Thesis, Bristol U., UK.

1969. Distribution of neurohypophyseal hormones in some elasmobranch species. Gen. Comp. Endocr. 12(2): 326-338.

Sawyer, W.H., M. Manning, E. Heinicke and A.M. Perks. 1969. Elasmobranch oxytocin-like principles: comparisons with synthetic glumitocin. Gen. Comp. Endocr. 12(2): 387-390.

Simpson, T.H., R.S. Wright and S.V. Hunt. 1963. Steroids of the semen of elasmobranch fish. J. Endocr. 27: 131-132.

ELASMOBRANCHII

RAJOMORPHA

Dasyatis

Jackson, R.G. and M. Sage. 1973. Regional distribution of thyroid stimulating hormone activity in pituitary gland of Atlantic stingray, Dasyatis sabina. Fish. Bull. 71: 93-97.

Klesch, W.L. 1973. Hypothalamo-pituitary-interrenal axis of the elasmobranch fish, Dasyatis sabina. Diss. Abstr. Int. 34B: 2369-70. abstr. order no. 73-26 031 (original 101p.).

Klesch, W.L. and M. Sage. 1973. Control of interrenal by pituitary in elasmobranch, Dasyatis sabina. Comp. Biochem. Physiol. 45: 961-967.

Sage, M. and R. Jackson. 1973. Seasonal and maturational changes in activity of the thyroid gland of the elasmobranch Dasyatis sabina. Amer. Zool. 13: 4.

Struhsaker, P. 1969. Observations on the biology and distribution of the thorny stingray, Dasyatis centroura (Pisces: Dasyatidae). Bull. Mar. Sci. 19: 456-481.

Tandon, R.S. 1969. A new anaporrhutine trematode (fam. Gorgoderidae) Nagmia yamagutia n. sp. from the ovary of the ray, Dasyatis uarnak from Bharat (India). Annot. Zool. Japon. 42: 36-39.

Wilson, P.C. and J.S. Beckett. 1970. Atlantic Ocean distribution of the pelagic stingray, Dasyatis violacea. Copeia. 4: 696-707.

Gymnura

James, P.S.B.R. 1966. Notes on the biology and fishery of the butterfly ray, Gymnura poecilura (Shaw) from the Palk Bay and Gulf of Mannar. Indian J. Fish. 13(1 & 2): 150-157.

Narcine

Nair, R.V. and R. Soundararajan. 1973. On an instance of hermaphroditism in the electric ray, Narcine timlei (Bloch and Schneider) Indian J. Fish. 20(1): 260-264.

Raia

Acher, R., J. Chauvet, M.T. Chauvet and D. Crepy. 1965. Phylogeny of neurohypophyseal peptides: isolation of a new hormone, glumitocine (Ser₄-Gln₈-oxytocin) present in a cartilaginous fish, the ray (Raia clavata). Biochim. Biophys. Acta 107: 393-396.

Chevins, P.F.D. 1967-68. Anatomy and physiology of the pituitary complex in the genus Raia, Elasmobranchii. Ph.D. Thesis, Leeds, UK.

Chieffi, G. 1967. The reproductive system of elasmobranchs: developmental and endocrinological aspects. In: Sharks, skates and rays, Johns Hopkins Press, Baltimore, 553-580.

Easwaran, C.R. 1967. On an abnormal ray from the Gulf of Kutch. J. Mar. Biol. Ass. India. 9: 198-200.

Heinicke, E.A. 1973. Pharmacological, chromatographic, and chemical study of the neurohypophysial principles of 2 elasmobranch species: Raia rhina and Squalus acanthias. (oxytocics incl.). Diss. Abstr. Int. 34B: 921-2. abstr.

Heinicke, E. and A.M. Perks. 1969. Mg potentiation of the oxytocic activity of pituitary extracts from an elasmobranch (Raia rhina). Gen. Comp. Endocr. 12(1): 168-171.

Price, K.T., Jr. 1965. Environments during fetal development of dogfish,

Mustelus canis (mitchill) and Squalus acanthias and some comparisons with skates and rays. Diss. Abstr. 25, Diss. No. 64-11, 453, 78p.

Price, K.S., Jr. and F.C. Daiber. 1967. Osmotic environments during fetal development of dogfish, Mustelus canis and Squalus acanthias, and some comparisons with skates and rays. Physiol. Zool. 40: 248-260.

Wallace, J.H. 1965. Investigations on skates and rays. Bull. S. Afr. Ass. Mar. Biol. Res. 5: 30-37.

Raja

Bols, N.C. and H.E. Kasinsky. 1974. Cytochemistry of sperm histones in three cartilaginous fish. Can. J. Zool. 52(4): 437-439.

Botte, V. 1963. Osservazioni istologiche e istochimiche sui follicoli postovulatori ed atresici di Raja spp. Acta Medica Romana. 1: 108-116.

Chieffi, G. 1967. The reproductive system of elasmobranchs: developmental and endocrinological aspects. In: Sharks, skates and rays, Johns Hopkins Press, Baltimore, 553-580.

Darrow, D.C. and G.L. Fletcher. 1972. Quantification of testosterone and testosterone glucuronide in testicular and peripheral plasma of mature thorny skate (Raja radiata). Gen. Comp. Endocr. 19(2): 373-375.

Fletcher, G.L., D.C. Hardy, and D.R. Idler. 1969. Testosterone production and metabolic clearance rates in sexually mature male and female skate (Raja radiata). Endocrinology. 85: 552-560.

Fletcher, G.L. and D.R. Idler. 1969. Relative roles of testosterone production and metabolic clearance rates in maintaining the plasma testosterone levels of the skate (Raja radiata). Gen. Comp. Endocr. 13(3): 505. abstr.

Ford, P. 1971. Differential growth rate in the tail of the Pacific big skate, Raja binoculata. J. Fish. Res. Board Can. 28(1): 95-98.

Freeman, H.C. and D.R. Idler. 1969. Sex hormone binding proteins. 2. Isolation from serum of an elasmobranch (Raja radiata) (testosterone 5 α -androstane-3 β , 17 β -diol, epitestosterone, oestradiol-17 β , progesterone, 17 α -OH-progesterone). Gen. Comp. Endocr. 13: 83-91.

1971. Binding affinities of blood proteins for sex hormones and corticosteroids in fish. Steroids. 17: 233-250.

Hitz, C.R. 1964. Observations on egg cases of the big skate (Raja binoculata) found in Oregon coastal waters. J. Fish. Res. Board Can. 21: 851-854.

- Holt, W.F. and D.R. Idler. 1975. Influence of interrenal gland on rectal gland of a skate. Comp. Bioc. C. 50: 111-119.
- Hubbs, C.L. and R. Ishiyama. 1968. Methods for the taxonomic study and description of skates (Rajidae). Copeia. 483-491.
- Idler, D.R. and H.C. Freeman. 1969. Sex hormone binding proteins. 1. Binding of steroids by serum of an elasmobranch (Raja radiata). (testosterone, progesterone, oestradiol-17 β). Gen. Comp. Endocr. 13: 75-82.
- Idler, D.R. and B. Truscott. 1966. Identification and quantification of testosterone in peripheral plasma of skate. Gen. Comp. Endocr. 7(2): 375-383.
1968. 1 α -hydroxycorticosterone and testosterone in body fluids of a cartilaginous fish (Raja radiata). J. Endocrinol. 42: 165-166.
- McConnachi, P.R. and P. Ford. 1966. Acid mucopolysaccharid in the development of the Pacific great skate, Raja binoculata. J. Embryol. Exp. Morph. 16: 17-28.
- McEachran, J.D. 1970. Egg capsules and reproductive biology of the skate Raja garmani (Pisces: Rajidae). Copeia. 197-199.
- Mellinger, J. 1965. Observation *in vivo* of hypophyseal circulation in the rays Raja undulata and Torpedo marmorata. C.R. Acad. Sci. (Paris) 261: 5671-5674.
- Nygren, A., B. Nilsson and M. Jahnke. 1971. Cytological studies in Hypotremata and Pleurotremata (Pisces). Hereditas. 67(2): 275-282.
- Perkins, F.E. 1965. Incubation of fall-spawned eggs of the little skate, Raja erinacea. Copeia. 114-115.
- Price, K.T., Jr. 1965. Environments during fetal development of dogfish, Mustelus canis (mitchill) and Squalus acanthias and some comparisons with skates and rays. Diss. Abstr. 25: Diss. No. 64-11. 453, 78p.
- Price, K.S., Jr. and F.C. Daiber. 1967. Osmotic environments during fetal development of dogfish, Mustelus canis and Squalus acanthias, and some comparisons with skates and rays. Physiol. Zool. 40: 248-260.
- Quignard, J.P. and C. Capape. 1972. (A case of hermaphroditism in Raja miraletus L. 1758). Trav. Lab. Biol. Halieutique, Rennes. (6): 133-140.
- Read, L.J. 1968. Ornithine-urea cycle enzymes in early embryos of the dogfish Squalus suckleyi and the skate Raja binoculata. Comp. Biochem. Physiol. 24: 669-674.

- Richards, S.W., D. Merriman, L.H. Calhoun and E.S. Fitz, Jr. and F.C. Daiber. 1963. Biology (incl. breeding habits, ovulation, egg-laying embryonic development, sex ratio) of the little skate Raja erinacea and Introduction to the biology (incl. reproduction) of Raja (spp.) as they occur in Delaware Bay. Bull. Bingham Oceanogr. Collection; Peabody Mus. Natural History, Yale Univ. 18: 4-96. Sums. in Rus.
- Stehmann, M. 1971. (Results of the research cruises of FRV 'Walther Herwig' to South America. XVII. Raja (Raja) herwigi Krefft, 1965; additional studies on the subgeneric status of the species) Ergebnisse der Forschungsreisen des FFS 'Walther Herwig' nach Sudamerika. XVII. Raja (Raja) herwigi Krefft, 1965; ergänzende Untersuchungen zum subgenerischen Status der Art. Arch. Fischereiwiss. 22(2): 85-97.
- Templeman, W. 1973. The skate, Raja richardsoni Garrick 1961, assigned to Bathyraja. J. Fish. Res. Board Can. 30(11): 1729-1732.
- Wallace, J.H. 1965. Investigations on skates and rays. (incl. reproduction). Bull. S. Afr. Ass. Mar. Biol. Res. 5: 30-37.

Rhinobatus

- Boisson, C., X. Mattei and C. Mattei. 1968. Spermiogenesis in Rhinobatus cemiculus Geof. St. Hilaire (Selachii, Rajiformes); an electron-microscopic study. Bull. Inst. Fond. Afr. Noire. 30: 659-689.

Torpedo

- Botte, V., G. Chieffi and H.P. Stanley. 1963. Histological and histochemical observations on the male reproductive tract of Scyliorhinus stellaris, Torpedo marmorata and torpedo (elasmobranch fishes). Pubbl. Staz. Zool. Napoli. 33(3): 224-242.

- Breuer, V.J. and H. Breuer. 1968. Metabolism of steroid hormones by Torpedo marmorata. Naturwissenschaften. 55: 391-392.

- Buonanno, C., G. Chieffi and E. Imparato. 1964. Variazioni del tasso plasmatico di deidroepiandrosterone e androsterone nel corso del ciclo riproduttivo di Torpedo marmorata (Selacio ooviviparo). Pubbl. Staz. Zool. Napoli. 34: 66-74.

- Chieffi, G. and C. Lupo. 1963. Identification of sex hormones in the ovarian extracts of Torpedo marmorata and Bufo vulgaris. Gen. Comp. Endocr. 3: 149-152.

- Delrio, G., C.L. DiPrisco and V. Botte. 1967. Biosynthesis of steroid hormones by the granular tissue and the theca of the ovary of Torpedo marmorata. Boll. Zool. 34: 112-113.

- DiPrisco, C.L. 1968. Biosynthesis of steroid hormones in the ovary of 2 species of elasmobranch fishes: oviparous Scyliorhinus stellaris and oovoviparous Torpedo marmorata. Riv. Biol. 61: 113-146.

- DiPrisco, C.L., V. Botte and G. Chieffi. 1965. Differenze nella capacità di biosintesi degli ormoni steroidi tra follicoli postovulatori ed atresici in Torpedo marmorata e Scyliorhinus stellaris. Boll. Zool. 32: 185-191.

DiPrisco, C.L. and G. Chieffi. 1969. Metabolism of estradiol-17 β by the plasma of Torpedo marmorata at various stages of the reproductive cycle. *Boll. Zool.* 36: 131-134.

DiPrisco, C.L., C. Vellano and G. Chieffi. 1967. Steroid hormones in the plasma of the female elasmobranch Torpedo marmorata at various stages of the sexual cycle. *Gen. Comp. Endocr.* 8: 325-330.

Mellinger, J. 1965. Observation *in vivo* of hypophyseal circulation in the rays Raja undulata and Torpedo marmorata. *C.R. Acad. Sci. (Paris)* 261: 5671-5674. Fr.

1969. Postembryonic development of the adenohypophysis of Torpedo marmorata: development of cavity systems and manifestations of sexual dimorphisms. *Annls. Univ. Ass. Req. Etude Rech. Scient. Reims.* 7: 33-48. Fr. sum. in En.

1971. (Growth and reproduction of the electric ray (Torpedo marmorata). I. Introduction. Ecology. Body growth and sexual dimorphism. Cycle. Fecundity). *Croissance et reproduction de la Torpille (Torpedo marmorata)*. I. Introduction. Ecologie. Croissance générale et dimorphisme sexuel. Cycle. Fécondité. *Bull. Biol. Fr. Belg.* 105(3): 165-218.

1972. Functions of adenohypopheal cell types in Torpedo marmorata. *Gen. Comp. Endocr.* 18: 608. abstr.

1972. (Growth and reproduction of the electric ray (Torpedo marmorata). I. Introduction. Ecology. Body growth and sexual dimorphism. Cycle. Fecundity). *Croissance et reproduction de la Torpille (Torpedo marmorata)*. I. Introduction. Ecologie. Croissance générale et dimorphisme sexuel. Cycle. Fécondité. *Bull. Stn. Biol. Arcachon.* (24): 165-218.

1973. (Growth and reproduction of the electric ray (Torpedo marmorata)). *Croissance et reproduction de la torpille (Torpedo marmorata)*. *Bull. Biol. Fr. Belg.* 107(3): 213-230.

1974. (Growth and reproduction of Torpedo marmorata (electric ray). III. The female genital system). *Croissance et reproduction de la torpille (Torpedo marmorata)*. III. L'appareil génital femelle. *Bull. Biol. Fr. Belg.* 108(2): 107-150.

Mellinger, J. and M.P. Dubois. 1973. Confirmation by immunofluorescence of the corticotropic function of the rostral lobe and the gonadotropic function of the ventral lobe of the hypophysis of a cartilaginous fish, Torpedo marmorata. *C.R. Hebd. Seanc. Acad. Sci. Paris Ser. D.* 276: 1879-1882. Fr.

Stanley, H.P. 1964. Phase-contrast study of spermiogenesis in the elasmobranch fishes Scyliorhinus caniculus and Torpedo marmorata

Am. Zool. 4: 316. abstr.

Stanley, H.P. 1966. Structure and development of seminiferous follicle in Scyliorhinus caniculus and Torpedo marmorata (Elasmobranchii). Z. Zellforsch. 75: 453-468.

Uva, B. 1968. Cytometric analysis of the uterine mucosa of Torpedo marmorata during the reproductive cycle. Boll. Musei Ist. Biol. Univ. Genova. 36: 127-132. It. sum. in En.

Uva, B. and G. Taglia-Fierro. 1968. Histomorphology of the oviduct of Torpedo marmorata and Torpedo ocellata during the cycle and gestation. Boll. Musei Ist. Biol. Univ. Genova. 36: 67-126. It. sum. in En.

Trygon

Disler, N.N. 1969. Intrauterine development of the ray Trygon pastinaca. Demonstrations presented at the 9th International Embryological Conf. Moscow, 25-29 August, 1969. Publ. House, Nauka, Moscow.

Urolophus

Babel, J.S. 1967. Reproduction, life history, and ecology of the round stingray, Urolophus halleri. Fish. Bull. Calif. 137: 1-104.

Lamarca, M.J. 1963. Embryonic spiracular fold of the yellow stingray Urolophus jamaicensis. Copeia. 3: 593-595.

ELASMOBRANCHII

SQUALOMORPHA

General

Whitley, G.P. 1964. Sharks. Aust. Nat. Hist. 14: 287-290.

Carcharhinus

Cowan, C.H. 1971. Serum protein variation in the bull shark, Carcharhinus leucas Muller and Henle, 1841. Int. J. Biochem. 2(12): 691-696.

Gilbert, P.W. and D.A. Schlerenzauer. 1965. Placentation in the silky shark, Carcharhinus falciformis and bonnet shark, Sphyrna tiburo. Anat. Rec. 151: 452. abstr.

1966. Placenta and gravid uterus of Carcharhinus falciformis (fish). Copeia. 451-457.

Jensen, N.H. 1972. Reproduction and development of the bull shark, Carcharhinus leucas, in the Lake Nicaragua-Rio San Juan system.

Diss. Abstr. Int. 33B: 2861-2. abstr. order no. 72-31 874 (original 147p.).

Oguri, M. 1973. Some histochemical observations on interrenal glands of stringray and bull-head shark. Bul. Jap. Soc. Sci. Fish. 39: 847-850.

Taniuchi, T. 1971. Reproduction of the sandbar shark, Carcharhinus milberti, in the East China Sea. Jap. J. Ichthyol. 18(2): 94-98.

Teshima, K. 1973. Studies on sharks. III. The stage of placentation and the umbilical stalk in Carcharhinus dussumieri. J. Shimonoseki Univ. Fish. 21(3): 25-30.

Teshima, K. and K. Mizue. 1972. Studies on sharks. I. Reproduction in the female sumitsuki shark Carcharhinus dussumieri. Mar. Biol. 14(3): 222-231.

Thorson, T.B. and J.W. Gerst. 1972. Comparison of some parameters of serum and uterine fluid of pregnant, viviparous sharks (Carcharhinus leucas) and serum of their near-term young. Comp. Biochem. Physiol. (Physiol.). 42(1A): 33-40.

Centrophorus

Gastaud, J.M. 1969. Biochemical studies of unsaponified fraction from vitellus during gestation of Centrophorus jonsoneii. C.R. Seanc. Soc. Biol. 163(8-9): 1908-1910. Fr.

Centroscymnus

Gastaud, J.M. 1969. Biochemical studies of unsaponified fraction from vitellus during gestation of Centroscymnus crepidator (Bocage and Capello 1864) - Centrophorus jonsoneii (B. Saemundsen 1922). Compt. Rend. Soc. Biol. Filiales. 163: 1908-1910.

Cephaloscyllium

Grover, C.A. 1972. Population differences in the swell shark Cephaloscyllium ventriosum. Calif. Fish Game. 58(3): 191-197.

1972. Predation on egg-cases of the swell shark Cephaloscyllium ventriosum. Copeia. 4: 871-872.

1974. Juvenile denticles of the swell shark Cephaloscyllium ventriosum: function in hatching. Can. J. Zool. 52: 359-363.

Cetorhinus

Parker, H.W. and F.C. Stott. 1965. Age, size and vertebral calcification in the Basking shark Cetorhinus maximus. (incl. estimation of age at

sexual maturity). Zool. Meded., Leiden. 40(34): 305-319.

Galeus

Hubbs, C.L. and L.R. Taylor, Jr. 1969. Data on life history and characters of Galeus piperatus, a dwarf shark of Golfo de California. Fiskeridir. Skr. Ser. Havundersokelser. 15: 310-330.

Lineaweaver, T.H., III and R.H. Backus. 1970. The natural history of sharks. Publ. by: Andre Deutsch, Lond.

Simpson, T.H. and R.S. Wright. 1970. Synthesis of corticosteroids by the interrenal gland of selachian elasmobranch fish. J. Endocrinol. 46: 261-268.

Ginglymostoma

Fidler, J.E., L.W. Clem and P.A. Small, Jr. 1969. Immunoglobin synthesis in neonatal nurse sharks. (Ginglymostoma cirratum). Comp. Biochem. Physiol. 31: 365-371.

Halaelurus

Gosztonyi, A.E. 1973. (On secondary sexual dimorphism in Halaelurus bivius (Muller and Henle 1841) Garman 1913 (Elasmobranchii, Scyliorhinidae) in patagonian-fueguian waters) Sobre el dimorfismo sexual secundario en Halaelurus bivius (Muller y Henle 1841) Garman 1913 (Elasmobranchii, Scyliorhinidae) en aguas patagonico-fueguinas. Physis (A), B. Aires. 32(85): 317-323.

Heptranchias

Garrick, J.A.F. and L.J. Paul. 1971. Heptranchias dakini Whitley, 1931, a synonym of H. perlo (Bonnaterre, 1788), the sharp-snouted sevengill or perlon shark, with notes on sexual dimorphism in this species. Zool. Publ. Vict. Univ. Wellington. 54: 1-14.

Mustelus

Gilbert, P.W. and G.W. Heath. 1972. The clasper-siphon sac mechanism in Squalus acanthias and Mustelus canis. Comp. Biochem. Physiol. (Physiol.). 42(1A): 97-119.

Graham, C.R., Jr. 1968. Nutrient transfer from mother to fetus and placental formation in Mustelus canis. Diss. Abstr. 29:1211 B. abstr. order no. 68-13, 156 (original 64p).

Hess, P.W. 1964. Glucose and fructose in the maternal and fetal dogfish Squalus acanthias and Mustelus canis. Diss. Abstr. 24. Diss. No. 2208. 65p.

Price, K.T., Jr. 1965. Environments during fetal development of dogfish,

Mustelus canis (mitchill) and Squalus acanthias and some comparisons with skates and rays. Diss. Abstr. 25, Diss. No. 64-11, 453, 78p.

Price, K.S., Jr. and F.C. Daiber. 1967. Osmotic environments during fetal development of dogfish, Mustelus canis and Squalus acanthias, and some comparisons with skates and rays. Physiol. Zool. 40: 248-260.

Teshima, K. and S. Koga. 1973. Studies on sharks. V. Taxonomic characteristics of reproductive organs in Japanese Mustelus. Mar. Biol. 23(4): 337-341.

Teshima, K., H. Yoshimura and K. Mizue. 1971. Studies on the sharks. 2. On the reproduction of Japanese dogfish Mustelus manazo Bleeker. Bull. Fac. Fish. Nagasaki Univ. 32: 41-50.

Tewinkel, L.E. 1963. Notes on the smooth dogfish, Mustelus canis, during the first 3 months of gestation. 1. Components of the egg, early embryos and yolk-sacs. 2. Structural modifications of yolk-sacs and yolk-stalks correlated with increasing absorptive function. J. Exp. Zool. 152: 115-137.

1969. Specialised basophilic cells in the ventral lobe of the pituitary of the smooth dogfish, Mustelus canis. J. Morphol. 127: 439-452.

1972. Histological and histochemical studies of post-ovulatory and pre-ovulatory atretic follicles in Mustelus canis. J. Morphol. 136(4): 433-458.

Thornton, W. 1963. Glycogen and acid-soluble P in the female reproductive tract of the smooth dogfish. Biol. Bull. (Wood's Hole). 125: 368. abstr.

Prionace

Stevens, J.D. 1974. The occurrence and significance of tooth cuts on the blue shark (Prionace glauca L.) from British waters. J. Mar. Biol. Assoc. U.K. 54(2): 373-378.

Rhincodon

Garrick, J.A.F. 1964. Additional information on the morphology of an embryo whale shark. Proc. U.S. Nat. Mus. 115(3476): 1-7.

Scyliorhinus

Botte, V., G. Chieffi and H.P. Stanley. 1963. Histological and histochemical observation on the male reproductive tract of Scyliorhinus stellaris, Torpedo marmorata and torpedo (elasmobranch fishes). Pubbl. Staz. Zool. Napoli. 33(3): 224-242. Sum. in It.

Budker, P. The life of sharks. xviii, 222p. (revised by Paul Budker)

and Peter J. Whitehead; Eng. version by Peter J. Whitehead). Publ. by: Weidenfeld and Nicolson, 5, Winsley St., London, W1.

- Cajano, A. 1970. Citomorfologia tel testicolo di Scyliorhinus caniculus su apposizioni di organo. Atti Soc. Pelorit. Sci. fish. Mat. Nat. 19: 1-15.
- Chieffi, G. 1967. The reproductive system of elasmobranchs: developmental and endocrinological aspects. In: Sharks, skates and rays, Johns Hopkins Press, Baltimore. 553-580.
- Childs, E.A., J.N. Gaffke and D.L. Crawford. 1973. Exposure of dogfish shark feti to mercury. Bull. Envir. Contam. Tox. 9: 276-280.
- Clark, E. and K. VonSchmidt. 1965. Sharks of the Central Gulf Coast of Florida. (incl. breeding). Bull. Mar. Sci. Gulf Caribb. 15: 13-83.
- Collenot, G. 1966. Relative observations on development in the laboratory of embryo and young of Scyliorhinus canicula. Cah. Biol. Mar. 7: 319-330.
1969. Appearance and development of endocrine activity of the testis of Scyliorhinus canicula. Annls. Embryol. Morphogen. 2: 461-477.
- Collenot, G. and R. Ozon. 1964. Biochemical and histochemical evidence of Δ^5 - 3β -hydroxysteroid dehydrogenase in Scyliorhinus canicula. Bull. Soc. Zool. 89: 577-587. Fr.
- Collins, J.A. 1968-69. Reproductive system of the male dogfish, Scyliorhinus caniculus. MSc. Thesis, External, Lond., UK.
- Deery, D.J. 1973. Activation of dogfish pituitary adenylycyclase: effects of hypothalamic extracts and synthetic LHRH. Int. Res. Communications System, P.O. Box 500, Lancaster, UK. Quote No. (73-5) 3-5-7.
- del Rio, G. and V. Botte. 1967. Action of oestradiol benzoate on the nidamental gland of immature females of Scyliorhinus stellaris. Pubbl. Staz. Zool. Napoli, 35: 318-323.
- DiPrisco, C.L. 1968. Biosynthesis of steroid hormones in the ovary of 2 species of elasmobranch fishes: oviparous Scyliorhinus stellaris and ovoviviparous Torpedo marmorata. Riv. Biol. 61: 113-146.
- DiPrisco, C.L., V. Botte and G. Chieffi. 1965. Differenze nella capacita di biosintesi degli ormoni steroidi tra follicoli postovulatori ed atresici in Torpedo marmorata de Scyliorhinus stellaris. Boll. Zool. 32: 185-191.
- Dobson, S. and J.M. Dodd. 1974. Annual reproductive cycle in the dogfish (Scyliorhinus canicula). Gen. Comp. Endocr. 22: 392. abstr.
- Dodd, J.M. 1971. The physiological control of reproduction in Scyliorhinus canicula L. Ann. Soc. R. Zool. Belg. 101(1-2): 141.
- Dodd, J.M. and S. Dobson. 1974. Histochemistry and ultrastructure of the testis of the dogfish Scyliorhinus canicula after hypophysectomy. Gen.

Comp. Endocr. 22: 385. abstr.

Faure, J.P. 1970. The embryonic development of the cornea in the dogfish Scyliorhinus canicula, L. An electron microscopic study. Arch. Ophtalmol. 30: 883-906.

Firth, J.A. and L. Vollrath. 1973. Determination of the distribution of luteinizing hormone-like gonadotrophic activity within the dogfish pituitary gland by means of the Xenopus oocyte meiosis assay. J. Endocrinol. 58(2): 347-348.

Fraschini, A. 1968. Observations on the development of the vitelline sac of the egg of Scyliorhinus stellaris. Boll. Zool. 35: 397-398.

Gitlin, D., A. Perricelli and J.D. Gitlin. 1973. Immunoglobulin synthesis in fetal sharks. Comp. Biochem. Physiol. 45A(2): 247-256.

1973. The presence of serum α -fetoprotein in sharks and its synthesis by fetal gastrointestinal tract and liver. Comp. Biochem. Physiol. 46(2B): 207-215.

Gottfried, H. and G. Chieffi. 1967. Seminal steroids of the dogfish Scyliorhinus stellaris. J. Endocr. 37: 99-100.

Guraya, S.S. 1972. Histochemical observations on the interstitial gland cells of dogfish ovary. Gen. Comp. Endocr. 18(2): 409-412.

Heller, H., D. Leathers and G. Jane. 1971. The effect of neurohypophysial hormones on the oviduct of an elasmobranch fish, Scyliorhinus caniculus. J. Endocrinol. 50(2): 357-358.

King, A.D. 1966. Hermaphroditism in the common dogfish - (Scyliorhinus caniculus). J. Zool., Lond. 148: 312-314.

Lewis, M. and J.M. Dodd. 1974. Thyroid function and ovary in spotted dogfish, Scyliorhinus canicula. J. Endocrinol. 63: 63.

Love, R.M. and B.T. Pickering. 1972. Beta-type MSH in pituitary of dogfish (Scyliorhinus canicula). Gen. Comp. Endocr. 18: 604.

McLaughlin, R.H. and A.K. O'Gower. 1971. Life history and underwater studies of a heterodont shark. Ecol. Monogr. 41(4): 271-289.

Martin, B.A. 1974. Steroid-protein interactions in dogfish serum. J. Steroid Biochem. 5: 398. abstr.

Martin, B. and R. Ozon. 1971. Evidence in the serum of an elasmobranch Scyliorhinus canicula of a protein fraction bound to the sex steroids, progesterone and corticosterone. C.R. Hebd. Seanc. Acad. Sci. Paris Ser. D 273: 390-393. Fr.

Mellinger, J. 1964. Neuro-vasculo-glandular relationships in the hypophysial apparatus of the dogfish, Scyliorhinus caniculus. (elasmobranch fish). Arch. Anat. (Strasb). 47: 1-201. Fr.

1965. Stages of spermatogenesis in Scyliorhinus caniculus: description, histochemical data, normal and experimental variations. Z. Zellforsch. 67: 653-673. Fr.

1966. Biometric and histophysiologic study of relations between the gonads, the liver and the thyroid in Scyliorhinus caniculus. Study of secondary sexual characters. Cah. Biol. Mar. 7: 107-137.

Ozon, R. and G. Collenot. 1965. Transformation in vitro of dehydroepiandrosterone by spermatozooids of Scyliorhinus canicula. C.R. Acad. Sci. Paris. 261: 3201-3203. Fr.

Scanes, C.G., S. Dobson, B.K. Follett and J.M. Dodd. 1972. Gonadotrophic activity in the pituitary gland of the dogfish (Scyliorhinus canicula). J. Endocrinol. 54(2): 343-344.

Simpson, T.H. and R.S. Wright. 1970. Synthesis of corticosteroids by the interrenal gland of selachian elasmobranch fish. J. Endocrinol. 46: 261-268.

Simpson, T.H., R.S. Wright and S.V. Hunt. 1963. Sex hormones in fish. 2. Oestrogens of Scyliorhinus caniculus (dogfish). J. Endocrinol. 26: 499-507.

1968. Steroid biosynthesis in vitro by the component tissues of the ovary of dogfish (Scyliorhinus caniculus L.). J. Endocrinol. 42: 519-527.

1969. Biosynthesis of androgens by the testis of Scyliorhinus canicula; identification of steroids in blood plasma. Gen. Comp. Endocr. 13(3): 532. abstr.

Stanley, H.P. 1964. Phase-contrast study of spermiogenesis in the elasmobranch fishes Scyliorhinus caniculus and Torpedo marmorata. Am. Zool. 4: 316. abstr.

1966. Structure and development of seminiferous follicle in Scyliorhinus caniculus and Torpedo marmorata (Elasmobranchii). Z. Zellforsch. 75: 453-468.

Thiebold, J.J. 1963. Differentiation of the gonads grafted into the extraembryonic coelom of the dogfish (Scyliorhinus caniculus). C.R. Acad. Sci. (Paris). 256: 1151-1154.

1963. Precocious sexual differentiation and sensitivity to androgens of a somatic sex character: anterior kidney in the petite rousette Scyliorhinus caniculus. Cah. Biol. Mar. 4: 183-192. Fr.

- Thiebold, J.J. 1964. Origin and determination of urogenital system in Scyliorhinus caniculus. Bull. Biol. Fr. Belg. 98: 253-257.
- Turchini, J. and J.M. Gastand. 1969. Histophysiological remarks on the female genital tract of Scyliorhinus canicula. Bull. Soc. Zool. Fr. 94: 307-308. Fr.
- Vasse, J. 1971. (The formation of the pectoral fins of Scyliorhinus caniculus L. embryos in relation to somites) La formation de la nageoire pectorale chez l'embryon de Scyliorhinus caniculus L. et ses relations avec les somites. Bull. Soc. Zool. Fr. 96(4): 433-441.
- Vivien, J.H. 1964. Influence of decapitation on the development of the thyroid bud in the Scyliorhinus caniculus embryo (cartilaginous fish). C.R. Soc. Biol. (Paris). 157: 2068-2070.
- Wilson, J.F. and J.M. Dodd. 1973. Distribution of monoamines in diencephalon and pituitary of dogfish, Scyliorhinus canicula L. Zeitschrift fur Zellforschung und Mikroskopische Anat. 137: 451-469.
- Woodhead, P.M.J. 1969. Effects of oestradiol and thyroxine upon the plasma Ca content of a shark, Scyliorhinus canicula. Gen. Comp. Endocr. 13(2): 310-312.

Scyllium

- Alluchon-Gerard, M.J. 1971. (Cellular types and differentiation of the adenohypophysis of the embryo in Scyllium canicula (Chondrichthyes). Electron microscopical investigation). Types cellulaires et étapes de la différenciation de l'adénohypophyse chez l'embryon de roussette (Scyllium canicula, Chondrichthyens). Etude au microscope électronique. Z. Zellforsch. Mikrosk. Anat. 120(4): 525-545.
- Alluchon-Gerard, M.J. and J. Mellinger. 1971. (Occurrence of several distinct phases in the embryonic growth of the small spotted dogfish (Scyllium canicula Cuv.)). Mise en évidence de plusieurs phases distinctes dans la croissance embryonnaire de la roussette (Scyllium canicula Cuv.). Ann. Embryol. et Morphog. 4(1): 19-35.
- Gastaud, J.M. 1973. (Variations of neutral lipids during the development of Scyllium canicula (L.) eggs) Variations des lipides neutres au cours du développement des oeufs chez Scyllium canicula (L.). Rev. Int. Oceanogr. Md. CERBOM. 31-32: 221-232.
- Love, R.M. and B.T. Pickering. 1974. Beta-MSH in pituitary gland of spotted dogfish (Scyliorhinus canicula) -isolation and structure. Gen. Comp. Endocr. 24: 398-404.
- Mellinger, J. 1973. (Observation of the erection of claspers in the spotted dogfish (Scyllium canicula Cuv.), with remarks on pairing in Chondrichthyes). Observation de l'érection des ptérygopodes de la

roussette (*Scyllium canicula* Cuv.) et remarques sur l'accouplement des chondrichthyens. Bull. Soc. Zool. Fr. 98(2): 313-320.

Romanini, M.G.M. and A. Fraschini. 1967. First histo-functional data on the yolk-sac of *Scyllium stellare* L. Oxido-reductive enzymes. Boll. Zool. 34: 136.

Sphyrna

Clarke, T.A. 1971. The ecology of the scalloped hammerhead shark, *Sphyrna lewini*, in Hawaii. Pac. Sci. 25(2): 133-144.

Gilbert, P.W. and D.A. Schlerenitzauer. 1965. Placentation in the silky shark, *Carcharhinus falciformis*, and bonnet shark, *Sphyrna tiburo*. Anat. Rec. 151: 452. abstr.

Sadowsky, V. 1971. First record of the occurrence of an adult hammerhead shark (*Sphyrna mokarran*) in southern Brazilian waters. Contrib. Inst. Oceanogr. Univ. Sao Paulo (Oceanogr. Biol.). 24: 3.

Schlerenitzauer, D.A. and P.W. Gilbert. 1966. Placentation and associated aspects of gestation in the bonnethead shark, *Sphyrna tiburo*. J. Morph. 120(3): 219-232.

Shimma, H. and Y. Shimma. 1968. Studies on egg oil of deep-sea sharks of Suruga Bay. Bull. Jap. Soc. Sci. Fish. 34: 1015-1021.

Squalus

Acher, R., J. Chauvet and M.T. Chauvet. 1972. Isolation of 2 new neurohypophysial hormones, valitocin (val⁸-oxytocin) and aspartocin (asn⁴-oxytocin) from the spiny dogfish, *Squalus acanthias*. 4th International Congress of Endocrinology, Washington, D.C. 18-24th June, 1972.

1972. Phylogeny of the neurohypophysial hormones. Two new active peptides isolated from a cartilaginous fish, *Squalus acanthias*. Eur. J. Biochem. 29: 12-19.

Bennett, H.P., P.J. Lowry, C. McMartin and A.P. Scott. 1974. Structural studies of alpha-melanocyte-stimulating hormone and a novel beta-melanocyte-stimulating hormone from neurointermediate lobe of pituitary of dogfish *Squalus acanthias*. Biochem. J. 141: 439-444.

Bols, N.C. and H.E. Kasinsky. 1974. Cytochemistry of sperm histones in three cartilaginous fish. Can. J. Zool. 52(4): 437-439.

Bracegirdle, B. 1970. A mermaid's purse: the egg capsule of a dogfish. Med. Biol. Illust. 20: 150.

Callard, I.P. and V. Lance. 1969. Ovarian steroid enzyme histochemistry

on the ovoviviparous elasmobranch, Squalus acanthias. Gen. Comp. Endocr. 13(3): 496. abstr.

Gilbert, P.W. and G.W. Heath. 1972. The clasper-siphon sac mechanism in Squalus acanthias and Mustelus canis. Comp. Biochem. Physiol. (Physiol.). 42(1A): 97-119.

Heinicke, E.A. 1973. Pharmacological, chromatographic, and chemical study of the neurohypophysial principles of 2 elasmobranch species: Raia rhina and Squalus acanthias. (oxytocics incl.). Diss. Abstr. Int. 34B: 921-2, abstr.

Hess, P.W. 1964. Glucose and fructose in the maternal and fetal dogfish Squalus acanthias and Mustelus canis. Diss. Abstr. 24. Diss. No. 2208, 65p.

Holden, M.J. and P.S. Meadows. 1964. Fecundity of the spurdog, Squalus acanthias. J. Cons. Int. Explor. Mer. 28: 418-424.

Holstein, A.F. 1969. Problem of the local control of the spermatogenesis of the spiny dogfish (Squalus acanthias). Z. Zellforsch. Mikrosk. Anat. 93(2): 265-281. Ger. sum. in En.

Jollie, M. 1971. Some developmental aspects of the head skeleton of the 35-37 mm Squalus acanthias foetus. J. Morphol. 133(1): 17-40.

Jollie, W.P. and L.G. Jollie. 1966. Fine structure of the yolk-sac of the spiny dogfish. Anat. Rec. 154: 363. abstr.

1967. Electron microscopic observations on the yolk sac of the spiny dogfish, Squalus acanthias. J. Ultrastruct. Res. 18: 102-126.

Jones, R.T. and K.S. Price, Jr. 1974. Osmotic responses of spiny dogfish (Squalus acanthias L.) embryos to temperature and salinity stress. Comp. Biochem. Physiol. 47(3A): 971-979.

Ketchen, K.S. 1972. Size at maturity, fecundity, and embryonic growth of the spiny dogfish (Squalus acanthias) in British Columbia waters. J. Fish. Res. Board Can. 29(12): 1717-1723.

Knight, D.P. and S. Hunt. 1974. Fibril structure of collagen in egg capsule of dogfish. Nature, Lond. 249: 379-380.

Kondyurin, V.V. 1973. (Sexual maturation of female spiny dogfish Squalus fernandinus Molina from the South-Eastern Atlantic in relation to their growth rate). Polovoe sozrevanie i ego vzaimosvyaz' s tempom rosta samok kolyuchej akuly Squalus fernandinus Molina yugovostochnoj Atlantiki (In: A.N. Probatov (ed.) (Problems of Ichthyology) Voprosy ikhtiologii, publ. by: Kaliningr. Tekhn. Inst. Rybn. Promyshl. Khoz., Kaliningrad, USSR, 1973, 117p). Tr. Kaliningr. Tekhn. Inst. Rybn.

- Promyshl. Khoz. (no. 46), p. 109-113.
- Lamont, J.M. 1963. 2-headed baby spiny dogfish. Scot. Fish. Bull. 19: 26.
- Lance, V. and I.P. Callard. 1969. Histochemical study of ovarian function in the ovoviviparous elasmobranch, Squalus acanthias. Gen. Comp. Endocr. 12(2): 255-267.
- Mann, T. 1964. Serotonin (5-hydroxytryptamine) in reproductive organs. (Squalus acanthias and a mollusc). 5th International Congress of Animal Reproduction and A.T. Trento, Italy. 6-13th Sept., 1964. Vol. 2: 291-294. 5 Volumes.
- Mann, T. and L.C. Prosser. 1963. Uterine response to 5-OH-tryptamine in the clasper-siphon (male copulatory organ) secretion of the spiny dogfish, Squalus acanthias. Biol. Bull. (Wood's Hole) 125: 384. abstr.
- Manwell, C. 1963. Fetal and adult hemoglobins of the spiny dogfish (shark) Squalus suckleyi. Arch. Biochem. Biophys. 101: 504-511.
- Meurling, P. 1972. Control of pars intermedia in large embryos of the spiny dogfish, Squalus acanthias. Gen. Comp. Endocr. 18: 609. abstr.
- Meurling, P. and B. Klefbohm. 1974. Control of pars intermedia activity in late embryos of the spiny dogfish, Squalus acanthias. Cell and Tissue Res. 155(2): 221-230.
- Nygren, A., B. Nilsson and M. Jahnke. 1971. Cytological studies in Hypotremata and Pleurotremata (Pisces). Hereditas. 67(2): 275-282.
- Price, K.T., Jr. 1965. Environments during fetal development of dogfish, Mustelus canis (mitchill) and Squalus acanthias and some comparisons with skates and rays. Diss. Abstr. 25. Diss. No. 64-11, 453. 78p.
- Price, K.S., Jr. and F.C. Daiber. 1967. Osmotic environments during fetal development of dogfish, Mustelus canis and Squalus acanthias, and some comparisons with skates and rays. Physiol. Zool. 40: 248-260.
- Read, L.J. 1968. Ornithine-urea cycle enzymes in early embryos of the dogfish Squalus suckleyi and the skate Raja binoculata. Comp. Biochem. Physiol. 24: 669-674.
- Sawyer, W.H. 1965. Active neurohypophysial principles (incl. oxytocin) from a cyclostome (Petromyzon marinus) and two cartilaginous fishes (Squalus acanthias and Hydrolagus collei). Gen. Comp. Endocr. 5: 427-439.
- Sawyer, W.H., J.W.M. Baxter, M. Manning, E. Heinicke and A.M. Perks. 1970. Fraction resembling oxytocin from Squalus acanthias: pharmacological comparisons with synthetic peptides. Gen. Comp. Endocr. 15: 52-58.

- Simpson, T.H. and C.S. Wardle. 1967. Seasonal cycle in the testis of the spurdog, Squalus acanthias, and the sites of 3β -hydroxysteroid dehydrogenase activity. J. Mar. Biol. Ass. UK. 47: 699-708.
- Simpson, T.H. and R.S. Wright. 1970. Synthesis of corticosteroids by the interrenal gland of selachian elasmobranch fish. J. Endocrinol. 46: 261-268.
- Simpson, T.H., R.S. Wright and H. Gottfried. 1963. Steroids in the semen of dogfish (Squalus acanthias). J. Endocr. 26: 489-498.
- Simpson, T.H., R.S. Wright and S.V. Hunt. 1964. Steroid biosynthesis in the testis of dogfish (Squalus acanthias). J. Endocr. 31: 29-38.
- Simpson, T.H., R.S. Wright and J. Renfrew. 1964. Steroid biosynthesis in the semen of dogfish (Squalus acanthias). J. Endocr. 31: 11-20.
- Stanley, H.P. 1964. Fine structure and development of the spermatozoan midpiece in the elasmobranch fish Squalus suckleyi. J. Cell. Biol. 23: 88A. abstr.
1965. Fine structure of the tail flagella in the spermatozoa of 2 chondrichthyan fishes, Squalus suckleyi and Hydrolagus colliei. Anat. Rec. 151: 419. abstr.
1971. Fine structure of spermiogenesis in the elasmobranch fish Squalus suckleyi. I. Acrosome formation, nuclear elongation and differentiation of the midpiece axis. J. Ultrastruct. Res. 36(1-2): 86-102.
1971. Fine structure of spermiogenesis in the elasmobranch fish Squalus suckleyi. II. Late stages of differentiation and structure of the mature spermatozoon. J. Ultrastruct. Res. 36(1-2): 103-118.
- Ti Li Loo, J.W. Burger and R.H. Adamson. 1963. Bromination of phthalein dyes by the uterus of the dogfish Squalus acanthias. Proc. Soc. Exp. Biol. (N.Y.). 114: 60-63.
- Vyncke, W. 1970. Influence of biological and environmental factors on nitrogenous extractives of the spurdog Squalus acanthias. Mar. Biol. 6: 248-255.
- Woodhead, A.D. 1964. Variations in activity of thyroid in relation to reproduction and migration in Squalus acanthias, ovoviviparous selachian. Ann. Endocr. (Paris). 25: 136-139.
1965. Thyroid cycles in the spurdog embryo, Squalus acanthias. Gen. Comp. Endocr. 5: 713. abstr.
- Triakis
- Urano, A. 1971. Monoamine oxidase in the hypothalamo hypophysial region of the brown smooth dogfish, Triakis scyllia. Endocr. Jap. 18: 37-46.

DIPNOI

Lepidosiren

Pickering, B.T. and S. McWatters. 1966. Neurohypophyseal hormones of the South American lungfish, Lepidosiren paradoxa. J. Endocr. 36: 217-218.

Urist, M.R. 1973. Testosterone-induced development of limb gills of the lungfish, Lepidosiren paradoxa. Comp. Biochem. Physiol. 44(1A): 131-135.

Zambrano, D. and F.C. Iturriza. 1972. Histology and ultrastructure of the neurohypophysis of the South American lungfish, Lepidosiren paradoxa. Z. Zellforsch. Mikrosk. Anat. 131(1): 47-62.

Neoceratodus

Chavin, W. 1971. Hypothalamico-hypophyseal neurosecretory complex of Neoceratodus forsteri (lungfish) and its relation to the origin of the tetrapod neurosecretory apparatus. In: Neuroendocrinology of Human Reproduction, Biological and Clinical Perspectives. H.C. Mack and A.I. Sherman (eds.). 23-59. C.C. Thomas, Springfield, US.

Grodzinski, Z. 1972. The yolk of Neoceratodus forsteri Krefft (Dipnoi-Pisces). Acta Biol. Cracov. (Zool.). 15(2): 193-198.

Jespersen, A. 1969. On the male urogenital organs of Neoceratodus fosteri. 11p., 12 kr., Munksgaard, Copenhagen.

1971. Fine structure of the spermatozoon of the Australian lungfish Neoceratodus forsteri (Krefft). J. Ultrastruct. Res. 37(1-2): 175-185.

Nicoll, C.S. and H.A. Bern. 1965. Pigeon crop-stimulating activity (Prolactin) in the adenohypophysis of lungfish and tetrapods. Endocr. 76: 156-160.

Protopterus

Barr, W.A. and B.M. Hobson. 1965. Gonadotrophin content of the pituitary gland of the lungfish, Protopterus aethiopicus, and of other vertebrate species. Gen. Comp. Endocr. 5: 664. abstr.

Kerr, T. and P.G.W.J. Van Oordt. 1966. Pituitary of the African lungfish, Protopterus sp. Gen. Comp. Endocr. 7: 549-558.

Okedi, J. 1970. Maturity sex ratio and fecundity of the lungfish (Protopterus aethiopicus) from Lake Victoria. Annu. Rep. E. Afr. Freshwat. Fish. Res. Org. 17-20. (1970)(1971).

- Pasteels, J. 1963. Gastrulation of Protopterus dolloi. Ann. Mus. Afr. Centr. Serie. 108: 175-184.
- Purkerson, M.L., J.U.M. Jarvis, S.A. Luse and E.W. Dempsey. 1974. X-ray analysis coupled with scanning and transmission electron microscopic observations of spermatozoa of the African lungfish, Protopterus aethiopicus. J. Zool. Lond. 172: 1-12.
- Sawyer, W.H. 1969. Active neurohypophysial principles of 2 primitive bony fishes, the bichir (Polypterus senegalus) and the African lungfish (Protopterus aethiopicus). J. Endocr. 44: 421-435.
- Scharrer, B. and S. Wurzelmann. 1967. Ultrastructural study of nucleolar activity in oocytes of the lungfish, Protopterus aethiopicus. Anat. Rec. 157: 316. abstr.
1969. Ultrastructural study on nuclear-cytoplasmic relationships in oocytes of the African lungfish, Protopterus aethiopicus. 1. Nucleolo-cytoplasmic pathways. Z. Zellforsch. Mikrosk. Anat. 96(3): 325-343.
1969. Ultrastructural study on nuclear-cytoplasmic relationships in oocytes of the African lungfish, Protopterus aethiopicus. 2. Micro-tubular apparatus of the nuclear envelope. Z. Zellforsch. Mikrosk. Anat. 101(1): 1-12.

COELACANTHINI

Latimeria

Anthony, J. and J. Millot. 1972. (The first capture of a sexually mature female coelacanth) Première capture d'une femelle de Coelacanthe en état de maturité sexuelle. C.R. Hebd. Séances Acad. Sci. Paris (D). 274(13): 1925-1926.

Devys, M., A. Thierry, M. Barbier and M. Janot. 1972. (Preliminary observations on the lipids of the oocyte of the Coelacanth (Latimeria chalumnae)) Premières observations sur les lipides de l'ovocyte du Coelacanthe (Latimeria chalumnae). C.R. Hebd. Séances Acad. Sci. Paris. (D). 275(18): 2085-2087.

Griffith, R.W. and K.S. Thomson. 1973. Latimeria chalumnae: reproduction and conservation. Nature. 242(5400): 617-618.

Grodzinski, Z. 1972. The yolk of Latimeria chalumnae Smith. Folia Histochem. Cytochem. 10(1): 11-18.

Lagios, M. 1972. Evidence for a hypothalamo-hypophysial portal vascular system in the coelacanth Latimeria chalumnae. Gen. Comp. Endocr. 18(1): 73-82.

McAllister, D.E. 1971. (The old quadruped 'Living fossil') Le vieux quadrupède 'Fossile vivant'. Collect. Odyssees Mus. Nationaux Can. 1: 1-25.

Millot, J. and J. Anthony. 1973. (Sexual differences in the excretory apparatus of the Coelacanth, Latimeria chalumnae. Connections with the genital apparatus in the male) Variations sexuelles de l'appareil excréteur du Coelacanthe, Latimeria chalumnae. Connexions avec l'appareil génital mâle. C.R. Hebd. Séances Acad. Sci. Paris. (D). 276(17): 2447-2448.

Schultze, H.P. 1972. Early growth stages in coelacanth fishes. Nature, New Biol. 236: 90-91.

CHONDROSTEI

General

Barannikova, I.A. 1969. Comparative histophysiology of the pituitary of Chondrostei and Teleostei. Gen. Comp. Endocr. 13(3): 491-492. abstr.

Lagios, M.D. 1973. Follicle boundary cells in the adenohypophysis of the chondrostean and holosteian fishes: ultrastructural study of their relationship to the follicular lumen, to endocrine cells and to the hypophysial cleft. Gen. Comp. Endocr. 20(2): 362-376.

Polenov, A.L. 1968. Evolution of the median eminence the proximal neurosecretory contact region in some fishes (Elasmobranchii, Chondrosteoidei). Arch. Anat. (Strasb.). 51: 551-561.

Sathyanesan, A.G. and W. Chavin. 1967. Hypothalamo-hypophyseal neurosecretory system in the primitive actinopterygian fishes. (Holostei and Chondrostei). Acta Anat. 68(2): 284-299.

Acipenser

Acher, R., J. Chauvet and M.T. Chauvet. 1973. Phylogeny of the neurohypophysial hormones. The active peptides of a primitive fish, the sturgeon (Acipenser sp.). Eur. J. Biochem. 40: 585-589.

Afonich, R.V. and E.V. Soldatova. 1971. On the efficiency of the Ali-Bairamly sturgeon hatchery. All-Union Research Institute of Marine Fisheries and Oceanography (VNIRO) Proceedings. Vol. 81: 9-20.

Aizenshtadt, T.B. and T.A. Detlaf. 1972. Ultrastructure of stellate sturgeon oocytes during maturation. 1. Annulate lamellae and golgi complex. Sov. J. Dev. Biol. 3: 220-229.

Apokin, V.S. 1965. Antigenic composition of sevruga (bony fish: Acipenser stellatus) oocytes, and its changes during maturation. Expl. Cell Res. 40: 163-166.

1965. Study on antigenic composition of Acipenser oocytes and of variations it undergoes in the process of maturation. Dokl. Akad. Nauk SSR. 165: 966-969. Rus.

1968. Antigenic differences between separate oocyte portions obtained from different females of Acipenser stellatus and A. goldenstaedtii. Dokl. Akad. Nauk. SSR. 181(1): 230-233. Rus.

1969. Investigation of sevryuga and sturgeon oocytes by means of immunodiffusion. Demonstrations presented at the 9th International Embryological Conf. Moscow, 25-29th Aug. 1969. Publ. House, Nauka, Moscow.

Apekin, V.S. 1970. Analysis of antigenic changes in eggs of Russian and Caspian sturgeon with fertilisation by the immunodiffusion method. Dokl. Akad. Nauk SSSR. 192: 238-241.

1975. Isolation of active fractions of the gonadotropin from the Russian sturgeon (Acipenser guldenstaedti) hypophysis and obtaining specific immune sera from them. Ontogenesis. 6(4): 331-337.

Apekin, V.S. and V.N. Fandeeva. 1972. (Determination of the nature of the cavity fluid of the sturgeon fish). K vyyasneniyu prirody polostnoj zhidkosti osetrovych ryb. Izv. Akad. Nauk SSSR (Biol.). 2: 262-265.

Balakhnin, I.A., N.P. Galagan, V.I. Luk'yanenko and A.V. Popov. 1972. (Genetic polymorphism of certain blood components in fish (sturgeon and carp)). O geneticheskem polimorfizme nekotorykh komponentov krovi u ryb (na primere osetrovych i karpovykh). Dokl. Akad. Nauk SSSR. 204(5): 1250-1252.

Bogoyavlenskaya, M.P., I.F. Vel'tishcheva and G.S. Karzinkin. 1972. Characteristic features of metabolism and the incorporation of C¹⁴ into organic compound in sturgeons reared from large and small eggs. J. Ichthyol. (Vopr. Ikhtiol. (Eng. Ed.)). 12(1): 130-134.

Burtsev, I.A. 1967. Vitellogenesis in oocytes of a hybrid between Huso huso and Acipenser ruthenus. Dokl. Akad. Nauk. SSR. 172(1): 464-467.

Caloianu-Iordachel, M. 1967. Histological study of Acipenser ruthenus male gonad development and its relation to season. Studii Cerc. Biol. (Ser. Zool.). 19: 129-136. Rum.

1969. Oogenesis in Acipenserid fish: the formation and role of the zona pellucida. Revue Roum. Biol. (Ser. Zool.) 14: 17-21. Fr. sum. in En.

1971. A specific formation occurring in the peripheral cytoplasm of young sturgeon oocytes. Rev. Roum. Biol. (Zool.). 16(6): 371-373.

1971. (Oogenesis in Acipenseridae. Morphogenesis and histochemical constitution of the external membranes). L'ovo-génèse chez les poissons acipenséridés. La morphogenèse et la constitution histochimique des membranes externes. Rev. Roumaine Biol. Ser. Zool. 16(2): 113-120.

1973. Annulate lamellae in fish oocytes. Rev. Roum. Biol. Ser. Zool. 18(3): 197-201.

1973. (Formations observed in the cytoplasm of the oocyte of Acipenser) O formatiune deosebită observată în citoplasma ovocitelor de nisetru. Stud. Cercet. Biol. (Zool.). 25(2): 127-130.

- Chubareva, L.A. 1967. Certain cytomorphological and cytochemical data of investigation of early embryonic stages of the development of Acipenser guldenstadtii and A. nudiventris and of their reciprocal hybrids. Dokl. Akad. Nauk SSSR. 177(2): 486- Rus.
- Chulitskaya, E.V. 1968. Influence produced by the cytoplasm on the synchronization and desynchronization of nucleus division in the period of cleavage in embryos of the sturgeon. Dokl. Akad. Nauk SSSR. 178(2): 496-499. Rus.
- Czeczuga, B. 1972. Carotenoids in fish. I. Carotenoids in the eggs of Acipenser ruthenus ruthenus L. (Acipenseridae) from the Danube. Hydrobiologia. 39(1): 9-16.
- Davydova, S.I. 1968. Maturation of oocytes of Acipenseridae outside the body of the female. Dokl. Akad. Nauk SSSR. 179(3): 750-
1972. Effect of temperature and keeping time of female sturgeons in captivity on maturation of oocytes under the influence of hormones in vitro. Sov. J. Dev. Biol. 3: 339-344.
- Dettlaff, T.A. 1963. Mitotic dynamics of the first cleavage divisions in the eggs of sturgeon (at various temperatures) and of trout. Exp. Cell. Res. 29: 490-503.
- Dettlaff, T.A., S.G. Vassetzky and S.I. Davydova. 1968. Maturation of sturgeon oocytes under different temperatures and time of obtaining eggs after the hypophyseal injection. VI. Congres de Reproduction et insemination artificielle, 22-26 July, 1968. Paris, Resume only. Publ. by the Institute National de la Research Agronomique.
- Dettlaff, T.A. and S.I. Zuichenko. 1963. Metaphase of the first maturation division in oocytes of Acipenseridae. (fish). Dokl. Akad. Nauk SSSR. 152: 246. Rus.
- Duzhikov, A.T. and E.V. Serebryadova. 1964. Some features of the ecology and duration of the sexual cycle of Acipenseridae from the Volga River. Trudy Vses. Nauchno-issled. Inst. Morsk. Ryb. Khoz. Okeanogr. 56: 105-115.
- Gabaeva, M.S. 1974. (Development of follicle and egg membrane formation in sturgeon during oogenesis). Razvitie follikula i formirovanie yajtseyoj obolochki v khode oogeneza osetra. Biol. Nauki. (no. 12): 15-21.
- Ginsburg, A.S. 1969. Some data on the fertilization process in eggs of physiologically monospermic animals with different types of cortical reaction (an electron-microscopical and experimental study). (incl. Acipenser stellatus). Demonstrations presented at the 9th International Embryological Conf. Moscow, 25-29th Aug. 1969. Publ. House, Nauka, Moscow.

Goncharov, B.F. 1969. Inhibitory effect of hypophysis on progesterone-induced oocyte maturation in vitro in frogs and sturgeon. Demonstrations presented at the 9th International Embryological Conf. Moscow, 25-29th Aug. 1969. Publ. House, Nauka, Moscow. 31-32. abstr.

1971. Functional relationship between length of the hormone-dependent period of follicle maturation in the common frog and the concentration of a pituitary suspension. A new method for testing pituitaries. Ontogenet. 2(1): 64-70.

1972. Experiment to determine the gonadotropic activity of the hypophysis of sturgeons by maturation of oocytes in vitro. Trudy of Central Lab. for Production of fish stock. Glavyrbvod, Fisheries Ministry, USSR. 257-262. Fisheries and Marine Service, Canada (Trans. Ser. no. 2753).

Gordienko, O.L., R.V. Afonich and E.V. Soldatova. 1971. The evaluation of sturgeon brood stock of various weight and age by eggs, larvae and early fry for fish-cultural purposes. All-Union Research Institute of Marine Fisheries and Oceanography (VNIRO) Proceedings. 81: 92-113.

Gurko, A.F. and V.M. Naumow. 1964. Most important problems of reproduction of Acipenseridae in the Azov Sea basin. Trudy Vses. Nauchno-issled. Inst. Morsk. Ryb. Khoz. Okeanogr. 54: 211-221.

Hensel, K. 1969. The first round of natural sturgeon hybrid Acipenser ruthenus Linnaeus, 1758 x Acipenser gueldenstadtii colchicus Marti, 1940 in the Danube. Vestn. Csek. Spol. Zool. 33: 328-330.

Iakovleva, I.V. and E.A. Borisova. 1973. Thyroid gland of the sturgeon Acipenser gueldenstadtii before and after spawning and during its exposure to a sodium chloride hypertonic solution. Zh. Evol. Biokhim. Fiziol. 9: 65-69.

Idler, D.R. and G.B. Sangalang. 1970. Steroids of a chondrostean: in vitro steroidogenesis in yellow bodies isolated from kidneys and along the posterior cardinal veins of the American Atlantic sturgeon, Acipenser oxyrinchus Mitchell. J. Endocrinol. 48: 627-637.

Ignatieva, G.M. 1963. Comparison of the dynamics of the invagination process of chordomesoderma material in embryos of Acipenser chyba (fish). A. gueldenstaedtii and amblystoma. Dokl. Akad. Nauk SSR 151: 1467-1470. Rus.

1965. Correlation of epiboly and invagination processes at the period of gastrulation in Acipenser embryos. Dokl. Akad. Nauk SSSR. 165: 970-973. Rus.

1969. Dynamics of morphogenetic movements at the period of gastrulation in Acipenser stellatus and Ambystoma mexicanum embryos.

Demonstrations presented at the 9th International Embryological Conf. Moscow, 25-29th Aug. 1969. Publ. House, Nauka, Moscow. 37-38. abstr.

Ionescu-Varo, M. and A. Grigoriu. 1963. Prophase of meiosis in the sterlet (*Acipenser ruthenus*). Trav. Mus. Hist. Nat. "G. Znipa". 4: 319-324.

Jakovleva, I.V. 1969. Hypothalamo-hypophysial neurosecretory system and the thyrotropic function at the early stages of sturgeon development. Demonstrations presented at the 9th International Embryological Conf. Moscow, 25-29th Aug. 1969. Publ. House, Nauka, Moscow. 40. abstr.

Khazov, Yu. K. and N.K. Burenina. 1969. Population composition, density and distribution of sturgeon in the Volgograd reservoir. Vop. Ikhtiol. 9: 148-

Khoroshko, P.N. 1968. Effectiveness of sturgeon reproduction with the growth of the Volga contamination. Gidrobiol. Zh. 4(2): 69-72. Rus.

Khoroshko, P.N. and A.D. Vlasenko. 1970. Artificial spawning grounds of sturgeon. J. Ichthyol. 10(3): 286-292.

Kojin, N.I. 1963. Problem of reproduction in sturgeons in the northeast part of the Black Sea. Hidrobiologija. 4: 321-328. Fr.

Kokhanskaya, Ye.M. 1970. The use of ultraviolet radiation for the control of disease in eggs and fishes (the MBU-3 compact bactericidal plant). J. Ichthyol. 10(3): 386-393.

Kozlov, V.I. 1970. A natural hybrid of the spiny sturgeon (*Acipenser nudiventris derjavini* (Borzenko)) and the kura sevryuga (*A. stellatus* (Pallas)). J. Ichthyol. 10(4): 466-471.

Krivobok, M.N. and A.Ya. Storozhuk. 1970. The effect of the size and age of Volga sturgeon on the weight and chemical composition of mature eggs. J. Ichthyol. 10(6): 761-765.

Krivobok, M.N. and O.I. Tarkovskaya. 1970. Metabolism in Volga-Caspian sturgeon and stellate sturgeon during the maturation of gonads. Trudy Vses. Nauchno-issled. Inst. Morsk. Ryb. Khoz. Okeanogr. 69(2): 109-132.

1970. Some features of the metabolism of the sturgeon and the sevryuga in early developmental stages. J. Ichthyol. 10(3): 333-337.

Krylova, V.D. 1970. Comparative morphological characteristics of the hybrid *Huso huso* x *Acipenser ruthenus* of the 1st (F_1) and (F_2) broods. Trudy Molod. Uchen. 4: 104-111. Rus. sum. in En.

1970. Early stages of development of the 2nd brood of the

hybrid between beluga (Huso huso) and sterlet (Acipenser ruthenus).
Trudy Vses. Nauchno-issled. Inst. Morsk. Ryb. Khoz. Okeanogr. 76:
231-237. Rus. sum. in En.

Lemanova, N.A. and L.M. Nusenbaum. 1969. An investigation of the sex organs of the Russian sturgeon (Acipenser gueldenstadtii Brandt) passed through the Volgograd fish-lift. Vop. Ikhtiol. 9: 619-626.

Lukyanenko, V.I. and R.G. Khitarishvili. 1973. Proteinogram species specificity of sturgeon fish eggs. Izv. Akad. Nauk SSR. Biol. Ser. No. 6: 890-895. Rus. sum. in En.

Mageramov, C.H. 1968. Preliminary results of hatchery reproduction of Acipenseridae in the Caspian Sea. Vop. Ikhtiol. 8: 1102-1105. Rus.

1968. Provisional results of the hatchery reproduction of sturgeon in the Caspian Sea. Probl. Ichthyol. 8: 881-884.

Magnin, E. 1966. Reproduction in sturgeon, Acipenser fulvescens from Nottaway river (incl. spawning time and place, age at sexual maturity). Can. J. Zool. 44: 257-263. Fr. sum. in En.

1966. Researches on the reproductive cycles of the sturgeon, Acipenser fulvescens Raf. of the River Nottaway, which enters James Bay (Quebec/Ontario, Canada). Verhandl. Int. Ver. Limnol. 16: 1018-1024.

Mailyan, R.A. 1968. Intensification of methods and scales of artificial breeding of sturgeon fry in Azerbaijan. In: Biol. Sred. Yuzhn. Kaspiyan Moscow. 147-161. Rus.

Makarov, E.V. 1964. Reproduction of Acipenseridae in the Azov Sea and their stocks. Trudy Vses. Nauchno-issled. Inst. Morsk. Ryb. Khoz. Okeanogr. 54: 203-212.

Manea, G. 1968. Contributions on the sturgeon study in the Romanian waters and their breeding in connection with the hydroenergetical constructions on the low Danube. 3. Experimentations and results obtained in sturgeon culture. Bul. Inst. Cerc. Pisc. 27(3): 61-94. Rum. sums. in En., Fr., Rus.

1968. Contributions on the sturgeon studies of Romanian waters and to their breeding in connection with the hydroenergetical constructions on the low Danube. 4. Yield state and the means in order to assure the sturgeon stocks. Sturgeonical arrangements. Bul. Inst. Cercet. Pisc. 27(4): 23-46. Rum. sums. in En., Fr., Rus.

1970. (Experiments and results of sturgeon rearing at Litcov in the Danube Delta). Experiencia en sturionicultura la pepiniera Litcov-Donaudelta. Hidrobiologia. 11: 161-169.

- Miller, L.W. 1972. Migrations of sturgeon tagged in the Sacramento-San Joaquin estuary. Calif. Fish Game. 58(2): 102-106.
- Mil'shtein, V.V. 1972. N.L. Gerbil'skii and the culture of acipenserids in the Volga River. Acipenseridae and problems of culture; Symposium. 152-156.
- Nikitina, L.A. 1972. Transplantation of germinal vesicle in enucleated oocytes of Acipenser stellatus. Dokl. Akad. Nauk SSSR. 205(6): 1487-1489. Rus.
- Nikoljukin, N.I. 1970. Hybridization in the family Acipenseridae and prospects of its application in sturgeon culture. Trudy Vses. Nauchno-issled. Inst. Morsk. Ryb. Khoz. Okeanogr. 76: 56-69. Sum. in Rus.
1972. (Distant hybridization in Acipenseridae and Teleostei, theory and practice) Otdalennaya gibridizatsiya osetrovых i kostistykh ryb. Teoriya i praktika. 335p. Publ. by: Moskva, Pishchev. Promyshlennost'.
- Oliva, O. and K. Chitravadivelu. 1972. On the systematics of the sterlet, Acipenser ruthenus Linnaeus, 1758 (Osteichthyes: Acipenseridae). Vestn. Cesk. Spol. Zool. 36(3): 209-213.
- Pasternak, N.A., V.A. Shenderovich and Z.V. Ermolieva. 1971. Experimental studies on antitumor activity of triprotamine isolated from sturgeon milt. Antibiotiki. 16: 704-707. Rus. sum. in En.
- Pavlov, A.V. 1971. The Volga water diversion and sturgeon. J. Ichthyol. (Vopr. Ikhtiol. Eng. Ed.). 11(4): 536-542.
- Pavlov, A.V. and G.A. Yelizarov. 1969. Study of the biology of the Volga sturgeon by mass tagging. Vop. Ikhtiol. 9: 363-374.
- Penkova, E. 1972. Interrenal system of Acipenser stellatus pallas and its functional relation to hypophysis. Dokl. Akad. Nauk SSSR. 206: 1256-1260.
- Peseridi, N.E. 1963. Problem of reproduction of Acipenseridae of the river Ural. Trud. Inst. Ikht. Akad. Nauk. Kazakh. SSR. 4: 33-46. Rus.
- Polenov, A.L. and P.E. Garlov. 1971. Hypothalamo-hypophysial system in Acipenseridae 1. Ultrastructural organization of large neurosecretory terminals (herring bodies) and axoventricular contacts. Z. Zellforsch. Mikrosk. Anat. 116(3): 349-374.
1973. Hypothalamo-hypophysial system in Acipenseridae. 3. Neurohypophysis of Acipenser guldenstaedti and Acipenser stellatus. Z. Zellforsch. Mikrosk. Anat. 136(4): 461-478.

- Polenov, A.L., P.E. Garlov, M.S. Konstantinova and M.A. Belenky. 1972. Hypothalamo-hypophysial system in Acipenseridae. 2. Adrenergic structures of the hypophysial neurointermediate complex. *Z. Zellforsch. Mikrosk. Anat.* 128(4): 470-481.
- Popescu, C.P. 1965. Early development of *Acipenser nethenus*. *Hidrobiologia*. 6: 35-42.
- Priegel, G.R. and T.L. Wirth. 1971. The lake sturgeon. Its life history, ecology and management. *Publ. Wis. Conserv. Dep.* 240-270, 20p.
- Raikova, E.V. 1968. Morphology of nucleoli during the oocyte growth in Acipenseridae. *Zh. Obshch. Biol.* 29: 316-333. Rus. sum. in En.
1970. The ultrastructure of oogonia of the Volga sturgeon, *Acipenser guldenstadtii*. *Tsitologiya*. 12: 827-833.
1972. Ultrastructure of the oocytes of sturgeons at the end of previtellogenesis. 1. Ultrastructure of the nucleus. *Sov. J. Dev. Biol.* 3: 58-66.
1973. Ultrastructure of sturgeon oocytes at the end of previtellogenesis. 2. Fine structure of the cytoplasm. *Tsitologiya*. 15: 1352-1361.
1974. Ultrastructure of sterlet oocytes during early vitellogenesis. 1. Nuclear ultrastructure. *Tsitologiya*. 16(6): 679.
1974. Ultrastructure of sterlet (*Acipenser ruthenus*) oocytes during early vitellogenesis. 2. Cytoplasmic fine structure. *Tsitologiya*. 16: 1345.
- Sadov, I.A. 1963. Structure and formation of egg membranes in Acipenseridae and in some representatives of Teleostei. *Trud. Inst. Morf. Zhiv.* 38: 110-188.
- Sadlaev, K.A. and Z.N. Kipper. 1964. Present state of the artificial reproduction of Acipenseridae and new solutions of the technical problems. *Trudy Vses. Nauchno-issled. Inst. Morsk. Ryb. Khoz. Okeanogr.* 56: 237-253.
- Saidov, Y.S., A.N. Lezina and N.A. Azizova. 1971. Characteristics of autumn catches of sturgeons (Acipenseridae) taken by beach seines in the western Caspian Sea. All-Union Research Institute of Marine Fisheries and Oceanography (VNIRO) Proceedings. 81: 221-227.
- Sangalang, G.B., M. Weisbart and D.R. Idler. 1971. Steroids of a chondrostean: corticosteroids and testosterone in the plasma of the American Atlantic sturgeon, *Acipenser oxyrinchus* Mitchell. *J. Endocrinol.* 50(3): 413-421.

Semakula, S.N. and P.A. Larkin. 1968. Age, growth, food and yield of the white sturgeon (*Acipenser transmontanus*) of the Fraser River, British Columbia. J. Fish. Res. Board Can. 25: 2589-2602.

Serebryakova, E.V. 1964. Investigation of the gonads of the adult sturgeon in the Volgograd Reservoir. Trudy Vses. Nauchno-issled. Inst. Morsk. Ryb. Khoz. Okeanogr. 56: 117-130.

Shilov, V.I. 1964. Maturity and repeated spawning of *Acipenser ruthenus* in the Volgograd Reservoir. Trudy Vses. Nauchno-issled. Inst. Morsk. Ryb. Khoz. Okeanogr. 56: 79-104.

1966. Breeding of Acipenseridae in the headwater of the Volograd Power Station. Vop. Ikhtiol. 6: 663-671. Rus.

1968. Spawning of Acipenseridae in the headwaters of Volgograd power station in 1966. Vop. Ikhtiol. 8: 1097-1099. Rus.

Shilov, V.I., Yu.K. Khasov and G.A. Batychkov. 1970. Races of Volga-Caspian sturgeon (*Acipenser gueldenstaedti* Brandt). J. Ichthyol. 10(4): 460-466.

Shilov, V.I., Yu.K. Khazov and N.K. Ivojlova. 1971. On the attainment of sexual maturity and the time of rematuration of the spring-spawning Volga-Caspian sturgeon (*Acipenser gueldenstaedti* (Brandt)). J. Ichthyol. (Vopr. Ikhtiol. Eng. Ed.). 11(4): 569-576.

Shimma, Y. and H. Shimma. 1968. Fatty acid composition of *Acipenser baeri* cultivated in Tokyo. Bull. Freshw. Fish. Res. Lab., Tokyo. 18: 179-184.

Shmal'gauzen, O.I. 1972. Effect of phenol on development of the polarvae of acipenserid fish. Sov. J. Dev. Biol. 3: 407-413.

Shubina, T.N. 1971. Spawning and post-spawning migrations of the sevryuga (*Acipenser stellatus* (Pallus)) in the lower Volga- routes and speeds. J. Ichthyol. (Vopr. Ikhtiol. Eng. Ed.). 11(1): 88-97.

Skobolina, M.N. 1968. Ripening of the cortex of nuclear oocytes in frog and sturgeon, proceeding under the influence of gonadotrophic hypophyseal hormones. Dokl. Akad. Nauk SSSR 183(4): 982- Rus.

1969. Independence of the cortex maturation from germinal vesicle material during the maturation of amphibian and sturgeon oocytes. Expl. Cell Res. 55: 142-144.

Steopoe, I., M. Ionescu Varo and M. Vlad. 1970. (Presence of a extra-chromosomal nucleohistone deposit in the nucleus of the oocytes of teleosts and of Acipenseridae). Presence d'une calotte nucleohistologique extrachromosomique dans les noyaux des oocytes des teleosteens

- et des acipenserides. Acta Histochem. 38(2): 311-317.
- Stevens, D.E. and L.W. Miller. 1970. Distribution of sturgeon larvae in the Sacramento-San Joaquin river system. Calif. Fish Game. 56: 80-86.
- Storozhuk, A.Y. 1970. Distinctive characteristics of nitrogen metabolism in eggs, larvae and fry of Caspian sturgeon. Trudy Molod. Uchen. 4: 82-87. Rus. sum. in En.
- Sytina, L.A. State of optic, olfactory, and auditory organs in larvae of the Kura Acipenser, and their variation in the hatching phase. Dokl. Akad. Nauk SSSR. 168(4): 963-965.
1968. Variability of sensory organs of sturgeon larvae hatching from the eggs of 1 female and its connection with the general tempo of embryonic development. In: Tempo of individual development of animals and its changes during evolution. S.V. Emel'Yanov (ed.). 98-115. Izdatel'stvo Nauka' Moskva Inst. Morfol. Zhirotnykh im. A.N. Severtsova. Akad. Nauk SSSR.
1970. Duration of the individual development stages in the early post embryology of sturgeons. J. Ichthyol. 10(5): 641-651.
- Tanasiychuk, V.S. 1964. Spawning habit of Acipenseridae with regard to the regulated flow of the Volga River. Trudy Vses. Nauchno-issled. Inst. Morsk. Ryb. Khoz. Okeanogr. 54: 113-136.
- Tarasyak, B.F. 1964. Analysis of the productive activity of the hatcheries of Acipenseridae. Trudy Vses. Nauchno-issled. Inst. Morsk. Ryb. Okeanogr. 56: 171-210.
- Timofeev, O.B. 1966. Structure of the circulatory system in Acipenseridae in the hatching phase. Dokl. Akad. Nauk SSSR. 168(4): 966. Rus.
- Trusov, V.S. 1964. Some peculiarities in maturation and a scale of gonad maturity of sturgeon. Trudy Vses. Nauchno-issled. Inst. Morsk. Ryb. Khoz. Okeanogr. 56: 69-78.
1971. Maturation of the sevryuga (Acipenser stellatus (Pallas)) testes during its life in the ocean. J. Ichthyol. (Vopr. Ikhtiol. Eng. Ed.). 11(2): 216-223.
- Vasetskii, S.G. 1966. Chemical inactivation of sperm nuclei in the sturgeon. Dokl. Akad. Nauk SSSR. 170(4): 989- Rus.
1967. Variation of ploidness in Acipenser-larvae induced by heat-treatment of eggs at different stages of their development. Dokl. Akad. Nauk SSSR. 172(5): 1234-1237.

- Vassetzky, S.G. 1970. Dynamics of the first maturation division of sturgeon oocytes. *Zh. Obshch. Biol.* 31: 84-93.
- Zaitsev, A.V. 1961. The structure and state of the thyroid gland in females of the Kura sturgeon (*Acipenser guldenstaedti persicus* Borodin) before, during and after spawning. *Dokl. Akad. Nauk SSSR.* 140: 952-955.
- Zakharyan, G.B. 1972. The natural reproduction of sturgeons in the Kura river following its regulation. *J. Ichthyol. (Vopr. Ikhtiol. (Eng. Ed.))*. 12(2): 249-259.
- Zotin, A.I. 1964. Mechanism of cleavage in amphibian and sturgeon eggs. *J. Embryol. Exp. Morph.* 12: 247-261.
- Zotin, A.I. and R.V. Pagnaeva. 1963. Moment of determination of the position of primitive groove in eggs of *Acipenser* (fish) and Axolotl. *Proc. Acad. Sci.* 152(2): 765- Rus.
- Zubova, S.E. 1963. Variability of the rate of development of sturgeon embryos. *Dokl. Akad. Nauk SSSR (Transl.)*. *Biol. Sci.* 145: 755-757.
1971. The time of differentiation of the gonads and the sex ratio in young of the Volga sterlet (*Acipenser ruthenus* (L.)). *Vopr. Ikhtiol. (Eng.Ed.)*. 11(3): 424-426.
- Calamoichthys
- Holden, M.J. 1971. Significance of sexual dimorphism of the anal fin of Polypteridae. *Nature*. 232(5036): 135-136.
- Lagios, M.D. 1968. Tetrapod-like organization of the pituitary gland of the polypteriformid fishes, *Calamoichthys calabaricus* and *Polypterus palmas*. *Gen. Comp. Endocr.* 11(2): 300-315.
- Huso
- Burtsev, I.A. 1967. Vitellogenesis in oocytes of a hybrid between *Huso huso* and *Acipenser ruthenus*. *Dokl. Akad. Nauk SSSR.* 172(1): 464-467.
- Caloianu-Iordachel, M. 1968. Stage of maturation of gonads in shoals of *Huso huso* during the spring migration. *Hidrobiologia*. 9: 178-180.
1971. (Cytochemical and ultrastructural data on the cytoplasm of early oocytes in the sturgeon *Huso huso* L.). Données cytochimiques et ultrastructurales sur le cytoplasme des jeunes ovocytes chez l'esturgeon *Huso huso* L. *Rev. Roumaine Biol. Ser. Zool.* 16(3): 165-169.
- Krylova, V.D. 1970. Comparative morphological characteristics of the

hybrid Huso huso x Acipenser ruthenus of the 1st (F₁) and (F₂) broods.
Trudy Molod. Uchen. 4: 104-111. Rus. sum. in En.

Krylova, V.D. 1970. Early stages of development of the 2nd brood of
the hybrid between beluga (Huso huso) and sterlet (Acipenser ruthenus).
Trudy Vses. Nauchno-issled. Inst. Morsk. Ryb. Khoz. Okeanogr. 76:
231-237. Rus. sum. in En.

Yarzhombek, A.A. and N.V. Maslennikova. 1972. The dynamics of free
amino acids in the embryogeny of the sea trout (Salmo trutta (L.)) and
the beluga (Huso huso (L.)). J. Ichthiol. (Vopr. Ikhtiol. (Eng. Ed.)).
12(5): 868-871.

Polyodon

Grant, B.F., P.M. Mehrle and T.R. Russell. 1970. Serum characteristics
of spawning paddlefish (Polyodon spathula). Comp. Biochem. Physiol.
37(3): 321-330.

Vasetsky, S.G. 1971. Fishes of the family Polyodontidae. J. Ichthyol.
(Vopr. Ikhtiol. Eng. Ed.). 11(1): 18-31.

Polypterus

Acher, R., J. Chauvet and M.T. Chauvet. 1970. Molecular evolution of
the neurohypophysial hormones: active peptides of a primitive bony
fish Polypterus bichir. FEBS Letters 11: 332-335.

Arnoult, J. 1966. Behavior and breeding in the aquarium of Polypterus senegalus. Ichthyologica. 37: 135-140.

De Smet, W.M.A. 1969. On the development of the venous system in Polypterus senegalus (Pisces). J. Zool. Lond. 159: 97-129.

1970. The germ cells of Polypterus (Brachiopterygii,
Pisces). Acta Morphol. Neer. Scand. 8: 133-141.

Grodzinski, Z. 1973. The yolk of Polypterus sp. (Brachiopterygii,
Pisces). Acta Biol. Cracov. Ser. Zool. 16(1): 87-93.

Holden, M.J. 1971. Significance of sexual dimorphism of the anal fin
of Polypteridae. Nature. 232(5036): 135-136.

Lagios, M.D. 1968. Tetrapod-like organization of the pituitary gland
of the polypteriformid fishes, Calamoichthys calabaricus and Polypterus palmas. Gen. Comp. Endocr. 11(2): 300-315.

Sawyer, W.H. 1969. Active neurohypophysial principles of 2 primitive
bony fishes, the bichir (Polypterus senegalus) and the African lung-
fish (Protopterus aethiopicus). Endocr. 44: 421-435.

Thomopoulos, A. 1971. Origin and development of the thyroid initials in
Polypterus senegalus (a brachiopterygian fish). C.R. Hebd. Seances Acad.
Sci. Paris (D). 273(22): 2134-2137.

HOLOSTEI

General

Kilarski, W. and Z. Grodzinski. 1969. Yolk of Holostean fishes. J. Embryol. Exp. Morph. 21: 243-254.

Lagios, M.D. 1973. Follicle boundary cells in the adenohypophysis of the chondrostean and holostean fishes: ultrastructural study of their relationship to the follicular lumen, to endocrine cells, and to the hypophysial cleft. Gen. Comp. Endocr. 20(2): 362-376.

Sathyanesan, A.G. and W. Chavin. 1967. Hypothalamo-hypophyseal neuro-secretory system in the primitive actinopterygian fishes. (Holostei and Chondrostei). Acta Anat. 68(2): 284-299. Sums. in Fr. Ger.

Zotin, A.I. 1963. Mechanism of cleavage furrow formation in eggs of ganoid fishes and of amphibians. (Ambystoma). Acta Biol. Cracov. Zool. 5: 215-228. Rus. sum. in En.

Amia

Cartier, D. and E. Magnin. 1967. Development of genital glands of Amia calva from the region of Montreal. Naturaliste Can. 94: 381-387.

1968. Development of genital glands of Amia calva of Montreal region. Biol. Univ. Montreal. No. 16: 381-387.

Green, O.L. 1966. Observations on the culture of the bowfin. Progr. Fish Cult. 28(3): 179.

Grodzinski, Z. 1968. The yolk of holostean fishes. Acta Biol. Cracov. 11: 315-323.

Moss, M.L. 1964. Development of cellular dentin and lepidosteal tubules in the bowfin (fish) Amia calva. (14 developmental stages). Acta Anat. (Basel). 58(4): 333-354. Sums. in Fr. Ger.

Lepisosteus

Echelle, A.A. and C.D. Riggs. 1972. Aspects of the early life history of gars (Lepisosteus) in Lake Texoma. Trans. Am. Fish Soc. 101(1): 106-112.

Grodzinski, Z. 1968. The yolk of holostean fishes. Acta Biol. Cracov. 11: 315-323.

TELEOSTEI

General

Aboussouan, A. 1964. Study of eggs and pelagic larvae of teleosts in Gulf of Marseille. Rec. Trav. Sta. Mar. Endoume. No. 48 (Bull. No. 32): 87-171. Fr.

1969. On a small collection of teleost larvae collected on the coast of Brazil ('Calypso' cruise 1962). Vie Milieu, Ser. A. 20:595-610.

Acher, R., J. Chauvet, M.T. Chauvet and D. Crepy. 1968. Molecular evolution of neurohypophysial hormones: comparison of the active principles of 3 bony fishes. Gen. Comp. Endocr. 11(3): 535-538.

Abu Gideiri, Y.B. 1964-65. Behaviour and neuro-anatomy of the developing teleostean fish. Ph.D. Thesis, Newcastle upon Tyne U., UK.

Alderdice, D.F. and E.P.J. Velsen. 1968. Design of a controlled-environment incubator for small marine fish eggs. J. Fish. Res. Board Can. 25: 585-588.

Anderson, E. 1964. Cytologic changes during oocyte differentiation and formation of the vitelline envelope in certain teleost fish. J. Cell Biol. 23: 4A. abstr.

Anon. 1965. Report on fish spawn prospecting investigations, 1964. 1. Uttar Pradesh and Gujarat. Bull. Centr. Inl. Fish. Res. Inst. No. 4: 191p. (Mimeo).

1972. (Artificial reproduction of flat fish). La reproduction artificielle des poissons plats. Bull. Inf. CNEXO. 45: 3-5.

Antalfi, A. and E. Tolg. 1973. Reproduction of phytophagous fish. EIFAC Workshop on controlled reproduction of cultivated fishes. EIFAC/T25: 111-121.

Arbault, S. and N. Boutin. 1968. Ichthyoplankton, eggs and larvae of teleost fish in the Gulf of Gascony (Biscay) 1964. Rev. Trav. Inst. Peches Marit. Paris. 32: 413-473.

Arbault, S. and N. Lacroix-Boutin. 1969. Spawning times and areas for teleost fish in the Gulf of Gascony 1965-1966. Rev. Trav. Inst. Peches Marit. Paris. 33: 181-202.

Arnoult, J. and J. Spillmann. 1966. Experimental reproduction and new hybridisation of teleosts in fresh water in the laboratory. Bull. Mus. Natn. Hist. Nat. Paris. 37: 599-609.

Aziz, I.A. 1965. Absorption of some parts of the chondrocranium among teleostean fishes during later stages of development. Bull. Fac. Sci.

Cairo Univ. No. 39: 135-142.

- Bachop, W.E. and F.J. Schwartz. 1974. Quantitative nucleic acid histochemistry of the yolk sac syncytium of oviparous teleosts: implications for hypotheses of yolk utilization. In: The early life history of fish. J.H.S. Blaxter (ed.). Springer-Verlag, Berlin. 345-353,
- Baker, B.I. 1974. Functional identification of cell-types in the teleost pituitary gland. Proc. 5th Asia and Oceania Congr. Endocr. Vol. 1. Chandigarh, India. Endocr. Soc. of India.
- Baker, B.I. and J.N. Ball. 1970. Background adaptation and pituitary in teleost fishes. J. Endocrinol. 48: 26.
- Baker, B.I. and P.M. Ingleton. 1973. Factors affecting release and synthesis of teleost pituitary polypeptide hormones. J. Endocrinol. 59: 40.
- Ball, J.N. 1969. Prolactin and osmoregulation in teleost fishes: a review. Gen. Comp. Endocr. Suppl. 10-25.
- Ball, J.N., B.I. Baker, M. Olivereau and R.E. Peter. 1972. Investigations on hypothalamic control of adenohypophysial functions in teleost fishes. Gen. Comp. Endocr. Suppl. 3: 11-21.
- Ballard, W.W. 1966. Role of the cellular envelope in the morphogenetic movements of teleost embryos. J. Exp. Zool. 161: 193.
- Barannikova, I.A. 1969. Comparative histophysiology of the pituitary of Chondrostei and Teleostei. Gen. Comp. Endocr. 13(3): 491-492. abstr.
- Belsare, D.K. 1973. On the evolution of testicular endocrine tissue in some teleosts. Z. Mikrosk. Anat. Forsch. 87(5/6): 610-618.
- Berlind, A. 1972. Teleost caudal neurosecretory system: sperm duct contraction induced by urophysial material. J. Endocrinol. 52(3): 567-574.
- Bhowmick, R.M. 1969. Rearing of breeders, sexing and segregation of cultivated fishes. FAO/UNDP Regional Seminar on Induced Breeding of Cultivated Fishes, India. 23p.
- Bieniarz, K. and K. Opuszynski. 1974. Dojrzewanie płciowe ryb (syntez literatury światowej). Roczniki Nauk Rolniczych. 96: 7-26.
- Billard, R. 1970. Comparative spermiogenesis of some Teleosts. Chap. In: Comparative Spermatology. B. Baccetti (ed.). Academic Press. (In Fr.).
1973. (Innovation in Scotland: a fish farm (capacity 100

tons) supplied with water by pumping) Innovation en Ecosse: une pisciculture de cent tonnes alimentée par pompage. Piscic. Fr. 34: 38-39.

Billard, R. and J.E. Flechon. 1969. Particularité de la pièce intermédiaire des spermatozoides de quelques Poissons Téléostéens. J. Microscopie. 8: 36a. abstr.

Billard, R., B. Jalabert and B. Breton. 1972. (The Sertoli cells of teleost fish. I. Fine structure). Les cellules de Sertoli des Poissons Téléostéens. I. Etude ultrastructurale. Ann. Biol. Anim. Biochim. Biophys. 12(1): 19-32.

Billard, R., N. Meusy-Dessolles and J.E. Flechon. 1971. Les cellules interstitielles de quelques Poissons Téléostéens. J. Microscopie. 11: 30. abstr.

Blaxter, J.H.S. and M. Staines. 1970. Pure-cone retinae and retinomotor response in larval teleosts. J. Mar. Biol. Assoc. UK. 50(2): 449-460.

Boonbrahm, M. 1970. Induced spawning by pituitary hormone injection of pond-reared fishes. Proc. Indo-Pacific Fish Coun. 13(II): 162-170.

Bowers, A.B. 1966. Farming marine fish. (incl. breeding). Sci. J. 2: 46-51.

Breton, B. 1968. Contribution a l'étude de l'isolement et du dosage des gonadotropines de poissons. Thesis. Univ. de Lyon.

1972. Etude de la spécificité des hormones gonadotropes de Poissons par radioimmunologie. Colloque INSERM, Paris mai 1972. "Les homrones glycoprotéiques hypophysaires" 223-232.

Breton, B. and R. Billard. 1973. Perspectives ouvertes par des données récentes sur l'endocrinologie de la reproduction des poissons pour le contrôle de leur cycle reproducteur. Coll. Aquacul. CNEXO, Brest, Oct. 1973.

Breton, B. and R. Billard. 1974. Perspectives ouvertes par les données récentes sur l'endocrinologie de la reproduction des poissons pour le contrôle de leur cycle reproducteur. 137-149. In: Colloque sur l'aquaculture, 22-24, Oct.1973. CNEXO serie: Actes de Colloques No. 1.

Breton, B., R. Billard and B. Jalabert. 1973. Action specificity and immunological relations of gonadotropic hormones in some teleost fish. Ann. Biol. Anim. Biochim. Biophys. 13(3): 347-362.

Breton, B., C. Weil, B. Jalabert and R. Billard. 1972. (Reciprocal activity of the hypothalamic factors of the ram (Ovis aries) and teleostean fishes on the in vitro secretion of the gonadotrophic

hormones c-HG and LH respectively by the hypophyses of the carp and of the ram). Activité réciproque des facteurs hypothalamiques de Bélier (Ovis aries) et de poissons téléostéens sur la sécretion in vitro des hormones gonadotropes c-HG et LH respectivement par des hypophyses de Carpe et de Bélier. C.R. Hebd. Séances Acad. Sci. Paris (D). 274(17): 2530-2533.

Burzawa-Gerard, E. 1970. Quelques propriétés des hormones gonadotropes des poissons comparées à celle des mammifères. Actes du Colloque international du C.N.R.S. sur "la spécificité zoologique des hormones hypophysaires et de leurs activités". Paris, juillet 1968. Colloques internationaux du C.N.R.S., 1969. no. 177, 351-356.

Burzawa-Gerard, E. and Y.A. Fontaine. 1972. The gonadotropins of lower vertebrates. Symposium international d'Endocrinologie comparée. Banff (Canada). juin 1971. Gen. Comp. Endoc. Suppl. 3: 715-728.

Busson-Mabillot, S. 1971. (Effect of chemical fixation on ultrastructure. I. Studies on the organelles of the ovarian follicle of a teleost fish) Influence de la fixation chimique sur les ultrastructures. I. Etude sur les organites du follicule ovarien d'un poisson téléostéen. J. Microsc. (Paris). 12(3): 317-348.

1972. (The effect of chemical fixation on ultra-structure. II. Studies on granules of different chemical components in the oocyte of a teleost fish). Influence de la fixation chimique sur les ultrastructures. II. Etude sur les enclaves de natures chimiques variées de l'ovocyte d'un poisson téléostéen. J. Microsc. 13(2): 173-191.

1973. Evolution of the envelopes of a Teleostean ovocyte and egg. J. Microsc. 18: 23-24. Fr. sum. in En.

1974. Double secretory activity of teleost follicle cells. J. Microsc. 20: A.32.

Cabezas, J.A. and M.D. Frois. 1966. Neuraminic acid. 6. Acetylneuraminic acids in lamprey liver and eggs, and in eggs from two teleostei species. Rev. Esp. Fisiol. 22: 147-152.

Chadwick, A. 1965. Prolactin-like activity in extracts of fish pituitaries. (teleost). Gen. Comp. Endocr. 5: 668. abstr.

Chatterjee, N. 1963. Histochemical demonstration of haemoglobin and haemosiderin in the growing oocytes of a teleost fish. Q.J. Microsc. Sci. 104: 471-474.

1968. Structure of nuclear membrane of the oocytes of a teleost fish. Nucleus (Calcutta). 11: 141-147.

Chaudhuri, H. 1966. Breeding and selection of cultivated warm water

- fishes in Asia and the Far East. FAO Fish. Report No. 44: 30-66.
- Chaudhuri, H. 1966. Report to the Government of Burma on the development of fish culture: based on the work of H. Chaudhuri. Inland Fish. Biol. (Fish Culture). Rep. FAO/UNDP (TA), Rome: 14p.
1968. Fish hybridization in Asia with special reference to India. FAO International Seminar on Genetic Selection and Hybridization of cultivated fishes. U.S.S.R., FAO No. TA 2926. 16p.
1969. Breeding habits of cultivated fishes. FAO/UNDP Regional Seminar on Induced Breeding of cultivated fishes. India. FRI/IBCF/4, 13p.
1969. Induced spawning of cultivated fishes. Indian Fmg. 19(9): 71-74.
1969. Methods adopted for inducing breeding of fishes. FAO/UNDP Regional Seminar on Induced Breeding of cultivated fishes. India. FRI/IBCF/8, 16p.
1971. Report to the Government of Burma on fish culture development. Based on the work of H. Chaudhuri. Inland Fish. Biol. (Fish Culture). Rep. FAO/UNDP (TA) 2954, Rome: 45p.
1972. Production of fish seed by induced breeding. Proc. of Seminar on production of fish seed for fish culture. Cent. Inland Fish. Res. Inst. Barrackpore. 270-282.
- Clemens, H.P. and W.W. Johnson. 1964. Specificity of the gonadal hydration factor in the pituitary of some freshwater fishes. Copeia. 2: 389-398.
- Colombo, L. and H.A. Bern. 1970. Comparative aspects of corticosteroid metabolism in Teleost fishes. Excerpta Med. Int. Congr. Series No. 219: 958-965.
- Colombo, L., H.A. Bern, J. Pieprzyk and D.W. Johnson. 1973. Biosynthesis of 11-deoxycorticosteroids by teleost ovaries and discussion of their possible role in oocyte maturation and ovulation. Gen. Comp. Endocr. 21(1): 168-178.
- Colombo, L. and E. Del Conte. 1972. Metabolism of cortisol-4-¹⁴C and cortisone-4-¹⁴C by Teleost liver. Atti Accad. Patav. 84(II): 327-338.
- Crawford, R.B. and Ch.E. Wilde, Jr. 1966. Cellular differentiation in the anamniota. 2. Oxygen dependency and energetics requirements during early development of teleosts and urodeles. Exp. Cell Res. 44: 453-470.
- Dehadrai, P.V., S.R. Banerji, N.K. Thakur and N.K. Das. 1973. Sexual dimorphism in certain air breathing teleosts. J. Inland Fish. Soc.

India, Barrackpore. 5: 71-77.

Delrio, G., V. Botte and G. Chieffi. 1965. Ulteriori osservazioni sul tessuto interstiziale del testicolo dei Teleostei. Boll. Zool. 32: 199-205.

1967. Identification of the Leydig cell homologue in the testis of certain teleost fishes through histo-enzymatic reaction. In: Enzyme Histochemistry, Simposio A. Baselli.

Demir, N. 1969. Pelagic eggs and larvae of teleostean fishes in Turkish waters. Intanb. Univ. Fen. Fak. Meem. 34B: 43-74. Sum. in Tur.

Devillers, C. 1965. Respiration and morphogenesis in the ova of teleosts. Annee. Biol. 4: 157-186. Fr.

DeVlaming, V.L. 1974. Environmental and endocrine control of teleost reproduction. In: Control of sex in fishes. C.B. Schreck (ed.). 13-83.

Dodd, J.M. 1972. Endocrine regulation of gametogenesis and gonad maturation in fishes. (teleosts, cyclostomes, elasmobranchs). Gen. Comp. Endocr. Suppl. 3: 675-687.

Ebeling, A.W. and T.R. Chen. 1970. Heterogamety in teleostean fishes. Trans. Am. Fish. Soc. 99: 131-138.

Ebeling, A.W., N.B. Arkin and P.V. Setzer. 1971. Genome sizes of teleostean fishes: increases in some deep-sea species. Am. Nat. 105(946): 549-561.

Egami, N. and R. Arai. 1965. Male reproductive organs of teleostei and their reactions to androgens, with note on androgens in cyclostomata and teleostei. Proc. 2nd Internat. Congr. on Endocr., Lond. Aug. 1964. S.Taylor. (ed.). Excerpta Medica Int. Nat. Cong. Series 83.

Emelianov, S.V. 1969. Heterochronies in the emergence and rate of development of elements of teleostean dorsal and anal fins. Demonstrations presented at the 9th International Embryological Conf. Moscow, 25-29 August, 1969. Publ. House, Nauka, Moscow.

Establie, R. 1970. Copper, zinc, manganese and iron content of ovaries of tuna, Thunnus thynnus, bonito, Sarda sarda, Bacoreta, Euthynnus alletteratus and melva, Auxis thazard. Investigacion Pesquera. 34: 171.

Telechon, J.E., B. Jalabert and R. Billard. 1971. Cytochimie ultra-structurale des granules corticaux d'oeufs de Poissons Téléostéens. J. Microsc. 11: 54. abstr.

Follenius, E. 1965. Structural and ultrastructural bases of hypothalamo hypophyseal correlation in some species of teleosts. Ann. Sci. Nat. (12)7: 1-50. Fr.

- Follenius, E. 1968. Fine structure of various types of pituitary cell in teleostean fish. *Path. Biol.* 16: 619-632. Fr. sums. in En, Fr, Ger, Sp.
- Fontaine, M. 1967. De quelques problèmes posés par la maturation expérimentale des poissons Téléostéens. *J. Physiologie.* 59(1): 1-2.
1969. Endocrine control of reproduction in teleost fish. (RV). *Verhandl. Int. Ver. Limnol.* 17: 611-624.
- Fontaine, Y.A. 1969. Studies on the heterothyrotropic activity of preparation of mammalian gonadotropins of teleost fish. *Gen. Comp. Endocr. Suppl.* 417-424.
- Galat, D.L. 1972. Preparing teleost embryos for study. *Prog. Fish. Cult.* 34(1): 43-48.
- Giudice, J.J. The culture of bait fishes. *Fishery Biologist, Bur. of Sport Fish. and Wildlife, Fish Farming Experimental Station, Stuttgart, Arkansas.* 15p.
- Goos, H.J.T. and P.G.W.J. Van Oordt. 1975. Cross-reaction of rabbit anti-carp gonadotrophin globulin with gonadotrophic hormone of some teleost fish as tested by immunofluorescence. *J. Endocrinol.* 64: 45.
- Gorbman, A. 1973. Comments on "Neuroendocrinology of teleosts" by R.E. Peter (*Am. Zool.* 13: 743-756) *Am. Zool.* 13: 757-758.
- Gotting, K.J. 1966. Ultrastructure of oocytes of marine teleosts. *Helgolander Wiss. Meeresunters.* 13: 118-170. Ger.
1967. Electron microscopical study of layers of oocyte cortex and follicle of teleosts and amphibia. *Z. Zellforsch. Mikrosk. Anat.* 79: 481-491. Ger. Sum. in En.
1968. Fine structure of yolk nucleus in the oocyte of a marine teleost. *Verh. Dt. Zool. Ges.* 32: 161-168. Ger.
1970. The study of the ultrastructure of teleostean follicles by means of a freeze-etching technique. *Micron.* 1: 356-372.
- Grodzinski, Z. 1971. Thermal tolerance of the larvae of three selected teleost fishes. *Acta Biol. Cracov. (Zool.).* 14(2): 289-298.
- Hagstrom, B.E. and S. Lonning. 1968. Electron microscopic studies of unfertilized and fertilized eggs from marine teleosts. *Sarsia.* 33: 73-80.
- Haider, S. and A.G. Sathyanesan. 1972. Comparative study of the hypothalamo-neurohypophysial complex in some Indian freshwater teleosts. *Acta Anat.* 81(2): 202-224.

- Hasan, R. and A.K. Jafri. 1964. Physico-chemical analysis of ripe, unspawned eggs of some freshwater teleosts. Proc. Indian Acad. Sci. 60B: 1-11.
- Heller, H. and D.H.G. Leathers. 1969. Effect of neurohypophysial hormones on the teleost oviduct and ovary. Gen. Comp. Endocr. 13(3): 510. abstr.
- Hinegardner, R. 1968. Evolution of cellular DNA content in teleost fishes. Amer. Natur. 102: 517-523.
- Hirose, K. 1973. (Hormonal control of fish ovulation). Bull. Tokai Reg. Fish. Res. Lab. 74: 67-82.
- Hoar, W.S., J. Wiebe and E. Hui Wai. 1967. Inhibition of the pituitary gonadotropic activity of (teleost) fishes by a dithiocarbamoylhydrazine derivative (ICI 33,828). Gen. Comp. Endocr. 8(1): 101-109.
- Hogarth, P. 1970-71. Immunological aspects of reproduction in 2 species of viviparous teleost. DPhil Thesis, York U., UK.
- Holliday, F.G.T. 1965. Osmoregulation in marine teleost eggs and larvae. Calif. Coop. Oceanic Fisheries Invest. Rep. 10: 89-95.
1969. The effect of salinity on the eggs and larvae of teleosts. 293-311. In: Fish Physiology, Vol. 1. W.S. Hoar and D.J. Randall (eds.). Academic Press, N.Y. 465p.
- Hopkins, C.R. 1969. Fine structural localization of acid phosphatase in the prolactin cell of the teleost pituitary following the stimulation and inhibition of secretory activity. Tissue and Cell. 1(4): 653-672.
- Hubbs, C. 1970. Teleost hybridisation studies. Proc. Calif. Acad. Sci. 38: 289-298.
- Huisman, E.A. 1973. Hatchery and nursery operations. EIFAC Workshop on controlled reproduction of cultivated fishes. EIFAC/T25: 101-110.
- Huver, C.W. 1963. Chemical technique for dechorionating teleost eggs. Copeia. 3: 591-592.
1964. Comparative studies of blastodisc formation in teleosts. Am. Zool. 4: 319-320. abstr.
- Ibrahim, K.H. 1969. Cross breeding has a place in fish farming. Indian Fmg. 19(9): 67-69.
1969. Preparation, preservation and ampouling of fish pituitary extract. FAO/UNDP Regional Seminar on Induced Spawning of

- cultivated fishes. India. 12p.
- Ibrahim, K.H. 1969. Techniques of collection, processing and storage of fish pituitary gland. FAO/UNDP Regional Seminar on Induced Spawning of cultivated fishes. India. 13p.
- Ibrahim, K.H. and H. Chaudhuri. 1966. Preservation of fish pituitary extract in glycerine for induced breeding of fish. Indian J. Exp. Biol. 4(4): 249-250.
- Ichikawa, R. and I. Suyama. 1974. Effects of tritiated water on the embryonic development of two marine teleosts. Bull. Jap. Soc. Sci. Fish. 40(8): 819-824.
- Ignatieva, G.M. and N.N. Rott. 1969. Temporal relationships between the beginning of some processes of early embryogenesis in Teleostei. Demonstrations presented at the 9th International Embryological Conf. Moscow, 25-29 August 1969. Publ. House, Nauka, Moscow.
1970. Temporal pattern of some processes during cleavage and blastulation in Teleostei. Dokl. Akad. Nauk SSSR. 190: 484-487.
- Ilina, L.K. and N.A. Gordeyev. 1970. Dynamics of the reproductive conditions of phytophilous fishes at different stages in reservoir formation. J. Ichthyol. 10(3): 282-285.
1972. Water-level regime and the spawning of fish stocks in reservoirs. J. Ichthyol. (Vopr. Ikhtiol. (Eng. Ed.)). 12(3): 373-381.
- Iurovitskii, Iu.G. and L.S. Milman. 1965. Study of glycolysis-limiting factors in teleostei embryos. Dokl. Akad. Nauk SSSR. 163(3): 781-
- Jared, D.W. and R.A. Wallace. 1968. Comparative chromatography of the yolk proteins of teleosts. Comp. Biochem. Physiol. 24: 437-443.
- Jasinski, A. 1966. Viviparity in teleostean fishes. Przegl. Zool. 10: 277-285. Pol. sum. in En.
- Johnson, D.W., S. Pesavento and D.W. Johnson. 1972. Patterns of steroid metabolism in Teleost and Ganoid fishes. Gen. Comp. Endocr. Suppl. 3: 245-253.
- Jones, S. 1967. On the terminology for phases and stages in the life history of teleostean fishes. Proc. Zool. Soc. Calcutta. 20: 99-102.
- Juszczyszyn, D. 1969. Types of teleostean ovaries and their vascularisation. Przegl. Zool. 13: 28-32.

- Kawamoto, M. 1967. Zur morphologie der hypophysis cerebri von Teleostiern. Arch. Histolog. Japon. 28: 123-150.
- Korshunova, L.A. 1972. (Comparative histology of the alimentary canal of some teleost fishes in connection with different characters of nutrition). Poryimyal'na gistologiya kharchotravnogo kanalu deyakikh kostistikh rib zr-yazky z ryznim karakterom Rharchuvaniya. Dopov. Akad. Nauk Ukr. RSR, Ser. B. 8: 750-752.
- Krsulovic, J. and C. Munoz Astete. 1966. Manifestations of the secretory activity of the neurohypophysis. 2. Arrangement and behavior of ependymal elements in teleosts. Biologica (Santiago). 38: 38-45. Sp.
- Lambert, J.G.D. 1974. Ovarian hormones in teleosts. Fortschr. d. Zool. 22: 340-349.
- Leivestad, H. 1971. Osmotic and ionic conditions in pelagic teleost eggs. Acta Physiol. Scand. 82: 12A. abstr.
- Leray, C. 1963. Mise en évidence et dosage de la sécrétion gonadotrope de type FSH et ses relations avec l'histophysiologie hypophysaire chez les Télesostéens. Gen. Comp. Endocr. 3(6): 717. abstr.
- Liao, I.C. 1969-71. Some aspects and prospects for fingerling production in Taiwan. Coll. Reprints Tung kang Marine Lab. Vol. 1 (B-No. 4). 95-104.
- Licht, P. and H. Papkoff. 1972. Relationship of sialic acid to the biological activity of vertebrate gonadotropins. Gen. Comp. Endocr. 19: 102-114.
- Licht, P. and A. Stockell Hartree. 1971. Actions of mammalian, avian and piscine gonadotrophins in the lizard. J. Endocr. 49: 113-124.
- Lonning, S. 1972. Comparative electron microscopic studies of teleostean eggs with special reference to the chorion. Sarsia. 49: 41-48.
- Malhotra, J.C. and Ors. 1966. Report on fish spawn prospecting investigations, 1965. 2. Uttar Pradesh, Bihar and Maharashtra. Bull. Cent. Inl. Fish. Res. Inst., Barrackpore. No. 7. (Mimeo.).
- Mantelman, I.I. 1969. Possibility of polyspermy in teleostei. Dokl. Akad. Nauk SSSR. 189(2): 444- Rus.
- Milcu, S.M., M. Cancasiu, L. Cimpeanu, A. Petrovici and C. Penea. 1968. Cytology of adenohypophysis of teleost fish. Trav. Mus. Hist. Nat. "Gr. Antipa". 8: 451-463. Fr. sum. in Rum.
- Mires, D. 1973. A hatchery for breeding and forced spawning at Kibbutz

- ein Hamifratz. Bamidgeh. 25(3): 72-84.
- Misra, P.M. 1964. Studies on growth and development of teleost eggs with special reference to deuterium enriched environments. Diss. Abstr. 25. Diss. No. 5026. 114p.
- Misra, P.M. and S.B. SAILA. 1968. Growth of teleost eggs in deuterium. J. Anim. Morphol. Physiol. 15: 168-176.
- Nagahama, Y. 1973. Histo-physiological studies on the pituitary gland of some teleost fishes, with special reference to the classification of hormone-producing cells in the adenohypophysis. Mem. Fac. Fish. Hokkaido Univ. 21(1): 1-64.
- Narasimha, P.V. and B.I. Sundararaj. 1971. Histochemistry of the saccus vasculosus of some fresh water teleosts. Annales d'Histochemistry. 16: 155-164.
- Neyfakh, A.A. and G.V. Donzova. 1965. Rapid induction of enzyme activity during fertilization. (fish, bony). Biochem. Biophys. Res. Commun. 18: 582-588.
- Nikolyukin, N.I. 1972. (Distant hybridization in Acipenseridae and Teleostezi, theory and practice). Otdalennaya gibridizatsiya osetrovych i kostistykh ryb. Teoriya i praktika. 335p. Publ. by: Moskva, Pishchev. Promyshlennost'.
- Nomura, T., H. Ogata and M. Ito. 1973. Occurrence of PGs in fish testis. (teleost). Tohoku J. Agric. Res. 24: 138-144.
- Ohno, S. 1972. Fish and nature's extensive experiments with gene duplication (In: Genetics and mutagenesis of fish, Proceedings of the Ichthyological Symposium on Genetics and Mutagenesis held at Neuherberg, Munich (GFR). 13-15 Oct. 1972, J.H. Schroder (ed.). Springer-Verlag, 213-219.
- Olsson, R. 1968. Evolutionary significance of the 'prolactin' cells in teleostean fishes. In: Current problems in lower vertebrate phylogeny (Proc. 4th Nobel Symp., Sweden, 1967). T. Orvig (ed.). 455-472.
- Opuszynski, K. and K. Bieniarz. 1974. Stan obecny i perspektywy rozrodu i podchowu ryb cieplolubnych w warunkach sztucznych. Roczniki Nauk Rolniczych. 96: 27-43.
- Orlowski, S.J., H.N. Pritchard and S.S. Herman. 1971. Acrylamide gel as an embedding material for teleost eggs. Trans. Am. Microsc. Soc. 90: 369-371.
- Pal, R.N. 1969. Processing the pituitary gland for injection. Indian Fmy. 19(8): 35-36.

- Parameswaran, S. 1973. Production of quality fish seed by induced breeding - A breakthrough in fish culture. Indian Farmers' Digest. 6(1): 35-39.
- Peter, R.E. 1973. Neuroendocrinology of teleosts. Am. Zool. 13: 743-756.
- Pfeiffer, W. 1971. (Anatomy, efficiency and biological value of the olfactory sense organs of teleosts) Bau, Leistung und biologische Bedeutung des Geruchsorgans der Knochenfische. Naturwiss. Rundsch. Stuttg. 24(10): 417-423.
- Popescu, E., S. Dragasanu and R. Giurca. 1971. (A new method for preparing the dry pituitary matter used in fish induced spawning technique) Un nou mod de pregatire a substantei uscate de hipofiza in tehnica reproducerei artificiale a pestilor. Bul. Cercet. Piscic. 30(3-4): 111-116.
- Poy, A. 1970. On the behaviour of teleost fishes at hatching. Ber. Deut. Wiss. Komm. Meeresforsch. 21: 377-392.
- Pruginin, Y. and B. Cirlin. 1973. Techniques used in controlled breeding and production of larvae and fry in Israel. EIFAC Workshop on controlled reproduction of cultivated fishes. EIFAC/T25: 90-100.
- Purdom, C.E. 1969. Radiation-induced gynogenesis and androgenesis in fish. Heredity. 24: 431-444.
1972. Genetics and fish farming. Lab. Leafl. (New Ser.). Min. Agric. Fish. Food, UK. 23. 17p.
- Purdom, C.E. and R.F. Lincoln. 1973. Chromosome manipulation in fish (In: Genetics and Mutagenesis of fish, Proceedings of the Ichthyological Symposium on Genetics and Mutagenesis held at Neuherberg, Munich (GFR). 13-15 Oct. 1972. J.H. Schroder (ed.). Springer-Verlag. 83-89).
- Purko, J. and B.A. Haylett. 1970. Appearance and role of nucleoli in early teleost embryogenesis. J. Cell Biol. 47(2pt.2): 163a. abstr.
- Qasim, S.Z. 1973. An appraisal of the studies on maturation and spawning in marine teleosts from the Indian waters. Indian J. Fish. 20(1): 166-181.
- Rao, P.D.P. 1970. A comparative study of the pituitary gland of certain freshwater teleosts. Acta Anat. 73(2): 281-303.
- Rastogi, R.K. 1966. Studies on the yolk nucleus of certain teleostean fishes. Naturwissenschaften. 53: 183.
- Reinboth, R. 1964. Sex reversal in some teleosts. Verh. Dt. Zool. Gesell. 27: 67-72.

- Reinboth, R. 1967. Biandric teleost species. *Gen. Comp. Endocr.* 9(3): 486. abstr.
1969. Varying effects with different ways of hormone administration on gonad differentiation of a teleost fish. *Gen. Comp. Endocr.* 13(3): 527-528. abstr.
1972. Hormonal control of the teleost ovary. *Am. Zool.* 12: 307-324.
1972. Some remarks on secondary sex characters, sex and sexual behavior in teleosts. *Gen. Comp. Endocr. Suppl.* 3: 565-570.
- Reinboth, R., I. Callard and J. Leathem. 1966. In vitro steroid synthesis by the ovaries of the teleost fish. *Gen. Comp. Endocr.* 7: 326-328.
- Reinboth, R. and N. Simon. 1963. Effect of hypophysis homogenate on gonad ripening in teleosts. *Verh. Dtsch. Zool. Ges. Jena.* 26: 159-168. Ger.
- Remacle, C. 1973. Pituitary-gonad parabiosis, in Teleosts organ culture. *Annls. Endocr.* 34: 303-307.
- Remacle, C. and J. Demal. 1972. (Organotypic culture of the reproductive organs of teleosts) Culture organotypique de glandes génitales de Téléostéens. *J. Embryol. Exp. Morphol.* 27(1): 25-41.
- Rieb, J.P. 1974. (An installation for time lapse microcinematography of teleost eggs with variable frame cycle). Une installation de microcinématographie pour oeufs de Téléostéens, avec prises de vues à intervalles de temps déterminés. *Microsc. Anat.* 75(4): 338-345.
- Riehl, R. and K.J. Gotting. 1974. Structure and occurrence of micropyle in egg cells and eggs of teleost fishes. *Archiv. f. Hydrobiol.* 74: 393-402.
- Sadov, I.A. 1963. Structure and formation of egg membranes in Acipenseridae and in some representatives of Teleostei. *Trud. Inst. Morf. Zhiv.* 38: 110-188. Rus.
- Sage, M. 1966. Organ culture of teleost pituitaries. *J. Endocr.* 34: ix-x.
- Sage, M. and H.A. Bern. 1972. Cytophysiology of the teleost pituitary. *Int. Rev. Cytol.* 31: 339-368.
- Sakun, O.F. 1969. Formation of the meiotic spindles in oocytes of teleostean fishes and the influence of hypophysial hormones upon this process. Demonstrations presented at the 9th International Embryological Conf. Moscow, 25-29th August 1969. Publ. House, Nauka, Moscow. 72. abstr.

Sathyanesan, A.G. 1963. Histological changes in the pituitary in some correlation with the gonadal cycle in some teleosts. *Cellule.* 63: 281-290.

1972. Hypothalamo-hypophysial vascularization in a teleost fish with special reference to its tetrapodan features. *Acta Anat.* 81(3): 349-366. Sums. in Fr., Ger.

Sathyanesan, A.G. and S. Haider. 1974. Hypothalamic control of pituitary function in the teleost fish. *Proc. 5th Asia and Oceania Congr. Endocrinol.* Vol. 1. Chandigarh, India. *Endocr. Soc. of India.* 1974.

Schreck, C.B. 1972. Reproductive endocrinology of fishes (teleosts, sex steroid hormones). *Diss. Abstr. Int.* 33B: 2781. Abstr. order no. 72-31 343 (original 102p.).

Schreibman, M.P., J.F. Leatherland and B.A. McKeown. 1973. Functional morphology of the teleost pituitary gland. *Am. Zool.* 13: 719-742.

Shrivastava, S.S. 1967. Histomorphology and seasonal cycle of the spermary and sperm duct in a teleost. *Acta Anat.* 66(1): 133-160.

Simmons, D.J. 1971. Calcium and skeletal tissue physiology in teleost fishes. (RV) *Clin. Orthop. and Related Res.* 76: 244-280.

Singh, S.B. 1969. Biological requirements for induced breeding of fishes. FAO/UNDP Reg. Seminar Induced Breeding Cultivated Fishes. July 15-August 18, 1969. 25p.

Sinha, V.R.P. 1969. Chromatography of fish pituitary extracts on Sephadex G-100. *J. Chromatog.* 44: 624-628.

1972. A simple method of isolation of fish pituitary gonadotropin. In: Silver Jubilee Symposium on Aquaculture as an Industry. Central Inland Fisheries Research Institute, Symposium No. 3: 11-12.

1972. Isolation of fish gonadotropin. Souvenir, Silver Jubilee of CIFRI. Barrackpore. 39-44.

Stanley, J.G. and K.E. Sneed. 1973. Artificial gynogenesis and its application in genetics and selective breeding of fishes. In: The early life history of fish. The Proceedings of an International Symposium held at the Dunstaffnage Marine Research Lab., Oban, Scotland. May 17-23, 1973. J.H.S. Blaxter (ed.). Springer-Verlag, Berlin.

Stempniewsky, H.L. 1972. Storage of pituitary extract for induced spawning. FAO Aquacult. Bull. 4(2): 3.

Steopoe, I., M.I. Varo and M. Vlad. 1970. Presence of an extrachromosomal

nucleohistone cap in the oocyte nuclei of teleosts and acipenserids.
Acta Histochem. (Jena). 38: 311-317. Fr.

Sundararaj, B.I. 1973. Fish breeding with hormones. *Science Reporter.* 10: 213-216.

Sundararaj, B.I. and F.S.A. Samy. 1974. Some aspects of chemistry and biology of piscine gonadotropins. In: *Gonadotropins and Gonadal function*, N.R. Moudgal (ed.). Proc. Int. Symp. Advances in chemistry, biology, and immunology of gonadotropins. October, 1973, Bangalore. 118-127. Academic Press, New York.

Szabo, Z. and B. Molnar. 1968. Neurosecretory preoptico hypophyseal system in teleosts of different modes of life. *Zool. Anz.* 180: 279-293. Ger. sum. in En.

Tanaka, M. 1969. Studies on the structure and function of the digestive system in teleost larvae. II. Characteristics of the digestive system in larvae at the stage of first feeding. *Jap. J. Ichthyol.* 16: 41-49.

Turdakov, A.F. 1971. Rate of sperm motion in body fluid diluted with a varying amount of water observed for 3 species of Teleostei fish. *Sov. J. Dev. Biol.* 2: 230-235.

Upadhyay, S.N. and S.S. Guraya. 1973. Histochemical studies on the spermatogenesis of some teleost fishes. *Acta Anat.* 86(3-4): 484-514.

Van Den Hurk, R. 1973. Localization of steroidogenesis in the testes of oviparous and viviparous teleosts. *Proc. K. ned. Akad. Wet.* 76(3): 270-279.

Van Utrecht, W.L. and E.J. Schenkkan. 1972. On the analysis of the periodicity in the growth of scales, vertebrae and other hard structures in a teleost. *Aquaculture.* 1(3): 293-316.

Varagnolo, S. 1965. Some observations on the distribution of the floating eggs of Teleosts in the Upper Western Adriatic. *Boll. Zool.* 32: 849-858.

1968. Natural reproduction of some species of marine teleosts of the Lagoon of Venice. *Boll. Zool.* 35: 351-352. It.

Vollrath, L. 1967. Neurosecretory innervation of adenohypophysis in teleosts. *Z. Zellforsch. Mikrosk. Anat.* 78: 234-260. Ger. sum. in En.

Weis, P. 1972. Hepatic ultrastructure in two species of normal, fasted and gravid teleost fishes. *Am. J. Anat.* 133(3): 317-332.

Wheat, T.E., G.S. Whitt and W.F. Childers. 1972. Linkage relationships between the homologous malate dehydrogenase loci in teleosts. *Genetics.* 70(2): 337-340.

Wilde, C.E. and R.B. Crawford. 1963. Cellular differentiation in the anamniota. I. Initial studies on the aerobic metabolic pathways of differentiation and morphogenesis in teleosts and urodeles. *Develop. Biol.* 7: 578-594.

Yamamoto, K. and Y. Nagahama. 1969. Ultrastructure and reproductive function of the adenohypophysis in teleostei. *Clin. Endocr. (Tokyo)*. 17: 512-521. Jap.

Yurowitzky, Yu.G. and L.S. Milman. 1973. Factors responsible for glyco-genolysis acceleration in early embryogenesis of teleosts. *Wilhelm Roux' Arch. Entwicklungsmech. Org.* 173(1): 9-21.

1974. Gluconeogenesis in the oocytes of bony fishes. *Sov. J. Dev. Biol.* 182-185.

Zambrano, D. 1973. Innervation of the teleost and dipnoan pituitaries. In: *Endocrinology (Proc. 4th Int. Congr. Wash. D.C., 1972)*. R.O. Scow, F.G.J. Ebling and I.W. Henderson (eds.). 215-219. *Excerpta Medica, ICS 273.*

ABRAMIS

- Bagirova, Sh.M. 1965. Stages in the development of bream and vobla in the Ust-Kurlin fish-farm. (incl. early development). In: Hydrobiological and ichthyological investigations of southern shores of the Caspian Sea and Inland reservoirs of Azerbaijan. Akad. Nauk. Azerbaidj. SSR Inst. Zool. Baku 103-131. Rus.
- Belyi, N.D. 1963. Development of bream and pikeperch larvae at great depths. Dokl. Akad. Nauk. USSR (Transl.). 149: 373-374.
1963. Nest reproduction of the bream (Aramis brama) in the lower Dnieper. Izv. Akad. Nauk. Ser. Biol. Jul-Aug. 1963, 526-546. Rus.
1970. The biology of early development stages of the bream under deep-water conditions. J. Ichthyol. 10(6): 789-796.
1973. (Development of zander and bream eggs at 10 atmospheres hydrostatic pressure) Rasvitie ik rysudaka i leshcha pri gidrostaticheskom davienii 10 atm. Izv. Akad. Nauk SSS. (Biol.). 1: 76-79.
- Borisov, V.M. and S.I. Doroshev. 1970. Some morpho-biological characteristics of the eastern bream (Aramis brama orientalis Berg). J. Ichthyol. 10(4): 449-459.
- Bruyenko, V.P. and I.Y. Dyachuk. 1971. Structure of spawning stocks, growth and sexual maturation of the Kremenchug Reservoir bream. J. Ichthyol. (Vopr. Ikthiol. (Eng. Ed.)). 11(6): 837-849.
- Brylinski, E. 1972. Effect of infection with the cestode Ligula intestinalis on fertility and reproduction in bream, Aramis brama. Roczn. Nauk. Roln. Ser. H Rybactwo. 94(3): 7-16. Pol. sums. in En. Rus.
- Gosh, R.I., V.H. Zhukinskiy, and N.M. Pyetrunk'. 1972. (The intensity of energetic outflow through the immature oocytes and mature ovarian eggs in Rutilus rutilus heckeli and Aramis brama) intyensivnost' enyergyeticheskogo obmyena yaytsyeklyetok u tarani i lyesncha. Gidrobiol. Zh. 8(5): 58-63.
- Haen, P.J. and F.J. O'Rourke. 1969. Comparative electrophoretic studies of soluble eyelens proteins of some Irish freshwater fishes. Proc. Roy. Irish Acad. Sect. B. 68: 67-75.
- Hashem, M.T. 1970. Sexual maturation and fecundity of Aramis ballerus of the Rybinsk Reservoir. Vop. Ikhtiol. 9: 489-496. Rus. (Translated in: Probl. Ichthyol. 9: 388-393).
- Hirano, R. 1969. Rearing of black sea bream larva. Bull. Jap. Soc. Sci. Fish. 35: 567-569.

Kennedy, M., P. Fitzmaurice. 1968. The biology of the bream, Abramis brama (L.), in Irish waters. Proc. Roy. Irish Acad., Sect. B. 67: 95-157.

Khashem, M.T. 1970. Condition and fatness of the blue bream (Abramis ballerus (L.)) in Rybinsk reservoir. J. Ichthyol. 10(3); 320-327.

Konstantinova, N.A., V.L. Zubenko. 1971. Oogenesis and maturation of the blue bream (Abramis ballerus (L.)) in Kiev reservoir. J. Ichthyol. (Vopr. Ikhtiol. Eng. Ed.). 11(4); 636-641.

Kosyreva, R.Y. and M.F. Svetlov. 1971. Efficiency of fish farms in the reproduction of semi-anadromous fish stocks of the Caspian Sea and the Sea of Azov. All-Union Research Institute of Marine Fisheries and Oceanography (VNIRO) Proceedings Vol. 81: 21-37.

Kukuradze, A.M. 1968. Features of ovogenesis in the pikeperch (Lucioperca lucioperca) and bream (Abramis brama) of the river Danube. Probl. Ichthyol. 8: 601-605.

Kuznetsov, V.A. 1969. Distribution of spawning grounds and efficiency of reproduction of the ide, roach and bream in the Sviyazhsky Bay of the Kuibyshev water reservoir. Zool. Zh. 48: 567-572.

1971. The effect of regulation of the discharge of the Volga on the reproduction of asp, zope, white bream and bleak in Sviyaga Bay, Kuybyshev Reservoir. J. Ichthyol. (Vopr. Ikhtiol. Eng. Ed.). 11(2); 186-192.

1973. (The fecundity and the quality of eggs of bream Abramis brama L.) Plodovitost' leshcha Abramis brama L. i kachestvo ego ikry. Vopr. Ikhtiol. 13(5(82)); 805-815.

McCarthy, D.T. 1967-9. Biology of the rudd (Scardinius erythrophthalmus) and the bream (Abramis brama), with particular reference to their early development. M.Sc. Thesis, Trinity Coll., Dublin, Eire. see Contents.

Malinin, L.K. 1972. (Home range and homing instinct of fish). Original title: Uchastki obitaniya i instinkt vozvrashcheniya ryb. From: Zoologicheskii Zhurnal (Journal of Zoology), 48(3); 381-391.

Nabiev, A.I. and P.K. Melikova. 1962. Biology of reproduction of carp and of the hybrid of roach and bream in the Mingechaursk water reservoir. Izv. Akad. Nauk. Azerbaid. SSR. Biol., Med. 5: 3-8. Rus.

Nyman, O.L. 1969. Polymorphic serum esterase in two species of freshwater fishes. J. Fish. Res. Board Can. 26: 2532-2534.

Papadopol, M. 1963. (Age and size at sexual maturity of Abramis (bream)

in the lower Danube.) Stud. Cercet. Biol. Acad. R.P.R. Ser. Biol. Anim. 14: 393-400. Fr.

Pépin, H., G. Moreau, S. Marazzato and J. Géry. 1970. (Biometry of a natural hybrid of Cyprinidae (Pisces), the Buggenhagen bream). Biométrie d'un hybride naturel de poissons Cyprinidae, la brème de Buggenhagen. Ann. Hydrobiol., Inst. Natl. Rech. Agron., Paris. 1(1); 43-54.

Popescu-Gorj, A. 1965. Natural hybrid between Rutilus x Aramis in Danube region. (fish). Trav. Mus. Hist. nat. Gr. Antipa. 5: 225-234. Fr.

Shikhshabekov, M.M. 1969. Different forms of vobla, bream, and carp in the Arakum waters of Dagestan. Vop. Ikhtiol. 9: 34-38.

1969. Some data on the spawning ecology of the roach (Rutilus rutilus caspicus (Jak.)), the bream (Aramis brama (L.)), and the carp (Cyprinus carpio L.) in the Arakum Lakes of Dagestan. Vop. Ikhtiol. 9: 771-779.

1972. Annual cycle of the gonads of the bream (Aramis brama (L.)) in lakes of the Terek river delta. J. Ichthyol. (Vopr. Ikhtiol. (Eng. Ed.)). 21(1); 167-173.

Solovov, V.P. 1970. Biology of the bream (Aramis brama L.) in the upper reaches of the Ob. J. Ichthyol. 10(5); 596-602.

Tomnatik, E.N. and A.K. Batyr. 1970. Fertility of the bream from Dubossar water reservoir. Biol. Resursy Vod. Moldav. 1970(7); 107-115. Rus.

Tomnatik, E.N. and V.I. Karlov. 1970. Experiment in breeding young pikeperch in monoculture and jointly with young bream. Biol. Resursy Vod. Moldav. 1970(7); 116-119. Rus.

Tsyplakov, E.P. 1969. Variation in reproduction of the bream (Aramis brama), population in the Kuybyshev reservoir. Vop. Ikhtiol. 9: 66-75.

Turanova, M.N. 1968. Fecundity of Aramis brama of Kostroma flood of Gorky reservoir. Gidrobiol. Zh. 4(1); 80-84.

Vasil'chenko, O.N. 1970. Fecundity and the state of the gonads of the common carp and bream used for breeding in the Volga Delta. Vop. Ikhtiol. 10: 83-93. Rus. (Translated in: J. Ichthyol. 10: 67-76).

Yefimova, T.A. 1969. The state of bream (Aramis brama) stocks in Lake Seliger and regulation of bream fishing. Vop. Ikhtiol. 9: 499-505.

Yelizarova, N.S. 1968. Features of the propagation of the carp-

bream (Abramis brama) in the Volgograd reservoir. Probl. Ichthyol. 8: 291-294.

Zhukinsky, V.N. and R.I. Gosh. 1970. Viability of embryos in relation to intensity of respiration of ovulated spawn from roach and bream of different ages. Gidrobiol. Zh. 6(4); 60-70. Rus. sum. in En. (Translated in: Hydrobiol. J. 6(4); 46-55).

Zhukinsky, V.N., N.I. Polikarpova and L.N. Rudyaka. 1973. (Poly-morphism of β -globulin fraction in roach, Rutilus rutilus, and bream, Abramis brama, blood serum) Polimorfizm β -globulin-ovoj fraktsil belokv syvorotki krovi tarani i leshcha (in: Biochemical genetics of fishes, Leningrad, 1973). 174-177.

ABUDEFDUF

Cummings, W.C. 1969. Reproductive habits of the sergeant major, Abudefduf saxatilis (bony fish) with comparative notes on 4 other damselfishes in the Bahama Islands. Diss. Abstr. 29: 2961B, Feb. 1969, abstr. order No. 69-2675 (original 184 p.)

Fishelson, L. 1970. Behaviour and ecology of a population of Abudefduf saxatilis (Pomacentridae, Teleostei) at Eilat (Red Sea). Anim. Behav. 18(2); 225-237.

Keenleyside, M.H.A. 1972. The behaviour of Abudefduf zonatus (Pisces, Pomacentridae) at Heron Island, Great Barrier Reef. Anim. Behav. 20(4); 763-774.

ACANTHEMBLEMARIA

McCosker, J.E. 1969. A behavioral correlate for the passage of lymphocystis disease in three blennioid fishes. Copeia, 636-637.

ACANTHIAS

Holstein, A.F. 1969. Spermatogenesis of Acanthias vulgaris, new investigation of an old model. Verh. anat. Ges. Jena 125, Suppl.: 213-214. Ger.

Schumann, A. 1973. Morphologic and morphometric studies on condensation processes in nuclei of spermatids from Acanthias vulgaris. Andrologie 5(4); 281-296. Ger. sum. in En.

ACANTHOBRAMA

Sivan, P. 1967. Seasonal changes in the gonads of Acanthobrama terrae-sanctae from Lake Tiberias. Bull. Sci. Fish. Res. Stn. Israel No. 44: 22-41.

Yaron, Z. 1969. Correlation between spawning, water temperature and

thyroid activity in Acanthobrama terrae-santae (Cyprinidae) of Lake Tiberias. Gen. Comp. Endocrinol. 12: 604-608.

Yaron, Z. 1970. Chromaffin and interrenal cells of Acanthobrama terrae-sanctae (Cyprinidae, Teleostei). Gen. Comp. Endocrinol. 14: 542.

1971. Observations on the granulosa cells of Acanthobrama terrae-sanctae and Tilapia nilotica (Teleostei). Gen. Comp. Endocrinol. 17(2); 247-252.

ACANTHOCEPOLA

Roa, V.V. 1969. Sexual dimorphism in coloration among band fishes of the family Cepolidae. J. Bombay Nat. Hist. Soc. 66(2); 388-390.

ACANTHOCHROMIS

Robertson, D.R. 1973. Field observations on the reproductive behaviour of a pomacentrid fish, Acanthochromis polyacanthus. Z. Tierpsychol. 32(3); 319-324.

ACANTHOCLINUS

Jillett, J.B. 1968. Biology of Acanthoclinus quadridactylus (teleostei-Blennioidea). 2. Breeding and development. Aust. J. mar. Freshwat. Res. 19: 9-18, Aug.

ACANTHOCYBIUM

Matsumoto, W.M. 1968. Morphology and distribution of larval wahoo Acanthocybium solandri (Cuvier) in the central Pacific Ocean. Fish. Bull. Fish Wildl. Serv. U.S. 66: 299-322.

ACANTHOPAGRUS

Kawai, S. and S. Ikeda. 1973. Studies on digestive enzymes of fishes- IV. Development of the digestive enzymes of carp and black sea bream after hatching. Bull. Jap. Soc. Sci. Fish. 39(8); 877-881.

ACANTHURIDAE

Sale, P.F. 1970. Distribution of larval Acanthuridae off Hawaii. Copeia. 4: 765-766.

ACERINA

Chmilevsky, D.A. 1970. Synthesis of DNA in early oogenesis of the ruff Acerina cernua L. Tsitologiya. 12: 675-678.

Latif, A.F.A. 1966. Some peculiarities of preovulatory changes of the nucleus in the oocytes of the ruff Acerina cernua. (fish). Vest. leningr. gos. Univ. 9: 44-48.

1973. The regulation of the transition of fish into the spawning condition. Proc. Egypt. Acad. Sci. 24: 167-184.

Nyman, O.L. 1969. Polymorphic serum esterase in two species of freshwater fishes. J. Fish. Res. Board Can. 26: 2532-2534.

Travkina, G.L. 1971. Effect of pituitary hormones and elevated temperature on replenishment of oocytes in the ruff Acerina cernua L. (Teleostei). Akad. Nauk. Doklady. SSSR. 201(4); 700-702.

Tyus, H.M. and J. Elisha Mitchell. 1972. Note on the life history of the Alewife, Alosa pseudoharengus, in North Carolina. Sci. Soc. 88(4); 241-243.

ACHEILOGNATHUS

Duyvane De Wit, J.J. 1965. Hybridization experiments in acheilognathine fishes (Cyprinidae, Teleostei). Hybrids from Pseudoperilampus uyekii x Rhodeus ocellatus both from Korea and Acheilognathus lanceolatus (Japan) x Rhodeus spinalis (Taiwan). Zool. Anz. 174: 190-202.

ACHIRUS

Houde, E.D. 1971. Developmental abnormalities of the flatfish Achirus lineatus reared in the laboratory. Fish. Bull. Natl. Oceanic Atmos. Adm., Seattle. 69(3); 537-544.

Houde, E.D., C.R. Futch, and R. Detwyler. 1970. Development of the lined sole, Achirus lineatus, described from laboratory-reared and Tampa Bay specimens. Tech. Ser. Fla. Dep. Nat. Resour. (62), II-VIII, 1-43.

ACROCHEILUS

Moodie, G.E.E. and C.C. Lindsey. 1972. Life-history of a unique cyprinid fish, the chiselmouth (Acrocheilus alutaceus), in British Columbia. Syesis. 5: 55-61

Smith, G.R. 1973. Analysis of several hybrid cyprinid fishes from western North America. Copeia. 3: 395-410.

ACYRTOPS

Gould, W.R. 1965. Biology and morphology of Acyrtops beryllinus, the emerald clingfish. (incl. embryos). Bull. Mar. Sci. Gulf Caribb. 15: 165-188.

Jachowski, R.L. 1970. Reproductive behaviour of the emerald clingfish,

Acyrtops beryllinus (Hildebrand and Ginsburg). Z. Tierpsychol. 27(9); 1100-1111.

ADINIA

Hastings, R.W. and R.W. Yerger. 1971. Ecology and life history of the diamond killifish, Adinia xenica, (Jordon and Gilbert). Am. Midl. Nat. 86(2); 276-291.

AEQUIDENS

Blum, V. and K.M. Weber. 1968. The influence of prolactin on the activity of steroid- 3β -ol dehydrogenase in the ovaries of the cichlid fish Aequidens pulcher. Experientia. 24: 1259-1260.

Lulling, K.H. 1971. (Aequidens vittata (Heckel) and other fishes of the Rio Huallaga in the approach to Hylaea). Aequidens vittata (Heckel) und andere Fische des Rio Huallaga im Übergangsbereich zur Hylaea. Zool. Beitr. 17(2/3); 193-226.

Metuzals, J., G. Ballintijn-DeVries and G.P. Baerends. 1968. Correlation of histological changes in the adenohypophysis of the Cichlid fish, Aequidens portalegrensis, with behaviour changes during the reproductive cycle. Proc. K. Ned. Akad. Wet. C. 71(4); 391-403.

Meyer-Rochow, V.B. 1972. Pelagic sciaenid eggs and early larval stages from off Lüderitz-Bay (S.W. Africa). Vie Milieu (A). 23: 11-19.

Mocek, A.D. 1972. (Interrelationships of parents and progeny in the familial group of Aequidens latifrons Steindachner) Vzaimootnosheniya roditelej i potomstva v semejn'yikh gruppakh pyatnistogoluboj akar'yl (Aequidens latifrons). Zool. Zh. 51(9); 1353-1360.

Polder, J.J.W. 1971. On gonads and reproductive behaviour in the cichlid fish Aequidens portalegrensis (Hensel). Neth. J. Zool. 21(3); 265-365.

AGONIDAE

Haefner, P.A. 1969. Occurrence of a larval alligator fish (Agonidae) in brackish water. Copeia. 201-202.

AGONUS

LeGall, S. 1969. Growth of a teleostean fish, Agonus cataphractus (Linné). Relationship with the sexual cycle and the cycle of thyroid activity. Vie Milieu Ser. A. 20: 153-234.

ALBULA

Bruger, Gerard E. 1974. Age, growth, food habits, and reproduction

of bonefish, Albula vulpes, in South Florida waters. Florida Marine Res. Publ. 3: 20 pp.

Mattei, C. and X. Mattei. 1973. (The spermiogenesis of Albula vulpes (L. 1758) (Albulid fish) ultrastructural study) La spermiogenèse d'Albula vulpes (L. 1758) (Poisson Albulidae) Etude ultrastructurale. Z. Zellforsch. Mikrosk. Anat. 142(2); 171-192.

ALBURNUS

Dembinski, W. 1971. Vertical distribution of vendace Coregonus albula L. and other pelagic fish species in some Polish lakes. J. Fish. Biol. 3(3); 341-357.

Kanno, S. 1968. Two hybrids between Leuciscus cephalus (L.) and Alburnus alburnus (L.) from Finland. Ann. Zool. Fenn. 5: 324-326.

ALECTIS

Hoff, F., C. Rowell and T. Pulver. 1972. Artificially induced spawning of the Florida pompano under controlled conditions. Proc. 3rd Ann. Workshop-World Mariculture Soc., St. Petersburg, Fla. Jan. 26-28, 1972, 53-63.

Von Westernhagen, H. 1974. Observations on the natural spawning of Alectis indicus (Ruppell) and Caranx ignobilis (Forsk.) (Carangidae). J. Fish. Biol. 6(4); 513-516.

ALEPISAURUS

Grandperrin, R. and M. Legand. 1970. (Contribution to the knowledge of Alepisaurus (Pisces) in the equatorial and south-tropical Pacific) Contribution à la connaissance des Alepisaurus (Pisces) dans le Pacifique équatorial et sud-tropical. Cah. Orstom. (Océanogr.). 8(3); 11-34.

AESTES

Bowmaker, A.P. 1969. Contribution to knowledge of the biology of Alestes macrourhthalmus Gunther (Pisces: Characidae). Hydrobiologia. 33: 302-341.

Durand, J.R. and G. Loubens. 1970. (Observations on the sexuality and reproduction of Alestes baremoze from lower Chari and lake Chad) Observations sur la sexualité et la reproduction des Alestes baremoze du bas Chari et du lac Tchad. Cah. ORSTOM (Hydrobiol.). IV(2); 61-81.

1971. (Study of some meristic characteristics in Alestes baremoze of the lower part of Chari and of lake Chad). Etude de certains caractères méristiques chez Alestes baremoze du bas Chari et du lac Tchad. Cah. ORSTOM (Hydrobiol.).

5(2); 113-136.

Durand, J.R. and G. Loubens. 1971. (Embryonic and larval development of Alestes baremoze) Développement embryonnaire et larvaire d'Alestes baremoze. Cah. ORSTOM (Hydrobiol.). 5(2); 137-145.

ALOSA

Anon. 1973. Abstracts presented at a meeting of the Animal Behaviour Society, held at Univ. Massachusetts, Amherst, U.S.A. on June 18-20th, 1973. Bull. Ecol. Soc. 54(1); 37-49.

Auld, A.H. and J.R. Schubel. 1974. Preliminary observations on the efficacy of a commercially available fungal inhibitor and its toxicity to fish eggs. Chesapeake Sci. 15(2); 115-116.

Belyi, N.D. 1969. The Black Sea shad (Alosa kessleri pontica (Eich.)) in the Kakhovka Reservoir. Vop. Ikhtiol. 9: 764-770.

Berg, A. and E. Grimaldi. 1966. Reproduction of Alosa ficta in Lake Maggiore. Memorie Ist. Ital. Idrobiol. 20: 41-83. It.

1966. Ecological relationships between planktophagic fish species in the Lago Maggiore (Italy). Verhandl. Int. Ver. Limnol. 16: 1065-1073.

Chittenden, M.E., Jr. 1972. Responses of young American shad, Alosa sapidissima, to low temperatures. Trans. Am. Fish. Soc. 101(4); 680-685.

Cook, H., J.J. Rusthoven and N.J. Vogelzang. 1973. Rostral pars distalis of the pituitary gland of the freshwater and marine alewife (Alosa pseudoharengus). A light and electron microscope study. Z. Zellforsch. Mikrosk. Anat. 141(2); 145-160.

Haedrich, R.L. and S.O. Haedrich. 1974. A seasonal survey of the fishes in the Mystic River, a polluted estuary in downtown Boston, Massachusetts. Estuar. Coast. Mar. Sci. 2(1); 59-73.

Hass, H. 1965. (Reproduction of Alosa). Arch. Fischwiss. 16: 150-168. Ger. sum. in En.

Hoagman, W.J. 1974. Feeding by alewives (Alosa pseudoharengus) on larval lake whitefish (Coregonus clupeaformis) in the laboratory. J. Fish. Res. Board Can. 31(2); 229-230.

Kissil, G.W. 1974. Spawning of the andromous alewife, Alosa pseudoharengus, in Bride Lake, Connecticut. Trans. Am. Fish. Soc. 103(2); 312-317.

Kyung, C.K. 1972. Composition of spawning stocks of the big-eyed shad (Alosa saposhnikovi (Grimm)) in the North Caspian. J. Ichthyol. (Vopr. Ikhtiol. (Eng. Ed.)). 12(1); 46-54.

- Lackey, R.T. 1970. Observations on newly introduced landlocked alewives in Maine. N.Y. Fish Game J. 17(2); 110-116.
- Lahaye, J. 1963. (Histological and histochemical study of ovogenesis in Alosa alosa. 3. Ripe ovocyte. Its membranes). C.R. Soc. Sci. Nat. Maroc. 28: 29-32. Fr.
- Leggett, W.C.G. 1970. Reproductive biology of the American shad (Alosa sapidissima). A comparison of populations from 4 rivers of the Atlantic seaboard. Diss. Abstr. Int. 30B: 5297, May 70, abstr. (microfilm available from Natl. Library of Canada, Ottawa).
1973. The migrations of the shad. Sci. Am. 228(3); 92-98.
- Leggett, W.C.G. and R.R. Whitney. 1972. Water temperature and the migrations of American shad. Fish. Bull. U.S. Dep. Commer., Natl. Oceanic Atmos. Ad., Natl. Mar. Fish. Serv. (Seattle). 70(3); 659-670.
- Levesque, R.C. and R.J. Reed. 1972. Food availability and consumption by young Connecticut River shad Alosa sapidissima. J. Fish. Res. Board Can. 29(10); 1495-1499.
- Li, A.H. and E.D. Warner. 1972. Pituitary gland of the alewife in Lake Michigan - cyclical changes in three adenohypophyseal cell types. Trans. Wisconsin Acad. Sci. and Arts. 60: 211-224.
- Marcy, B.C., Jr. 1969. Age determinations from scales of Alosa pseudoharengus (Wilson) and Alosa aestivalis (Mitchill) in Connecticut waters. Trans. Amer. Fish. Soc. 98: 622-620.
1972. Spawning of the American shad, Alosa sapidissima in the Lower Connecticut River. Chesapeake Sci. 13(2); 116-119.
- Merriner, J.V. 1973. A hermaphroditic alewife, Alosa pseudoharengus, from the Rappahannock River, Virginia. Copeia. 3: 597.
- Mills, J.G., Jr. 1972. Biology of the Alabama shad in northwest Florida. Tech. Ser. Fla. Dep. Nat. Resour. 68: 1-24.
- Mogilchenko, V.I. 1972. (Reproduction of herring (Alosa volgensis Berg) under the new regime in the Don River) Vospriozvodatvo prokhodnoj sel'di v usloviyah izmenennogo rezhima Dona. Tr. Vses. Nauchno-Issled. Inst. Morsk. Ryb. Khoz. Okeanogr. (VNIRO). 90: 87-93.
- Moroz, V.M. 1969. Description of the state of the breeding stock of the Danube shad (Alosa kessleri pontica (Eichw.) in 1963-1967. Vop. Ikhtiol. 9: 515-523.

- Nichols, P.R. and D.E. Louder. 1970. Upstream passage of anadromous fish through navigation locks and use of the stream for spawning and nursery habitat Cape Fear River, N.C., 1962-1966. Circ. Fish. Wildlife Serv. (Washington). 352: 1-12.
- Nichols, P.R. and W.H. Massmann. 1963. Abundance, age and fecundity of shad, York river Va. 1953-1959. Fish. Bull. U.S. 63: 179-188.
- Norden, C.R. 1967. Age, growth and fecundity of the alewife, Alosa pseudoharengus, in Lake Michigan. Trans. Am. Fish. Soc. 96: 387-393.
- Perkins, R.J. and M.D. Dahlberg. 1971. Fat cycles and condition factors of Altamaha river shads. Ecology. 52(2); 359-362.
- Pertseva-Ostromova, T.A. 1963. Spawning grounds and condition of spawning in Alosa species (Clupeidae, Teleostei) in the northern Caspian sea. Trud. Inst. Okeanol. Moskva. 62: 28-48. Rus. sum. in En.
- Romita, G. 1970. (Histology and histochemistry of the praeopticohypophysial neurosecretion in Alosa fallax nilotica during embryonic development and growth) Aspetti istologici ed istochimici del neurosecreto preottico-ipofisario nell'Alosa fallax nilotica durante lo sviluppo e l'accrescimento. Ateneo Parmense Sez. I. Acta Bio-medica. 41(5); 393-409.
- Schubel, J.R. and A.H. Auld. 1972. Thermal effects of a model power plant on the hatching success of American shad, Alosa sapidissima, eggs (in: Proceedings of the Twenty-sixth Annual Conference, Southeastern Association of Game and Fish Commissioners, held at Knoxville, TN(USA), 22nd-25th October 1972, Mitchell, A.L. (ed.). p. 644-648).
- Teodorescu-Leonte, R. and I. Munteanu. 1968. Reproduction and development of alosae in the Razelm-Sinoe complex. Rapp. P.-v. Réun. Comm. int. Explor. scient. Mer. Mediterr. 19: 315-. Fr. Abstr.
- Thunberg, B.E. 1971. Olfaction in parent stream selection by the alewife (Alosa pseudoharengus). Anim. Behav. 19(2); 217-225.
- Tyus, H.M. 1974. Movements and spawning of anadromous alewives, Alosa pseudoharengus (Wilson) at Lake Mattamuskeet, North Carolina. Trans. Am. Fish. Soc. 103(2); 392-396.
- Whitney, R.R. 1971. Water temperatures and migration of American shad. Res. Fish. Coll. Fish. Univ. Wash. 1970(340); 36.
- Williams, R.O. and G.E. Brager. 1972. Investigations on American shad in the St. Johns River. Tech. Ser. Fla. Dep. Nat. Resour. 66: 1-49.
- Winters, G.H., J.A. Moores and R. Chaulk. 1973. Northern range

extension and probable spawning of gaspereau (Alosa pseudoharengus) in the Newfoundland area. J. Fish. Res. Board Can. 30(6); 860-861.

AMBASSIS

Balakrishnan, K.P. 1970. Preliminary observations on the circulatory system in eggs and early larvae of some teleostean fishes. C.B.L. Devi. Mar. Biol. 6: 256-261.

Natarajan, A.V. and S. Patnaik. 1967. Occurrence of mullet eggs in the gut contents of Ambassis gymnocephalus (Lacep.). J. Mar. Biol. Ass. India. 9: 192.

Sahai, S. 1974. Seasonal changes in the pituitary gland of some teleosts based on statistical assessment. Morphol. Jahrb. 120(6); 821-831.

AMBLOPLITES

Tyus, H.M. 1973. Artificial intergeneric hybridization of Ambloplites rupestris (Centrarchidae). Copeia. 3: 428-430.

AMMODYTES

Hamada, T. 1968. Studies on fluctuation in the abundance of larval sand-lance in the Harima-Nada and Osaka Bay. V. Secular variation of catch and change of fisheries. Bull. Jap. Soc. Sci. Fish. 34: 988-996.

Langham, N.P.E. 1971. Sandeels. Scott. Fish. Bull. 35: 29-31.

1971. The distribution and abundance of larval sand-eels (Ammodytidae) in Scottish waters. J. Mar. Biol. Assoc. UK. 51(3); 697-707.

Reay, P.J. 1973. Some aspects of the biology of the sand-eel, Ammodytes tobianus L., in Langstone Harbour, Hampshire. J. Mar. Biol. Assoc. UK. 53(2); 325-342.

Scott, J.S. 1972. Morphological and meristic variation in northwest Atlantic sand lances (Ammodytes). J. Fish. Res. Board Can. 29(12); 1673-1678.

1972. Eggs and larvae of northern sand lance (Ammodytes dubius) from the Scotian Shelf. J. Fish. Res. Board Can. 29(12); 1667-1671.

AMPHIPNOUS

Rastogi, R.K. 1968. Annual changes in the testicular activity of the teleost, Amphipnous cuchia. Anno. Zool. Jpn. 41: 11-23.

1968. Studies on fish oogenesis. 1. Histomorphological and cytochemical changes in the oocyte nucleus of Amphipnous cuchia.

Cytologia 33(3-4); 357-369.

Rastogi, R.K. 1969. The occurrence and significance of ovarian atresia in the freshwater mud-eel, Amphipnous cuchia (Ham.). 73: 148-160.

1969. Studies on the fish oogenesis. 3. Vitellogenesis in some freshwater teleosts. Anat. Anz. 125: 24-36.

1970. Studies on the fish oogenesis. IV. Origin, structure and fate of the egg membranes in some freshwater teleosts. Acta Biol. Acad. Sci. Hung. 21: 35-42.

1971. Studies on the fish oogenesis. II. Size changes in the oocyte-nucleus of some Indian teleosts. Boll. Zool. 38(3); 331-333.

Sinha, B.M. and R.K. Rastogi. 1967. Cyclical changes in the ovarian activity of the freshwater mud-eel, Amphipnous cuchia. Proc. Natn. Acad. Sci. India. B 37(2); 175-188.

AMPHIPRION

Frickle, H.W. 1973. Individual partner recognition in fish: field studies on Amphiprion bicinctus. Naturwissenschaften. 60(4); 204-205.

Terver, D. 1971. (Egg-laying, reproduction and embryonic development in a fish-clown (Amphiprion polymnus)) Comportement de ponte, reproduction et développement embryonnaire d'un poisson-clown (Amphiprion polymnus). Piscic. Fr. 26: 9-23.

AMPHIUMA

Werner, H.J. 1972. Microscopic morphology of the epithelium of the oviduct of the congo eel, Amphiuma means. Proc. La. Acad. Sci. 35: 32-38.

ANABANTIDAE

Mainardi, D. and A.D. Rossi. 1968. Communication chimique en rapport avec la construction du nid chez le poisson Anabantidé (C.L.). Ist. Lomb. Accad. Sci. Lett. Rend. Sci. Biol. Med. B 102: 23-28.

ANABAS

Dutt, N.H.G. 1964. Yolk-nucleus in the oocytes of Anabas scandens (teleosts). Quart. J. Mic. Sci. 105: 349-352.

1966. Localization of nucleic acids and proteins in the oocytes of Anabas scandens. (fish). Z. Mikrosk-anat. Forsch. 74: 179-192.

Dutt, N.H.G. and P. Govindan. 1968. Alkaline phosphatase activity in

- the ovary of Anabas scandens. (perch). Curr. Sci. 37: 468-469.
- Dutt, N.H.G. and P. Govindan. 1969. Origin of new crop of oocytes in the teleost, Anabas scandens. Curr. Sci. 38: 275-
- Khan, H.A. and S.K. Mukhopadyay. 1973. On the fecundity of climbing perch, Anabas testudineus (Bloch). J. Inland Fish. Soc. India, Barrackpore. 4: 212-213.

ANARHICHAS

- Beese, G. and R. Kandler. 1969. Contributions to the biology of three North Atlantic catfish species, Anarhichas lupus L., A. minor Olafs. and A. denticulatus Kr. Ber. Deut. Wiss. Komm. Meeresforsch. 20: 21-59.

- Hansen, P. 1968. Report on wolffish larvae in West Greenland waters. Spec. Public. Int. Comm. Northwest Atlant. Fish. 7(1); 183-185.

ANCHOA

- Detwyler, R. and E.D. Houde. 1970. Food selection by laboratory-reared larvae of the scaled sardine Harengula pensacolae (Pisces, Clupedae) and the bay anchovy Anchoa mitchilli (Pisces, Engraulidae). Mar. Biol. 7(3); 214-222.

- Joseph J. 1963. Contributions to the biology of the engraulid Anchoa naso from Ecuadorian waters. (incl. reproduction). Bull. Inter-Amer. Tuna Comm. 8(1); 1-30.

- MacGregor, J.S. 1968. Fecundity of the northern anchovy, Engraulis mordax Girard. Calif. Fish. Game. 54: 281-288.

ANCHOVIELLA

- Marchal, E.G. 1969. (Eggs, larvae and postlarvae of the anchovy of the Gulf of Guinea Anchoviella guineensis Blache et Rossignol) Oeufs, larves et postlarves de l'anchois du golfe de Guinée Anchoviella guineensis Blache et Rossignol. In proceedings of the symposium on the oceanography and fisheries resources of the tropical Atlantic. Results of the ICITA and the GTS. Organized through the joint efforts of Unesco, FAO and OAU. Review papers and contributions. Abidjan, Ivory Coast, 20-26 October 1966. Paris, Unesco. 281-287.

ANCYLOPSETTA

- White, D.B. and R.R. Stickney. 1973. A manual of flatfish rearing. Georgia Sea Grant Prog. Tech. Rep. Ser. 73-77, 41p.

- Wilkens, E.P.H. and R.M. Lewis. 1971. Occurrence of reversal and staining in North Carolina flounders. Chesapeake Sci. 12(2); 115-116.

ANGUILLA

Anon. 1971. Eels spawn artificially. Commercial Fish. Rev. 33(3); 53.

Bezdenezhnykh, V.A. 1973. (Resorption of ovocytes in the European eel) Rehzorbtssya avatsytaw u ewrapejskaga vugra. Vestsi. Akad. Navuk BSSR Ser. Biyal. Navuk. 3: 96-101.

Billard, R. and A.S. Ginsburg. 1973. (Spermiogenesis and spermatozoon of Anguilla anguilla L. Study of ultrastructure) La spermiogenèse et le spermatozoïde d'Anguilla anguilla L. Etude ultrastructurale. Ann. Biol. Anim. Biochim. Biophys. 13(4); 523-534.

Boetius, I. and J. Boetius. 1967. Studies in the European eel, Anguilla anguilla. Experimental induction of the male sexual cycle, its relation to temperature and other factors. Meddr. Danm. Fiskog. Mavunders (N.S.) 4: 339-405.

Bruun, A.F. 1963. Breeding of the North Atlantic freshwater-eels. Advances in Marine Biology. 1: 137-170.

Butler, D.G., W.C. Clarke, E.M. Donaldson and R.W. Langford. 1969. Surgical adrenalectomy of a teleost fish (Anguilla rostrata lesueur). Effect on plasma cortisol and tissue electrolyte and carbohydrate concentrations. Gen. Comp. Endocrinol. 12: 502-514.

Butler, D.G., E.M. Donaldson and W.C. Clarke. 1969. Physiological evidence for a pituitary-adrenocortical feedback mechanism in the eel (Anguilla rostrata). Gen. Comp. Endocrinol. 12: 173-176.

Campbell, K. 1969. Fish culture in U.S., and Japan: eels, salmon and trout. World Fishery. 18(2); 20-21.

Castle, P.H.J. 1970. (Results of the research cruises of FRS 'Walther Herwig' to South America: XI. The Leptocephali) Ergebnisse der Forschungsreisen des FFS 'Walther Herwig' nach Sudamerika XI. The Leptocephali. Arch. Fischereiwiss. 21(1); 1-21.

Champ, W.S.T. 1968-9. Study of the eel population in the River Boyne system, with particular reference to growth, age and sexual differentiation. M.Sc. Thesis, Ireland, National U, Irish Republic.

Chan, D.K.O. 1966-7. Hormone action in the eel. Ph.D. Thesis, Sheffield U., UK.

Chieffi, G. and V. Botte. 1963. Histochemical reaction for steroid- 3β -ol-dehydrogenase in the interrenal and the corpuscles of Stannius of Anguilla anguilla (fish) and Conger conger. (fish). Nature (Lond.) 200: 793-794.

Colak, A. and K. Yamamoto. 1974. An electron microscope study of spermiogenesis in the Japanese eel, Anguilla japonica. Bull. Fac. Fish. Hokkaido Univ. 25: 1-5.

1974. Ultrastructure of the Japanese eel

- spermatozoon. Annot. Zool. Jap. 47(1); 48-54.
- Colombo, L. 1965. Identification of the estrone and estradiol-17 β from the ovaries and testes of Anguilla anguilla L. Boll. Zool. 32: 1163-1171.
- Curley, J.R., R.P. Lawton, J.M. Hickey and J.D. Fiske. 1972. A study of the marine resources of the Waquoit Bay - Eel Pond Estuary. Monogr. Mass. Dep. Nat. Resour. Div. Mar. Fish. 9: 1-40.
- Dave, G., M.L. Johansson, A. Larsson, K. Lewander and U. Lidman. 1974. Metabolic and hematological studies on the yellow and silver phases of the European eel, Anguilla anguilla L. II. Fatty acid composition. Comp. Biochem. Physiol. 47(3B); 583-591.
- Eales, J.G. 1968. The eel fisheries of eastern Canada. Bull. Fish. Res. Board Can. 166: 1-79.
- Egusa, S. 1970. Notes on sex and growth of European eels in freshwater eel-rearing ponds. Bull. Jap. Soc. Sci. Fish. 36: 1224-1225.
1973. Further notes on sex and growth of European eels in culture ponds. Bull. Jap. Soc. Sci. Fish. 39: 611-616.
- Eldred, B. 1971. First records of Anguilla rostrata larvae in the Gulf of Mexico and Yucatan straits. Leaflet. Ser. Fla. Dep. Nat. Resour. Mar. Res. Lab. 4, Pt. 1(19); 1-3.
- Fontaine, M. 1968. Réponse des gonades de l'Anguille d'Europe (Anguilla anguilla L.) à certains facteurs hormonaux glycoprotéiques. Rev. Roum. Biol. Zool. 13: 363-365.
- Fontaine, M., E. Bertrand, E. Lopez and O. Callamand. 1964. Sur la maturation des organes génitaux de l'Anguille femelle (Anguilla anguilla L.) et l'émission spontanée des oeufs en aquarium. C.R. Acad. Sci. 259: 2907-2910.
- Fontaine, M., S. Pillafont and A. Lapse. 1963. Présence de pterines dans la peau dorsale d'Anguilla anguilla L. et leur excrétion dans le milieu combiant. C.R. Séances Soc. Biol. CLVII(10); 1721-1724.
- Fontaine, Y.A. and P.G. Condliffe. 1963. Purification de l'hormone TSH d'un teleosteen (l'anguille) parallèle entre la spécificité zoologique de cette hormone et quelques uns de ses caractères physicochimiques. Bull. de la Soc. de Chimie Biologique. XLV: 681-693.
- Forster, M.E. 1969-70. Hormonal effects on the physiology of the eel (Anguilla anguilla). Ph.D. Thesis, Sheffield U., UK.
- Ginsburg, A.S. and R. Billard. 1972. Ultrastructure du spermatozoïde d'Anguille (Abstr.), J. Microscopie. 14: 50-51a.

Gray, R.W. and C.W. Andrews. 1970. Sex ratio of the American eel (*Anguilla rostrata*) in Newfoundland waters. Can. J. Zool. 48: 483-487. Sum. in Fr.

Holder, F.C. 1968. Evidence and levels of oxytocic activity in total homogenates and granular fractions of the preoptic-hypophysial system of *Anguilla anguilla*. (yellow eel). Gen. Comp. Endocrinol. 11: 235-242. Fr. sum. in Eng.

1968. Levels of oxytocic type activity of total homogenates and of granular fractions of the preoptico-hypophyseal system of European eel, *Anguilla anguilla*. C.R. Acad. Sci. Ser. D 266: 1607-1609. Fr.

1969. Chromatographic separation and estimation of oxytocic type hormones (arginine-vasotocin and isotocin) of the hypophysis and preoptic nucleus in the European, Alsace and Loire-Atlantic eels (*Anguilla anguilla*, *A. auenheim*, and *A. grande-brière*). C.R. Acad. Sci. Ser. D 268(14); 1304-1307. Fr.

1969. Chromatographic separation and estimation of oxytocic type hormones (arginine-vasotocin and isotocin) of the hypophysis and preoptic nucleus of the European eel, *Anguilla anguilla*, and eels of the Baltic seas. C.R. Acad. Sci. Ser. D 269(15); 1441-1444. Fr.

1973. Biochemical and histological arguments in favour of the parallel transport and accumulation of hormones and neurosecretory granules in the hypophysectomized eel. Z. Zellforsch. Mikrosk. Anat. 140(3); 333-356. Fr. sum in En.

1973. Experimental arguments in favour of an intra-granular localization of the hypothalamo-neurohypophysial hormones of *Anguilla anguilla*. Z. Zellforsch. Mikrosk. Anat. 140(3); 315-332.

1973. Influence of medium on hormone concentration in hypothalamus-neurohypophysis tract of European eel. J. de Physiologie, Paris. 67: A198.

Honma, Y., I. Matsui and J. Shimonoseki. 1973. Histological observation on a specimen of the Japanese eel, *Anguilla japonica*, under the long-term starvation. Univ. Fish. 21(3): 15-24.

Hopkins, C.R. and B.I. Baker. 1968. Fine structural localization of acid phosphatase in the prolactin cell of the eel pituitary. J. Cell. Sci. 3: 357-364.

Hurley, D. 1972. The American eel (*Anguilla rostrata*) in Eastern Lake Ontario. J. Fish. Res. Board Can. 29: 535-543.

Imai, K. 1965. Development of the caudal and hypothalamic neurosecretory systems of the eel, *Anguilla japonica*. Embryologia (Nagoya) 9(1); 66-77.

- Imai, K. 1965. Malformed caudal neurosecretory system in the eel, Anguilla japonica. *Embryologia* (Nagoya) 9(1); 78-97.
- Kathuria, J. 1972. Development of cell types in the pituitary of Anguilla anguilla, Pleuronectes platessa and Limanda limanda. *Mar. Biol.* 12(2); 103-121.
- Knight, P.J. 1969-70. Separation and identification of eel (Anguilla anguilla) prolactin by disc electrophoresis. M.Sc. Thesis, Sheffield U., UK.
- Knight, P.J., P.M. Ingleton, J.N. Ball and M.P. Hancock. 1970. Separation and identification of eel prolactin by disc electrophoresis. *J. Endocrinol.* 48: XXIX-XXXI. Abstr.
- Kolinenko, S.V. and Z.S. Bezdejnik. 1969. Peculiarities of sex formation in the European eel. In: *Fauna and Ecology of Animals of Belorussia*, Nikitenko, M.F. (ed.): 120-135.
- Kokhnenko, S.V. and V.A. Bezdejnykh. 1973. (Development of the ovocytes of the eel as a function of its size) Razvyitstse avatsytaw vugra w suvyazyi z yago rostam. *Vestsi Akad. Navuk. BSSR Ser. Biyal. Navuk.* 2: 90-94, 141.
1973. (Development of the testes in the European eel in the freshwater period) Razvyitstse semyannya ikow u ewrapskaga vugra w prehsnavodny peryyad. *Vestsi Akad. Navuk BSSR Ser. Biyal Navuk.* 1: 95-99, 142.
1974. Gonadotropic hormone effects on development of eel sexual products. *Dokl. Akad. Nauk. BSSR* 18: 568-570.
- Leatherland, J.F. 1966-7. Structure and function of hypothalamo-neurohypophysial complex and associated ependymal structures in freshwater eel, Anguilla anguilla. Ph.D. Thesis, Leeds U., UK.
- Lelouphatey, J. 1970. Influence of ablation of stannius corpuscles on interrenal function of eel (Anguilla anguilla L.). *Gen. Comp. Endocrinol.* 15: 388.
- Lemoine, A.M. and M. Olivereau. 1972. Variation of N-acetyl-neuraminic acid content in eel gut after hypophysectomy and prolactin treatment. *C.R. Séanc. Soc. Biol.* 166: 507-512. Fr.
- Lindquist, A. 1972. Eel larvae in the Skagerak. *Medd. Havsfiskelab., Lysekil.* 127: 3 p.
- Lopez, E., H.S. Lee and C.A. Baud. 1970. Histophysical study of the bone of a teleost Anguilla anguilla L. during a hypercalcaemia induced by experimental maturation. *Compt. Rend. Acad. Sci., Paris, Ser. D.* 270: 2015-2017.

- Lopez, E. and E. Martelly-Bagot. 1971. (Histologic study on the cellular bone of the eel (Anguilla anguilla L.) during sexual maturation. III. Histological and histophysical study during maturation induced by injections of carp pituitary extract) L'os cellulaire d'un poisson téléostéen, Anguilla anguilla L. III. Etude histologique et histophysique au cours de la maturation provoquée par injections d'extrait hypophysaire de Carpe. Z. Zellforsch. Mikrosk. Anat. 117(2); 176-190.
- Lumare, F. 1972. Induced breeding of gilthead bream and the European eel. FAO Aquacult. Bull. 5(1); 3.
- Lumare, F. and P. Villari, 1973. Induction of sexual maturity in males of Anguilla anguilla (L.) by means of hormone extracts. Investigacion Pesquera. 37(1); 73-86.
- Maetz, J. 1969. Observations on role of pituitary-interrenal axis in ion regulation of eel and other teleosts. Gen. Comp. Endocrinol. p. 299.
- Matsui, I., T. Takai, and J. Shimonoseki. 1971. Leptocephalae of the eel Anguilla japonica found in the waters of Ryukyu Deep. Univ. Fish. (Nat. Sci.). 20(1); 13-18.
- Matsui, I.. T. Takai, A. Kataoka and J. Shimonoseki. 1968. Anguillid leptocephalus found in the Japan Current and its adjacent waters. Univ. Fish. 17: 17-23.
- Meske, C. 1973. Experimentally induced sexual maturity in artificially reared male eels (Anguilla anguilla) (in: Genetics and Mutagenesis of Fish, Proceedings of the Ichthyological Symposium on Genetics and Mutagenesis held at Neuherberg, Munich (GFR), 13-15 Oct. 1972, Schroder, J.H. (ed.), Springer-Verlag, 1973, 161-170).
- C 1973. Induced spawning and observations of sexual-differentiation in eels in warmwater keeping. Experience Paper for the EIFAC Workshop on Controlled Reproduction of Cultivated Fishes. Hamburg, May 1973.
- Meske, Ch. and O. Cellarius. 1972. Laboraufzucht von Aalen bis zur Geschlechtsreife. Naturwissenschaften. (59) H.10, 471-472.
1973. (Artificially produced sexual maturity and observation of sexual differentiation in eels reared in warm water) Experimentell erzeugte Geschlechtsreife und Beobachtungen zur Sexual-differenzierung bei Aalen (Anguilla anguilla) in Warmwasserhaltung. Arch. Fisch. Wiss. 24(1/3); 191-197.
- Nose, T. 1971. (Spawning of eel in a small aquarium) Riproduzione dell'anguilla in un piccolo acquario. Riv. Ital. Piscic. Ittiopatol. 6(2); 25-27.
- Ochiai A., S. Umeda and H. Ota. 1972. On the eggs of Japanese eel

and induction of maturation by hormone injection. Jap. J. Ichthyol. 19(4); 312-316.

Ochiai, A., S. Umeda and M. Ogawa. 1974. On the acceleration of maturity of the catadromous female eel by hormone injection, and changes in the liver and blood character. Bull. Jap. Soc. Sci. Fish. 40(1): 43-50.

Oka, H.P. 1973. Report concerning stable supply of eel seedlings (fry). Rept. #164 of Hamana-ko Branch of Shizuoka Prefectural Fish Expt. Stn.

Olivereau, M. 1966. Action of prolactin in intact and hypophysectomised eels. Hypophyseal-thyroid system and pigmentation. Gen. Comp. Endocrinol. 6: 130-143. Fr. sum. in En.

1967. Observations on female eel hypophysis in particular during sexual maturation. Z. Zellforsch. Mikrosk. Anat. 80: 286-306. Fr. sum. in En.

1971. Effect of reserpine on the eel. 1. Prolactin secreting cells in the pituitary gland of male eels. Z. Zellforsch. Mikrosk. Anat. 121(2); 232-243. Fr. sum. in En.

1971. (Histological structure of some endocrine glands of the eel after autotransplantation of the hypophysis) Structure histologique de quelques glandes endocrines de l'anguille après autotransplantation de l'hypophyse. Acta Zool. (Stockholm). 52(1); 69-83.

1971. N-acetyl-neuraminic acid content of skin in eel after pituitary autotransplantation. Z. Vergl. Physiol. 73: 44.

1972. (Effect of cortisol administration on pituitary cytology of eels) Action d'un apport de cortisol sur la cytologie de l'hypophyse chez l'anguille. Acta Zool. Stockh. 53(2); 179-194.

Olivereau, M. and M. Chartier-Baraduc. 1966. Action of prolactin in the intact and hypophysectomised eel. 2. Effects of plasma electrolytes (Na, K, Ca). Gen. Comp. Endocrinol. 7: 10-17. Fr.

Olivereau, M. and A. Dimovska. 1969. Prolactin-secreting cells in the autotransplanted pituitary of the eel. Gen. Comp. Endocrinol. 13(3); 523-524. abstr.

Olivereau, M. and M. Fontaine. 1966. Cytological study of mature female eel's hypophysis. C.R. Seanc. Soc. Biol. 160(7); 1374-1378. Fr.

Olivereau, M. and A.M. Lemoine. 1973. Effect of 2 Br- α -ergocryptine (CB 154) on prolactin secretion in the eel. C.R. Hebd. Seanc. Acad. Sci. Paris Ser. D. 276: 1883-1886. Fr.

- Olivereau, M., A.M. Lemoine and A. Dimovska. 1971. Donnees sur le contrôie de la fonction prolactinique chez l'Anguille. Annales d'Endocrinol. 32: 271.
- Olivereau, M. and J. Olivereau. 1970. Effect of prolactin in intact and hypophysectomized eels. 6. Histological structure of interrenal and water and electrolyte metabolism. Z. Vergl. Physiol. 68: 429.
- Pantelouris, E.M., A. Arnason and F.W. Tesch. 1970. Genetic variation in the eel. II. Transferrins, haemoglobins and esterases in the eastern North Atlantic. Possible interpretations of phenotypic frequency differences. Genet. Res. 16: 277-284.
- Passakas, T. and R.Z. Kelkowski. 1973. Chromosomes of european eel (Anguilla anguilla) as related to in vivo sex determination. Pol. Arch. Hydrobiol. 20(3); 517-519.
- Ponniah, S. 1966-7. Neurosecretory system and urohypophysis of the eel (Anguilla anguilla). M.Sc. Thesis, Sheffield U., UK.
- Sandor, T., A. Lanthier, I.W. Henderson and I.C. Jones. 1967. Steroidogenesis in vitro by homogenates of adrenocortical tissue of the European eel (Anguilla anguilla). (involves pregnenolone, progesterone and 17 α -OH-progesterone). Endocrinol. 81: 904-913.
- Tesch, F.W. 1972. Experiments on telemetric tracking of spawning migrations of eels (Anguilla anguilla) in North Sea. Helgo. Wiss. Meeresunters. 23: 165.
- Thornton, V.F. and C. Howe. 1974. Effect of change of background colour on ultrastructure of pars intermedia of pituitary of eel (Anguilla anguilla). Cell Tissue Res. 151: 103-115.
- Topp, R. and R. Raulerson. 1973. Elver investigation in the southeast. Mer. Fish. Rev. 35(5-6); 45-47.
- Urano, A. 1971. Monoamine oxidase in the hypothalamo-hypophysial region of the teleosts, Anguilla japonica and Oryzias latipes. Z. Zellforsch. Mikrosk. Anat. 114(1); 83-94.
- Urasaki, H. 1972. Effects of restricted photoperiod and melatonin administration on gonadal weight in the Japanese killifish. J. Endocrinol. 55: 619-620.
- Usui, K. 1972. (The technique of eel culture) L'élevage de l'anguille. Piscic. Fr. 29: 20-42.
- Villani, P. and F. Lumare. 1975. Ovarical growth induced in Anguilla anguilla L. Invest. Pesq. 39: 187-197.
- Vollrath, L. 1972. Morphologic correlates of releasing factors in the pituitary of the eel, Anguilla anguilla. In: Brain-Endocrine Interaction, Knigge, K.M., D.E. Scott, A. Weindl. 154-163.

- Wenner, C.A. 1973. Occurrence of American eels, Anguilla rostrata, in waters overlying the eastern north American continental shelf. J. Fish. Res. Board Can. 30(11); 1752-1755.
- Wenner, C.A. and J.A. Musick. 1974. Fecundity and gonad observations of American eel, Anguilla rostrata migrating from Chesapeake Bay, Virginia. J. Fish. Res. Board Can. 31: 1387.
- Williams, G.C., R.K. Koehn and J.B. Mitton. 1973. Genetic differentiation without isolation in the American eel, Anguilla rostrata. Evolution. 27(2); 192-204.
- Yamaguchi, K., K. Hashimoto and F. Matsuura. 1968. Studies on a blue-green serum pigment of eel. IV. Seasonal variation in concentration of pigment serum. Bull. Jap. Soc. Sci. Fish. 34: 826-835.
- Yamamoto, K., O. Hiroi, T. Hirano and T. Morioka. 1972. (Artificial maturation of cultivated male Japanese eels by synahorin injection). Bull. Jap. Soc. Sci. Fish. 38(10); 1083-1090.
- Yamamoto, K., S. Kasuga, and M. Omori. 1974. (Histological change of the hypothalamohypophyseal system of the Japanese eel during maturation induced by Synahorin injection. Bull. Jap. Soc. Sci. Fish. 40(2); 159-165.
- Yamamoto, K., T. Morioka, O. Hiroi and M. Omori. 1974. Artificial maturation of female Japanese eels by the injection of salmonid pituitary. Bull. Jap. Soc. Sci. Fish. 40(1); 1-7.
- Yamamoto, K. and Y. Nagahama. 1973. (Cytological changes in the adenohypophysis of freshwater cultivated male Japanese eels, Anguilla japonica, induced to maturation by transfer to seawater and Synahorin injection). Bull. Jap. Soc. Sci. Fish. 39(6); 585-594.
- Yamamoto, K., M. Omori and K. Yamauchi. 1974. Oogenesis of the Japanese eel. Bull. Jap. Soc. Sci. Fish. 40(1); 9-15.
- Yamamoto, K. and K. Yamauchi. 1974. Sexual maturation of Japanese eel and production of eel larvae in the aquarium. Nature. 251(5472); 220-222.
- Yamauchi, K. and K. Yamamoto. 1974. (In vitro maturation of Japanese eel eggs and early development of the egg). Bull. Jap. Soc. Sci. Fish. 40(2); 153-157.
- ANOPLOPOMA
- Kodolov, L.S. 1968. Reproduction of the sablefish (Anoplopoma fimbria). Probl. Ichthyol. 8: 531-535.
- Tsuyuki, H. and E. Roberts. 1969. Muscle protein polymorphism of sablefish from the eastern Pacific Ocean. J. Fish. Res. Board Can. 26: 2633-2641.

ANOPTICHTHYS

Mattheij, J.A.M. 1968. Cell types in the adenohypophysis of the blind Mexican cave fish, Anoptichthys jordani. Z. Zellforsch. Mikrosk. Anat. 90: 542-553.

1970. Function of the basophilic cells in the meso-adenohypophysis of the blind Mexican cave fish, Anoptichthys jordani. J. Endocrinol. 48: LXIX. abstr.

1970. Gonadotrophic cells in the adenohypophysis of the blind Mexican cave fish, Anoptichthys jordani. Z. Zellforsch. Mikrosk. Anat. 105: 91-106.

Mattheij, J.A.M. and J.A. Sprangers. 1969. Site of prolactin secretion in the adenohypophysis of the stenohaline teleost Anoptichthys jordani and the effects of this hormone on mucous cells. Z. Zellforsch. Mikrosk. Anat. 99(3); 411-419.

Mattheij, J.A.M., J.A.P. Sprangers and P.G.W. VanOordt. 1969. Site of prolactin synthesis in the pituitary gland of Anoptichthys jordani (blind Mexican cave fish) and the influence of this hormone on mucous cells. Gen. Comp. Endocrinol. 13(3); 519-520. Abstr.

Whitt, G.S. and F.S. Maeda. 1970. Lactate dehydrogenase gene function in the blind cave fish, Anoptichthys jordani, and other characins. Biochem. Genet. 4: 727-741.

Wilkens, H. 1970. Contributions to the degeneration of melanin pigment of cavernicolous populations of Astyanax mexicanus (Filippi) (Characidae, Pisces). Z. Zool. Syst. Evolut. Forsch. 8: 173-199.

1971. Genetic interpretation of regressive evolutionary processes: studies on hybrid eyes of two Astyanax cave populations (Characidae, Pisces). Evolution. 25(3); 530-544.

Zeitlin, S.M. 1973. Hormonal induction of ovulation and spawning in the blind cave fish, Anoptichthys jordani, with the use of HCG. Experientia. 29: 461-462. Sum. in Ger.

ANOPTERUS

Maul, G.E. 1971. Report on the fishes taken in Madeiran and Canarian waters during the summer-autumn cruises of the 'Discovery II' 1959 and 1961. III. Order Iniomni I. On a toothless, sexually mature Anopterus. Bocagiana. 28: 1-15.

ANTENNARIUS

Tsokur, A.G. 1972. Larvae of a frogfish (Antennarius sp, Lophiiformes, Pisces) from the Indian Ocean. J. Ichthyol. (Vopr. Ikhtiol. (Eng. Ed.)). 12(1); 160-162.

ANTHIAS

Fishelson, L. 1970. Protogynous sex reversal in the fish Anthias squamipinnis (Teleostei, Anthiidae) regulated by the presence or absence of a male fish. *Nature* (London). 227: 90-91.

Gunderman, N. 1973. Reproductive cycle and sex reversal of Anthias squamipinnis (Teleostei, anthiidae). *Isr. J. Zool.* 22: 202.

Popper, D. and L. Fishelson. 1973. Ecology and behaviour of Anthias squamipinnis (Peters, 1855) (Antriidae, Teleostei) in the coral habitat of Eilat (Red Sea). *J. Exp. Zool.* 184(3); 409-424.

APELTES

Coad, B.W. and G. Power. 1973. Life history notes and meristic variation in the freshwater fourspine stickleback, Apeltes quadracus (Mitchill), near Sept-Iles, Quebec. *Nat. Can.* 100(3); 247-251.

Reisman, H.M. 1963. Reproductive behaviour of Apeltes quadracus (fourspine stickleback fish), including some comparisons with other gasterosteid fishes. *Copeia*. 1: 191-192.

Rowland, W.J. 1974. Reproductive behaviour of the fourspine stickleback, Apeltes quadracus. *Copeia*. 1: 183-194.

Schwartz, J.F. 1965. Age, growth, and egg complement of the stickleback Apeltes quadracus at Solomons, Maryland. *Chesapeake Sci.* 6: 116-118.

APHYA

Mancini, L. and P.G. Cavinato. 1969. Morphological and biometrical observations on the gobiid Aphyta minuta of the central Adriatic and some considerations in relation to this fish. *Boll. Pesca. Piscic. Idrobiol.* 24: 49-60.

APHYOSEMION

Ewing, A.W. and V. Evans. 1973. Studies on behaviour of cyprinodont fish. 1. Agonistic and sexual behaviour of Aphyosemion bivittatum (Lonnberg 1895). *Behaviour*. 46: 264-278.

Skinner, A.W. 1968. Breeding Aphyosemion callirum. *Aquarist. Pondkpr.* 33: 397.

Zukal, R. 1969. Spawning Aphyosemion bivittatum. *Trop. Fish. Hobby.* 18(3); 36-47.

APISTOGRAMMA

Jakubowski, H. 1969. Apistogramma agassizi (Steindachner). *Przegl. Zool.* 13: 276-279.

APOGON

Garnaud, J. 1963. Breeding habits and internal fertilization of Apogon imberbis. Bull. Inst. Océanogr. Monaco Num. Spéc. 1D: 51-60.

Hobson, E.S. 1969. First California record of the guadalupe cardinal-fish, Apogon guadalupensis (Osburn and Nichols). Calif. Fish. Game. 55: 149-151.

ARAPAIMA

Luling, K.H. 1964. Breeding habits of Arapaima gigas (fish). Z. Morph. Okal. Tiere. 54: 436-530.

1971. (The giant fish Arapaima gigas in rivers and locks of the Amazon district) Der Riesenfisch Arapaima gigas in den Flüssen und Seen Amazoniens. Nat. and Mus. Frankf. 101(9); 373-386.

ARBACIA

Sommer, K.R. and R. Chalkley. 1974. A new method for fractionating histones for physical and chemical studies. Biochemistry (Wash). 13(5); 1022-1027.

ARCTOGADUS

Hognestad, P.T. 1968. Observations on polar cod in the Barents Sea. Rapp. Proc. Verb. Reun. Cons. Perm. Int. Explor. Mer. 158: 126-130.

ARELISCUS

Fujita, S. and T. Takita. 1965. Egg development and prelarval stages of a sole, Areliscus trigrammus. Bull. Jap. Soc. Sci. Fish. 31: 488-492.

ARGENTINA

Halliday, R.G. 1969. Reproduction and feeding of Argentina sphyraena (Isospondyli) in the Clyde Sea area. J. Mar. Biol. Ass. UK. 49: 785-803.

Keysler, H.D. 1968. Investigations on the stocks of Argentina silus in the waters off Norway, Iceland and Newfoundland. Rapp. Proc. Verb. Reun. Cons. Perm. Int. Explor. Mer. 158: 58-64.

ARGYROSOMUS

Saishu, K. 1968. Reproductive curve of the stock of Argyrosomus nobe, in the east China Sea. Jap. J. Ecol. 18: 32-39. Jap. sum. in En.

ARIIDAE

Lake, J.S. 1967. Rearing experiments with 5 species of Australian

freshwater fishes. 1. Inducement to spawning. (incl. water temperature and level). Aust. J. Mar. Freshwat. Res. 18: 137-154.

Lake, J.S. 1967. Rearing experiments with 5 species of Australian freshwater fishes. 2. Morphogenesis and ontogeny. Aust. J. Mar. Freshwat. Res. 18: 155-173.

Lake, J.S. and S.H. Midgley. 1970. Reproduction of freshwater Ariidae in Australia. Aust. J. Sci. 32: 441-442.

ARISTICHTHYS

Aliev, D.S. 1965. Breeding of white amur (Ctenopharyngodon idella), silver carp (Aristichthys nobilis) and bighead (Hypophthalmichthys molitrix) in the Amu-Darya basin. Vop. Ikhtiol. 5: 593-599. Rus.

Berry, P.Y. and M.P. Low. 1970. Comparative studies on some aspects of the morphology and histology of Ctenopharyngodon idellus, Aristichthys nobilis, and their hybrid (Cyprinidae). Copeia. 4: 708-726.

Busnita, Th. 1971. (Report on the different ichthyological and piscicultural works presented at the 13th Working meeting of the International Research Union for the study of Danube) Bericht Über die Arbeiten ichthyologischer und fischereilicher Art, die für die 13 Arbeitssitzung der Internationalen Arbeitsgemeinschaft Donauforschung vorgelegt wurden. Schweiz. Z. Hydrol. 33(1); 322-333.

Ciborowska, J. 1972. Pokarm ryb roslinoreznych (Ctenopharyngodon idella Val., Hypophthalmichthys molitrix Val., Aristichthys nobilis Rich.) hodowanych z karpiem w przesadkach. I. Roczniki Nauk. Rolniczych. Seria H 94. 2: 41-59.

Lloze, R. 1967. Attempt at artificial ovulation of Chinese carp; Aristichthys nobilis and Hypophthalmichthys reared in Cambodia. Bull. Fr. Piscic. 40: 22-34. Fr.

Makeyeva, A.P. 1973. Hybridization of the bighead (Aristichthys nobilis (Rich.)) and the carp (Cyprinus carpio L.). J. Ichtyol. (Vopr. Ikhtiol. (Eng. Ed.)). 12(2); 274-282.

Nicolau, A. and I. Steppoe. 1970. The oogenesis of the phytophagous fish species (Ctenopharyngodon idella, Hypophthalmichthys molitrix, Aristichthys nobilis) reared in controlled units, in Romanian waters. Bul. Cercet. Piscic. 29: 5-18.

Rotbard, S. 1973. Results of Silver Carp spawnings in 1971 and 1972 at the Fish Hatchery at Gan Shmuel. Bamidgeh. 25(4); 91-103.

Rykova, T.I. 1970. Some aspects of the effect of salinity on the ontogenesis of bighead. Trudy Vses. Nauchno-issled. Inst. Morsk. Ryb. Khoz. Okeanogr. 74: 197-221. Rus.

- Rykova, T.I. 1971. Cortical changes in the eggs of grass carp, silver carp and bighead. All-Union Research Institute of Marine Fisheries and Oceanography (VNIRO) Proceedings. Vol. 81: 160-178.
- Singh, S.B., K.K. Sukumaran and P.C. Chakrabarti. 1970. Further observations on induced breeding of silver carp and grass carp during 1968. Proc. Natn. Acad. Sci. India 40(Sect.B); 88-98.
- Sinha, V.R. 1971. Induced spawning in carp with fractionated fish pituitary extract. J. Fish. Biol. 3(3); 263-272.
- Soin, S.G. and A.I. Sukhanova. 1972. Comparative morphological analysis of the development of the grass carp, the black carp, the silver carp and the bighead (Cyprinidae). J. Ichthyol. (Vopr. Ikhtiol. (Eng. Ed.)). 12(1); 61-71.
- Solov'yev, L.G. and G.I. Tolchinskiy. 1970. The use of the polarograph for observing oxygen conditions during egg incubation. J. Ichthyol. 10(5); 694-697.
- Sukhanova, A.I. 1966. Influence of raised temperature on the development of eggs of Aristichthys nobilis. (fish). Izv. Akad. Nauk. Turkmen. SSR Biol. 1: 85-87. Rus.
- Verigin, B.V. and A.P. Makeyeva. 1972. (Hybridization between common carp (Cyprinus carpio L.) and bighead (Aristichthys nobilis Rich.)) Gibridizatsiya karpa s pstrym tobstolabikom. Genetika. 8(7); 55-64.
- Vinogradov, V.K. 1968. Techniques of rearing phytophagous fishes (RV) FAO Fish. Rep. 44(5); 227-232.
- Wurtz-Arlet, J. 1971. (Introduction of herbivorous fish into France. Results to date) Introduction des poissons herbivores en France. Résultats actuels. Bull. Fr. Piscic. 242: 48-50.
- Yaroshenko, M.F., I.F. Kubrak and A.M. Zelenin. 1970. Reproduction of the grass carp and the silver carp in Moldavian water reservoirs. Resursy Vod. Moldav. 7: 74-83.
- Yashouv, A., E. Berner-Samsonov and K. Reich. 1970. Forced spawning of silver carp. Bamidgeh. 22: 3-8.

ARIUS

- Dmitrenko, E.M. 1970. Reproduction of Arius thalassimus in the Arabian Sea. Vop. Ikhtiol. 10: 838-847. Rus. (Translated in: J. Ichthyol. 10: 634-641).
- Luengo, J.A. 1973. (Notes on the reproduction of some marine Bagrids) Apuntes sobre la reproducción de algunos bagres marinos. Bull. Zool. Mus. Univ. Amst. 3(8); 47-51.

Tobor, J.G. 1969. Species of the Nigerian ariid catfishes, their taxonomy, distribution and preliminary observations on the biology of one of them. Bull. Inst. Fondamental Afr. Noire. 31: 643-658.

AROTHRON

Berry, P.Y. and A.A.B. Hasson. 1973. Comparative lethality of tissue extracts from the Malaysian puffer fishes, Lagocephalus lunaris lunaris, L.I. spadiceus and Arothron stellatus. Toxicon. 11(3); 249-254.

ARRIPIS

Anon. 1968. Australian salmon. Aust. Fish. News. 27(9); 30-33.

ASPASMA

Fujita, S. and Y. Dotsu. 1965. Spawning of the clingfish, Asasma ciconiae. Zool. Mag. Tokyo. 74: 105-111.

Shiogaki, M. and Y. Dotsu. 1971. (The life history of the clingfish, Asasma minima). Jap. J. Ichthyol. 18(2); 76-84.

ASPASMICHTHYS

Shiogaki, M. and Y. Dotsu. 1971. (Larvae and juveniles of the cling-fishes, Lepadichthys frenatus and Asasmichthys ciconiae). Jap. J. Ichthyol. 18(2); 85-89.

ASPIDOPHOROIDES

Haefner, P.A. 1969. Occurrence of a larval alligator fish (Agonidae) in brackish water. Copeia. 201-202.

ASPRO

Gheracopol, O., M. Selin and G. Munteanu. 1970. Contributions to the biological study of Aspro zingel Linnaeus, 1758 from the lower Danube. Hidrobiologia. (Bucuresti). 11: 143-153.

ASTERROPTERYX

Dotu, Y. and S. Mito. 1963. The bionomics and life history of the eleotrid fish, Asterropteryx semipunctatus. Rüppell. Bull. Fac. Fish. Nagasaki Univ. 15: 10-16.

ASTRABE

Dotsu, Y. and M. Shiogaki. 1971. Larvae, juveniles, and young of the gobiid fish, Astrabe lactisella. Jap. J. Ichthyol. 18(4); 182-186.

Ragimov, D.B. 1967. Biology of reproduction of gobiids on the western shore of Central and Southern Caspian Sea. Izv. Akad. Nauk. Azerb.

SSR Biol. 6: 54-59. Rus.

Ragimov, D.B. 1968. Biology of reproduction of gobiids on the western shore of Central and Southern Caspian. Izv. Akad. Nauk. Azerb. SSR Biol. 2: 51-58. Rus.

ASTYANAX

Avise, J.C. and R.K. Selander. 1972. Evolutionary genetics of cave-dwelling fishes of the genus *Astyanax*. Evolution. 26(1); 1-19.

Peters, N. and G. Peters. 1973. Genetic problems in the regressive evolution of cavernicolous fish (in: Genetics and Mutagenesis of Fish, Proceedings of the Ichthyological Symposium on Genetics and Mutagenesis held at Neuherberg, Munich (GFR), 13-15 Oct. 1972, Schroder, J.H. (ed.) Springer-Verlag, 1973, p. 187-201).

1973. (Genetic problems in the regressive evolution of cave-dwellers) Problèmes génétiques de l'évolution régressive des cavernicoles. Ann. Speleol. 28(2); 301-313.

Sadoglu, P. and A. McKee. 1969. A second gene that affects eye and body colour in Mexican blind cave fish. J. Hered. 60: 10-14.

Wilkens, H. 1970. Contributions to the degeneration of melanin pigment of cavernicolous populations of *Astyanax mexicanus* (Filippi) (Characidae, Pisces). Z. Zool. Syst. Evolut. Forsch. 8: 173-199.

1971. Genetic interpretation of regressive evolutionary processes: studies on hybrid eyes of two *Astyanax* cave populations (Characidae, Pisces). Evolution. 25(3); 530-544.

1972. (On preadaptations for cave-dwelling, investigated from the spawning behaviour of above-and below-ground populations of *Astyanax mexicanus* (Pisces)) Über Präadaptationen für das Höhlenleben, untersucht am Laichverhalten ober- und unterirdischer Populationen des *Astyanax mexicanus* (Pisces). Zool. Anz. 188(1/2); 1-11.

ATHERESTES

Pertseva-Ostromova, T.A. 1960. The reproduction and development of the needle-toothed halibut, genus *Atherestes* (Jordan et Gilbert) (Pleuronectidae, Pisces). English Summary. Zool. Zhur. 39(110); 1658-1669.

ATHERESTHES

Novikov, N.P. 1963. On the possibility of gynogenesis in the fish (*Atheresthes stomias*) from the Bering Sea. Dokl. Akad. Nauk. SSSR (Transl.) Biol. Sci. 147: 1285-1286.

ATHERINA

- Arcarese, G. 1970. Primi tentativi di riproduzione artificiale nel latterino (Atherina boyeri). Riv. It. Piscic. Ittiop. A. V N. 2: 27-28.
- Arru, A. 1968. Formation of gonad and method of sex differentiation in Atherina mochon. Boll. Zool. 35: 421. It. abstr.
- Boscolo, L. (Observations on the biology and fishery of Atherina boyeri Risso 1810 (Osteichthyes, Atherinidae) from the waters of the upper Adriatic) Osservazioni sulla biologia e sulla pesca dell'Atherina boyeri Risso 1810 (Osteichthyes, Atherinidae) vivente nelle acque dell'Alto Adriatico. Boll. Pesca. Piscic. Idrobiol. 25(1); 61-79.
- Soobshchenie, I. 1973. (Feeding and food relationships between larvae and young fishes of some ecological groups from the Black Sea Cystoseira biocenosis) Pitaniye i pishchevye vzaimootnosheniya lickenok i molodi ryb nekotorykh ekologicheskikh gruppirovok v biotsenose tsistoziry chernogo morya. (in: 'The study of biology and parasite fauna of fishes and Cephalopods') Biol. Morya. 31: 46-70.

AUSTROFUNDULUS

- Wourms, J.P. 1972. Developmental biology of annual fishes. I. Stages in the normal development of Austrofundulus myersi Dahl. J. Exp. Zool. 182(2); 143-168.
1972. The developmental biology of annual fishes. II. Naturally occurring dispersion and reaggregation of blastomeres during the development of annual fish eggs. J. Exp. Zool. 182(2); 169-200.
1972. The developmental biology of annual fishes. III. Pre-embryonic and embryonic diapause of variable duration in the eggs of annual fishes. J. Exp. Zool. 182(3); 389-414.

AUXIS

- Bolster, G.C. 1974. The mackerel in British waters. (in: Sea fisheries research, Harden Jones, F.R. (ed.), Paul Elek (London), 1974, 101-116).
- Gorbunova, N.N. 1969. Two types of larvae of frigate mackerel of the genus Auxis (Pisces, Scombroidei). Vop. Ikhtiol. 9: 833-840.
- Klawe, W.L. 1963. Observations on the spawning of 4 species of tuna (Neothunnus macropterus, Katsuwonus pelamis, Auxis thazard and Euthynnus lineatus) in the Eastern Pacific Ocean, based on the distribution of their larvae and juveniles. Bull. Inter-Amer. Tuna Comm. 6: 447-540.

Klawe, W.L., J.J. Pella and W.S. Leet. 1970. The distribution, abundance and ecology of larval tunas from the entrance to the Gulf of California. Bull. Inter-Amer. Trop. Tuna Comm. 14: 507-544.

Simmons, D.C. and L. McDade. 1973. Contribution on the spawning of Auxis sp. (Pisces, Scombridae) in the Atlantic ocean. Fish. Bull. Natl. Oceanic Atmos. Adm. 71(1); 321-324.

Taniguchi, N. and Y. Konishi. 1971. Muscle protein polymorphism in frigate mackerel collected from the coastal region of Kochi Pref., Japan. Bull. Jap. Soc. Sci. Fish. 37(7); 571-576.

BADIDAE

Barlow, G.W., K.F. Liem and W. Wickler. 1968. Badidae, a new fish family-behavioural, osteological and developmental evidence. Z. Zool. Lond. 156: 415-447.

BADIS

Barlow, G.W. 1964. Ethiology of the Asian teleost, Badis badis. Dynamics of fanning and other parental activities, with comments on the behaviour of the larvae and post larvae. 2. Tierpsychol. 21: 99-123.

BAGRE

Luengo, J.A. 1973. (Notes on the reproduction of some marine Bagrids) Apuntes sobre la reproducción de algunos bagres marinos. Bull. Zool. Mus. Univ. Amst. 3(8); 47-51.

BAIRDIELLA

Haydock, I. 1971. Gonad maturation and hormone-induced spawning of the gulf croaker, Bairdiella icistia. Fish. Bull. US Dep. Commer. 69(1); 157-180.

Lasker, Reuben. 1974. Induced maturation and spawning of marine fish at the southwest fisheries centre La Jolla, California. 5th Ann. Workshop, World Mariculture Soc. Workshop. 313-318.

May, R.C. 1973. Effects of temperature and salinity on eggs and early larvae of the Sciaenid fish Bairdiella icistia. Dis. Abstr. Int. 33B: 5068, order no. 73-10 343 (original 281 p.).

1974. Factors affecting buoyance in the eggs of Bairdiella icistia (Pisces, Sciaenidae). Mar. Biol. 28: 55-59.

BARBUS

Antony, A.D. 1973. Sexual dimorphism in the black-banded carp, Barbus melanampyx (Day). J. Inland Fish. Soc. India. Barrackpore. 4: 201-202.

- Galaktionova, E.L. 1963. Attempt of artificial reproduction of Barbus brachycephalus under conditions of regulated flow in the Syr-Daria river. Trud. Inst. Ikhtiol. Akad. Nauk. Kazakh. SSR. 4: 84-97. Rus.
- Greenwood, P.H. 1970. A revision of the cyprinid species Barbus (Enteromius) radiatus Peters, 1853, with a note on the synonymy of the subgenera Beirabarbus and Enteromius. Rev. Zool. Bot. Afr. 82: 1-13.
- Gyurko, I. and Z. Szabo. 1965. Reproduction of Barbus. Allatt. Kozl. 52: 41-46. Ger.
- Hems, J. 1968. Barbus nigrofasciatus. Aquar. Pondkeep. 625.
- Kosoric, D. and T. Vukovic. 1968. Effect of various degrees of salinity and temperature upon the motility of spermatozoa of Barbus petenyi (fish). Veterinaria, Saraj. 17(1); 91-98. Cr. sum. in En.
- Rai, B.P. 1965. Cyclical changes in the testis of the mahseer Barbus tor. Acta Anat. 62(3); 461-475. Sum. in Fr. Ger.
1966. Corpora atretica and the so-called corpora lutea in the ovary of Tor (barbus) tor. Anat. Anz. 119: 459-465.
1966. Histophysiology of the pituitary gland in conjunction with the testicular cycle in the mahseer, Tor (Barbua) tor. (fish). Acta Anat. 65: 416-434. Sums. in Fr. Ger.
1966. Histophysiology of the pituitary gland in correlation with the ovarian cycle in Tor (Barbus) tor. Z. Zellforsch. 72: 574-582.
1973. On the neurosecretory centres in the hypothalamus and their relationship in reproduction in Tor (Barbus) tor Ham. Acta Anat. 85(3), 433.
- Reynolds, J.D. 1973. Biological notes on Barbus species (Pisces; Cyprinidae) in the Volta Lake, Ghana. Rev. Zool. Bot. Afr. 87(4); 815-821.
- Rolik, H. 1971. (Studies on three Barbus species (Pisces, Cyprinidae) in the San and Wisloka basins in Poland) Studia nad gatunkami rodzaju Barbus Cuvier, 1817, z dorzecza Sanu i Wisłoki (Pisces, Cyprinidae). Ann. Zool. Warsz. 28(13); 257-330.
- Rowe-Rowe, D.T. 1971. Rotenone tolerances of some freshwater fishes of Natal. Prog. Fish-Cult. 33(4); 206-209.
- Soin, S.G. and A.I. Sukhanova. 1972. Comparative morphological analysis of the development of the grass carp, the black carp, the silver carp and the bighead (Cyprinidae). J. Ichthyol. (Vopr. Ikhtiol. (Eng. Ed.)). 12(1); 61-71.

- Szabo, S. et al. 1964. Neurosecretory activity of the hypothalamic nucleus in the course of the ovarian cycle in the fish (Barbus meridionalis). Stud. Cercet. Endocrinol. 15: 127-131. Rum.
- Szabo, S. and B. Molnar. 1965. Neurosecretory activity of hypothalamic nuclei during the ovarian cycle in the fish, Barbus meridionalis. Rev. Roum. Endocrinol. 2(1); 35-40. Fr.
- Usmanova, R.G. 1972. Sexual dimorphism and age-related and local variation of the Turkestan barbel (Barbus capito conocephalus (Kessler)) of the Kashkadar'ya river basin. J. Ichthyol. (Vopr. Ikhtiol. Eng. Ed.). 11(2); 164-174.

Welcomme, R.L. 1969. The biology and ecology of the fishes of a small tropical stream. J. Zool. London. 158: 485-529.

Willemse, M.T.M. and J.M. Denuce. 1973. Hatching glands in the teleosts, Brachydanio rerio, Danio malabaricus, Moenkhausia oligolepis and Barbus schuberti. Dev. Growth Differ. 15: 169-178.

BARILIUS

Desai, V.R. and S.J. Karamchandani. 1967. On the larval development and spawning seasons of two species of Barilius from Narbada River. J. Zool. Soc. India. 19: 27-41.

Grover, S.P. 1971. Some biological notes on Barilius bendelisis (Hamilton). Indian J. Fish. 18(1-2); 182-183.

BATHOPHILUS

DeSylva, D.P. and L.N. Scotton. 1972. Larvae of deep-sea fishes (Stomiatoidea) from Biscayne Bay, Florida, USA, and their ecological significance. Mar. Biol. 12(2); 122-128.

BATHYGOBIUS

Rubinoff, R.W. and I. Rubinoff. 1971. Geographic and reproductive isolation in Atlantic and Pacific populations of Panamanian Bathygobius. Evolution. 25(1); 88-97.

Valenti, R.J. 1972. The embryology of the neon goby, Gobiosoma oceanops. Copeia. 3: 477-482.

BATHYLAGUS

Chen, T.R. and A.W. Ebeling. 1966. Probable male heterogamety in the deep-sea fish Bathylags westhi (teleostei; bathylagidae). Chromosoma. 18(1); 88-96.

Ebeling, A.W. and P.Y. Setzer. 1971. Cytological conformation of female homogamety in the deep-sea fish Bathylags milleri. Copeia. 3: 560-562.

BATHYPTEROIS

Tortonese, E. 1970-1971. (Internal observations on a Bathypterois (Pisces) captured in the Gulf of Genova) Osservazioni intorno a un Bathypterois (Pisces) catturato nel Golfo di Genova. Ann. Mus. Civ. Stor. Nat. Giacomo Doria. 78: 181-188.

BELONE

Fonds, M., H. Rosenthal and D.F. Alderdice. 1973. Influence of temperature and salinity on embryonic development, larval growth and number of vertebrae of the garfish, Belone belone. in: J.H.S. Blaxter (ed.) 'The early life history of fish.' Springer-Verlag, Berlin, Heidelberg, New York 509-525).

Rosenthal, H. and M. Fonds. 1973. Biological observations during rearing experiments with the garfish Belone belone. Mar. Biol. 21(3); 203-218.

Upadhyay, S.N. and S.S. Guraya. 1971. Histochemical observations on the interstitial tissue of fish testis. Gen. Comp Endocrinol. 16(3); 504-510.

VonWesternhagen, H. 1974. Incubation of garpike eggs (Belone belone Linné) under controlled temperature and salinity conditions. J. Mar. Biol. Assoc. UK. 54(3); 625-634.

BENTHALBELLA

Merrett, N.R., J. Badcock and P.J. Herring. 1973. The status of Benthalbella infans (Pisces: Myctophoidei), its development, bioluminescence, general biology and distribution in the eastern North Atlantic. J. Zool. 170(1); 1-48.

BENTHENCHELYS

Castle, P.H.J. 1972. The eel genus Benthenchelys (fam. Ophichthidae) in the Indo-Pacific. Dana Rep. 82: 1-32.

BETTA

Abstracts presented at a meeting of the Animal Behaviour Society, held at Univ. Massachusetts, Amherst, USA on June 18-20th, 1973. Bull. Ecol. Soc. 54(1); 37-49.

Ang, Kok-Jee. 1973. The reproductive patterns and maturation of the gonads in an aquarium fish Betta pugax (Cantor). Mardi Res. Bull. 1(1); 55-68.

Ketusinh, O. and N. Nilvises. 1967. Biological pregnancy reaction using the Siamese fighting fish (Betta splendens). Naunyn. Schmiedeberg Arch. Pharm. Exp. Path. 257: 32-33.

Lösel, H. 1969. An investigation to discover whether the bubble nests of Betta splendens have antibiotic properties. Arch. Hydrobiol. 66: 244-245.

Lucas, G.A. 1968. Factors affecting sex determination in Betta splendens. Genetics. 60: 199-200.

1969. Variations in the Siamese fighting fish, Betta splendens, with emphasis on color mutants and the problem of sex determination. Diss. Abstr. 29: 3210B. abstr. order No. 69-4256 (original 211 p.).

1972. A mutation limiting the development of red pigment in Betta splendens, the Siamese fighting fish. Proc. Iowa Acad. Sci. 79(1); 31-33.

Newman, B.A. 1968. Recipe for Betta spawning. Aquarium, N.J. 1(7); 6-7, 44-48.

Royal, B.K. and G.A. Lucas. 1972. Analysis of red and yellow pigments in two mutants of the Siamese fighting fish, Betta splendens. Proc. Iowa Acad. Sci. 79(1); 34-37.

Tibéri-Marquis, J. 1967. Study of reducing substances during oogenesis of an anabantide teleostan: Betta splendens. Ann. Histochem. 12: 275-285. Fr.

1973. (Some histochemical aspects of the Cogenesis of Betta splendens R. (Teleostei, Anabantidae)) Quelques aspects histochimiques de l'ovogenèse chez Betta splendens R. (Téléostéen Anabantidé). Histochemie, 33(2); 139-158.

Woodhead, A.D. 1974. Ageing changes in the Siamese fighting fish, Betta splendens. I. The testis. Exp. Gerontol. 9(2); 75-81.

1974. Ageing changes in the Siamese fighting fish, Betta splendens. II. The ovary. Exp. Gerontol. 9(3); 131-139.

BIWIA

Suzuki, R. 1963. Hybridization experiments in cyprinid fishes. 4. Reciprocal crosses between Biwia zezera and Gnathopogon elongatus. Bull. Jap. Soc. Sci. Fish. 29: 655-657.

1964. Hybridization experiments in cyprinid fishes. 7. Reciprocal crosses between Pseudogobio esocinus and Biwia zezera. Jap. J. Ichth. 12: 18-22.

1965. Hybridization experiments in cyprinid fishes. 8. 2 kinds of reciprocal crosses, Pseudogobio esocinus x Pseudorasbora parva and Biwia zezera x Pseudorasbora parva. Jap. J. Ichthyol. 13: 64-68.

1965. Hybridization experiments in cyprinid fishes. 9.

Gnathopogon japonicus ♀ x Biwai zezera ♂ and reciprocal crosses between Pseudorasbora parva and Biwia zezera. Bull. Freshw. Fish. Res. Lab. Tokyo. 14: 91-95.

BLENNIUS

Blüm, V. 1969. Influence of ovine FSH and LH on the male reproductive system of Blennius sphinx. Gen. Comp. Endocrinol. 13(3); 493-494. abstr.

1972. The influence of ovine follicle stimulating hormone (FSH) and luteinizing hormone (LH) on the male reproductive system and the skin of the Mediterranean blenniid fish Blennius sphinx (Valenciennes). J. Exp. Zool. 181(2); 203-215.

Blüm, V., L. Machemer and W.D. Bartmann. 1972. (The effect of TSH and LtH on the behaviour and on the histology of the skin, thyroid and gonads of Blennius pavo) Die Wirkung von TSH und LtH auf das Verhalten und auf die Histologie der Haut, der Schilddrüse und der Gonaden beim Pfauenschleimfisch Blennius pavo. Zool. Jahrb. Allg. Zool. Physiol. Tiere. 76(3); 340-355.

Chieffi, G. and V. Botte. 1964. Osservazioni sul significato funzionale della ghiandola annessa del testicolo dei Blennidi. Boll. Zool. 31: 471-477.

Colle-Vandevelde, A. 1963. Vasculogenesis and embryonic haemopoisis of Blennius gattorugine (teleost). Pubbl. Staz. Zool. Napoli 33(3); 197-205. Fr. sum. in Eng.

Fishelson, L. 1963. Observations on littoral fishes in Israel. 1. (Breeding and parental) behaviour of Blennius pavo (Teleostei, Blenniidae). 2. Larval development and metamorphosis of Blennius pavo. Israel J. Zool. 12: 67-91.

Laumen, I., U. Pern and V. Blüm. 1974. Investigations on the function and hormonal regulation of the anal appendices in Blennius pavo. J. Exp. Zool. 190: 47-56.

Solomon Raju, N. 1971. Breeding habits, development and life-history of Blennius steindachneri Day from Waltair coast. Proc. Indian Acad. Sci. (B), 74(1); 37-45.

BLEPHARIS

Aboussouan, A. 1968. Eggs and larvae of the teleosts of West Africa: IV. Larvae of Chloroscombrus chrysurus L. and Blepharis crinitus Mitchell (Carangidae). Bull. Inst. Fondament. Afr. Noire. 30: 226-237.

BLICCA

Papadopol, M. and E. Iancu. 1970. Contributions to the study of the spawning biology and growth rate of the Law-Danube white bream. (Blicca

bjoerkna bjoerkna (L.)). Bull. Cercet. Piscic. 29(3); 77-91.

Sedlar, J. and I. Stranai. 1969. Roe count in the common roach (Rutilus rutilus) the red-eye (Scardinius erythrophthalmus) and the white bream (Blicca bjoerkna) from the Virt drainage canal. Biologia. (Bratisl.) 24: 859-863. Sl.

BOLEOPHTHALMUS

Liao, O.C., N. Chao, L. Tseng and S. Kuo. 1973. Studies on the artificial propogation of Boleophthalmus chinensis (Osbeck). I. Observation on embryonic development and early larvae. Chinese Amer. Joint Comm. Rur. Reconstr. Fish. Ser. 15: 29-42.

Manna, G.K. and R. Prasad. 1974. Chromosome analysis in three species of fishes belonging to family Gobiidae. Cytologia. 39(3); 609-618.

Mutsaddi, K.B. and D.V. Bal. 1970. Maturation and spawning of Boleophthalmus dussumierei (Cuv. and Val.). J. Univ. Bombay (B), 39(66); 58-76.

BOOPS

Donato, A. and A. Contini. 1972. The lipids in the growing oocytes of Boops boops and Chromis chromis. Acta Histochemica. 43(2); 260-264.

Donato, A. and G. Rechichi. 1972. The behaviour of the proteins in the growing oocytes of Boops boops. Acta Histochem. 43(2); 265-269.

Lissia Frau, A.M. 1966. On the presence of oocytes in the testis area of the hermaphrodite gonads of Boops boops L. Boll. Zool. 33: 343-349.

Michele, M. 1972. Ovarian atresia observed during sexual differentiation of the teleost fish Boops salpa (Sparidae). C.R. Seanc. Soc. Biol. 166(6-7); 906-908. Fr.

1973. Cytological reactions of adenohypophysis of box, Boops salpa L. (Teleostean-fish, sparidae) to some experimental conditions (variations of salinity, thiourea, SU-4885, and fast). C.R. Seances. Soc. de Biol. 167: 1202-1206.

Michele, M. and M. Lafaurie. 1974. Histological study of gonad during sex differentiation of box, Boops salpa Linne (Teleost fish-Sparidae). Bull. Soc. Zool. de France. 99: 401-415.

Remacle, C. 1970. Action of androgens and oestrogens on germ cells of Syphodus (Labridae) and Boops (Sparidae). Annls. Soc. R. Zool. Belg. 100: 313-334. Fr.

Zaccone, G. 1970. (Comparative cytochemical study of the cortical alveoli in the developing oocytes of Boops boops L. (Teleosteii) and of the cortical granules in the oocytes of Discoglossus pictus

Dum. Bibr. (Amphibia Anura)) Studio citochimico comparativo degli alveoli corticali negli ovociti in accrescimento di Boops boops L. (Teleosteo) e dei granuli corticali negli ovociti di Discoglossus pictus Bum. Bibr. (Anf. An.). Arch. Zool. Ital. 55: 25-34.

BOREOGADUS

Ponomarenko, V.P. 1965. Gonad development and terms of spawning of polar cod (Boreogadus saida) in the Barents Sea. Dokl. Akad. Nauk. SSSR. 161(3): 697-700. Rus.

Rass, T.S. 1968. Spawning and development of polar cod. (In: Symposium on the Ecology of Pelagic Fish Species in Arctic Waters and Adjacent Areas, Blacker, R.W. (ed.). Rapp. P.-V. Réun. Cons. Perm. Int. Explor. Mer. 158: 135-137.

BOTHIDAE

Lahaye, J. 1972. (Sexual cycles of some flat fishes of the Brittany coasts) Cycles sexuels de quelques poissons plats des côtes bretonnes. Rev. Trav. Inst. Pêches Marit., Nantes. 36(2): 191-207.

BOTIA

Davidson, A. 1968. Spawning attempt at blue bothia. Aquarium, N.J. 2(1): 36-37, 75-78.

BRACHYDANIO

Anderson, P.D. and H.I. Battle. 1967. Effects of chloramphenicol on the development of zebrafish, Brachydanio rerio. Can. J. Zool. 45: 191-204.

Barker, J.A. 1972. The use of the zebrafish, Brachydanio rerio, for the study of embryological development in schools. J. Biol. Educ. 6(4): 233-237.

Baslow, M.H. and G. Ruggieri. 1967. N-acetylhistidine in developing embryos of the killifish, Fundulus heteroclitus and the zebrafish, Brachydanio rerio. Life Sci. 6: 609-614.

Baumeister, H.G. 1973. Lampbrush chromosomes and RNA-synthesis during early oogenesis of Brachydanio rerio (Cyprinidae, Teleostei). Z. Zellforsch. Mikrosk. Anat. 145(1): 145-150.

Eaton, R.C. and R.D. Farley. 1974. Spawning cycle and egg production of zebrafish, Brachydanio rerio, in laboratory. Copeia. 195-204.

1974. Growth and the reduction of dependence of zebrafish, Brachydanio rerio, reared in the laboratory. Copeia. 1: 204-209.

- Endo, A. and T.H. Ingalls. 1968. Chromosomes of the zebrafish. A model for cytogenetic, embryologic, and ecologic study. *J. Hered.* 59: 382-384.
- Ewing, H.H. 1972. Spermatogenesis in the zebrafish, *Brachydanio rerio*. *Anat. Rec.* 172: 308. abstr.
- Fischer, H.A. and E. Schmatolla. 1972. Axonal transport of tritium-labeled putrescine in the embryonic visual system of zebrafish. *Science, Wash.* 176(4041): 1327-1329.
- Glushankova, M.A., N.S. Korobtsova, A.A. Kusakina and A.A. Nejfakh. 1973. (Expression of genes controlling FDR-alcoholase in fish embryos. Thermostability as a genetic marker) Isopl'zovanie teplooustojchivosti belka pri issledovanii proyavleniya genov al'dolazy u gibridnykh zarodyshej ryb (In: Biochemical genetics of fishes, Leningrad, 1973). 76-84.
- Greene, G.N. 1967. A reproduction control factor in the cyprinid fish, *Brachydanio rerio*. *F.A.O. Fish. Rep.* 44(4): 86-92.
- Hamano, S. 1964. Time-lapse cinematographic study on gastrulation in the zebrafish. *Acta Embryol. Morph. Exp.* 7: 42-48.
- Hart, N.H. 1970. Artificial activation of the ripe egg in *Brachydanio*. *Anat. Rec.* 166: 315. abstr.
- Hart, N.H. and M. Messina. 1972. Artificial insemination of ripe eggs in the zebrafish, *Brachydanio rerio*. *Copeia.* 2: 302-305.
- Heesen, D. and W. Engels. 1973. (Electrophoretic studies on vitellogenesis in *Brachydanio rerio* (Cyprinidae, Teleostei)) Elektrophoretische Untersuchungen zur Vitellogenese von *Brachydanio rerio* (Cyprinidae, Teleostei). *Wilhelm Roux' Arch. Entwicklungsmech. Org.* 173(1): 46-49.
- Ingalls, T.H., F.R. Philbrook and A. Majima. 1969. Conjoined twins in zebrafish. *Arch. Environ. Health.* 19: 344-352.
- Kihlström, J.E. and L. Hulth. 1972. The effect of phenylmercuric acetate upon the frequency of hatching of eggs from the zebrafish. *Bull. Environ. Contam. Toxicol.* 7(2-3): 111-114.
- Kihlström, J.E., C. Lundberg and L. Hulth. 1971. Number of eggs and young produced by zebrafishes (*Brachydanio rerio*, Ham. Buch.) spawning in water containing small amounts of phenylmercuric acetate. *Environ. Res.* 4(4): 355-359.
- Kimmel, C.B. 1972. Mauthner axons in living fish larvae. *Dev. Biol.* 27(2): 272-275.
- Korfsmeier, K.H. 1968. RNA synthesis in the oocyte of the zebrafish during oogenesis. *Int. Embryological Conf.*, Moscow, Aug. 25-29,

1969. Publishing House, NAUKA, Moscow.

Korfsmeier, K.H. 1969. Incorporation of ^3H -uridine into follicular epithelium of degenerating oocytes of the zebrafish, *Brachydanio rerio*. Experientia. 25: 290-291. Ger. sum. in En.

1969. Oocyte degeneration in the zebrafish, *Brachydanio rerio*, in vitro. Z. Zellforsch. Mikrosk. Anat. 98(1); 99-105. Ger. sum. in En.

Laale, H.W. 1967. Experimental study of the developmental arrest in the embryo of the zebrafish, *Brachydanio rerio*. Diss. Abstr. 27: 3340B. abstr. (original available from Natl. Library of Canada, Ottawa).

1971. Ethanol induced notochord and the spinal cord duplication in the embryo of the zebrafish, *Brachydanio rerio*. J. Exp. Zool. 177(1); 51-64.

Laale, H.W. and D.J. McCallion. 1968. Reversible developmental arrest in the embryo of the zebrafish, *Brachydanio rerio*. J. Exp. Zool. 167(1); 117-

Laale, H.W. and L. Singh. 1973. Antigenic pattern of the developing brain of the zebrafish, *Brachydanio rerio*. 2. Brain specific antigens. J. Exp. Zool. 186: 257-268.

Lambert, J.G.D. 1974. Oestradiol- 17β biosynthesis in vitro by the ovary of *Brachydanio rerio*. Gen. Comp. Endocrinol. 22: 345. abstr.

Lambert, J.G.D., J.A.M. Mattheij and P.G.W.J. VanOordt. 1972. Ovary and hypophysis of the zebrafish, *Brachydanio rerio* during the reproductive cycle. Gen. Comp. Endocrinol. 18: 602. abstr.

Lambert, J.G.D. and P.G.W.J. VanOordt. 1974. Steroid transformations in vitro by the ovary of the zebrafish, *Brachydanio rerio*. J. Endocrinol. 64: 73.

Majima, A. and T.H. Ingalls. 1966. Cyclopian malformations in zebrafish subjected to hyperthermia. Arch. Environm. Health. 13: 699-705.

Malone, T.E. and K.K. Hisaoka. 1963. Histochemical study of the formation of deutoplasmic components in developing oocytes of the zebrafish, *Brachydanio rerio*. J. Morph. 112: 61-76.

Manner, H.W. and C. Dewese. 1974. Comparable effects of 11.2 and 11.8 LAS on the developing embryo of the zebrafish, *Brachydanio rerio*. Anat. Rec. 178: 411. abstr.

Marrable, A.W. 1965. Cell numbers during cleavage of the zebrafish egg. J. Embryol. Exp. Morph. 14: 15-24.

Mertens, J. 1973. Year-round controlled mass reproduction of the

- zebrafish, Brachydanio rerio (Hamilton-Buchanan). Aquaculture. 2(3); 245-249.
- Niimi, A.J. and Q.N. LaHam. 1974. Influence of breeding time interval on egg number, mortality, and hatching of the zebrafish, Brachydanio rerio. Can. J. Zool. 52(4); 515-517.
- Petrovicky, I. 1966. Hybridization between Brachydanio rerio and Brachydanio frankei. Ichthyologica. 37: 53-62.
- Reib, J.P. 1973. (Blood circulation in the embryo of Brachydanio rerio (Teleosteii, Cyprinidae)) La circulation sanguine chez l'embryon de Brachydanio rerio (Téléostéens, Cyprinidae). Ann. Embryol. Morphogen. 6(1); 43-54.
- Ruby, S.M. 1973. Role of the interstitium and associated cells in spermatogenesis of two teleosts. (brook stickleback, zebrafish). Diss. Abstr. Int. 34B: 471. abstr. (microfilm available from Natl. Library of Canada, Ottawa).
- Schirone, R.C. and L. Gross. 1968. Effect of temperature on early embryological development of the zebrafish, Brachydanio rerio. J. Exp. Zool. 169(1); 43-52.
- Schmatolla, E. and H.A. Fischer. 1972. Axonal transport in embryonic visual system in zebrafish. Exp. Brain Res. 15(2); 168-176.
- Schmatolla, E. 1974. Retino-tectal course of optic nerves in cyclopic and synophthalmic zebrafish embryos. Anat. Rec. 180: 377-384.
- Shaw, S.H. 1971. Inhibition of nucleic acid synthesis in the zebrafish embryo. Diss. Abstr. Int. B31: 5082. abstr. order no. 71-3101. (original 205p.).
- Singh, L. and H.W. Laale. 1972. The antigenic pattern of the developing brain of the zebrafish, Brachydanio rerio. J. Exp. Zool. 182(3); 345-356.
- Snoek, E.F. 1971. Multi-variable study of the interaction of light, temperature, and acridine orange on the embryos and larvae of the zebrafish, Brachydanio rerio. Diss. Abstr. Int. B31: 4520. abstr. order no. 71-2346 (orginal 259 p.).
- Stein, G. and H. Rothstein. 1967. Evidence for a stable messenger RNA in eggs of the zebrafish, Brachydanio rerio. J. Cell. Biol. 35 (2,ii); 188A. abstr.
- Thomas, R.J. 1964. Fine structure of mitosis in the vertebrate (zebrafish) embryo: the fate of the nuclear envelope. J. Cell. Biol. 23: 95A. abstr.
1967. Fine structure of early embryonic development of a teleost, Brachydanio rerio. Diss. Abstr. 27: 3790B, order no. 67-

5630. abstr. (original 146 p.).

Thomas, R.J. 1967. Fine structure of early development of a vertebrate embryo, (Brachydanio rerio): the kinetochore. J. Cell. Biol. 35(2,ii); 133A. abstr.

1967. Fine structure of early development of a vertebrate embryo: yolk distribution. (zebrafish). J. Cell. Biol. 35 (2,ii): 188A-189A. abstr.

1968. Cytokinesis during early development of a teleost embryo: Brachydanio rerio. J. Ultrastruct. Res. 24: 232-238.

1968. Yolk distribution and utilization during early development of a teleost embryo (Brachydanio rerio). J. Embryol. Exp. Morph. 19: 203-215.

Ulrich, E. 1968. Origin and ultrastructure of protein vitelline globules in a teleost, Brachydanio rerio. (in: Electron Microscopy Vol. 2, Boccardielli, D.S. (ed.). 329-330). Tipografia Poliglotta Vaticana. (in Fr.).

1969. Ultrastructural study during oogenesis of a teleost fish, the danio, Brachydanio rerio (Hamilton-Buchanan). J. Microscop. 8: 447-478.

VanRaamsdonk, W., A. VanDerStelt, P.C. Diegenbach, W. VanDeBerg, H. DeBruyn, J. VanDijk and P. Mijzen. 1974. Differentiation of the musculature of the teleost Brachydanio rerio. 1. Myotome shape and movements in the embryo. Z. Anat. Entw. Gesch. 145(3); 321-

VanRee, G.E. and P.G.W.J. VanOordt. 1974. Effects of 11-deoxycorticosterone and ovine luteinizing hormone on the zebrafish (Brachydanio rerio) ovary in organ culture. J. Endocrinol. 64: 72p-73p.

Venkataraman, L.V. 1974. Effect of gamma radiation on two developmental stages of zebrafish eggs. Curr. Sci. 43: 355.

Weis, J.S. 1968. Analysis of the development of the nervous system of the zebrafish, Brachydanio rerio. 1. Normal morphology and development of the spinal cord and ganglia of the zebrafish. 2. Effect of nerve growth factor and its antiserum on the nervous system of the zebrafish. J. Embryol. Exp. Morph. 19: 109-119, 121-135.

Willemse, M.Th.M. and J.M. Denucé. 1973. Hatching glands in the teleosts, Brachydanio rerio, Danio malabaricus, Moenkhausia oligolepis and Barbus schuberti. Dev. Growth Differ. 15(3); 169-177.

Yamamoto, K. and H. Onozato. 1968. Steroid-producing cells in the ovary of the zebrafish, Brachydanio rerio. Annot. Zool. Japon. 41: 119-128.

BRACHYDEUTERUS

Raitt, D.S.F. and V.O. Sagua. 1969. Preliminary investigations on the biology of Brachydeuterus auritus (Val. 1831), in Nigerian waters. In: Proceedings of the symposium on the oceanography and fisheries resources of the tropical Atlantic. Results of the ICITA and the GTS. Organized through the joint efforts of Unesco, FAO and OAU. Review papers and contributions. Abidjan, Ivory Coast, 20-26 October 1966. Paris, Unesco, 397-401

BRACHYGALAXIAS

Campos, H. 1972. Breeding season and early development of Brachygali-
xias bullocki (Osteichthyes: Galaxiidae). Tex. J. Sci. 23(4);
531-544.

BRACHYRHAPHIS

Dressler, R.L. 1971. Local polymorphism in Brachyrhaphis episcopi
(Poeciliidae). Copeia. 1: 170-171.

BREGMACEROS

Aboussouan, A. 1968. Eggs and larvae of teleosts of West Africa. VIII.
Larvae of Bregmaceros maclellandi Thompson (Bregmacerotidae).
Bull. Inst. Fondament. Afr. Noire. 30: 1590-1602.

BREVOORTIA

Anon. 1970. Report of the Bureau of Commercial Fisheries biological laboratory, Beaufort, N.C. (1968). Circ. Fish Wildlife Serv. 341: 1-14.

Combs, R.M. 1969. Embryogenesis, histology and organology of the ovary of Brevoortia patronus. Gulf Res. Reps. 2: 333-434.

Dahlberg, M.D. 1969. Fat cycles and condition factors of two species of menhaden, Brevoortia (Clupeidae), and natural hybrids from the Indian River of Florida. Amer. Midland. Natur. 82: 117-126.

1970. Atlantic and Gulf of Mexico menhadens, genus Brevoortia (Pisces, Clupeidae). Bull. Florida State Mus., Biol. Sci. 15: 91-162.

Fiore, P.L. and K.N. Baxter. 1972. Collections of larval gulf menhaden, Brevoortia patronus, from Galveston Entrance (1959-1969) and Sabine Pass (1963-1967), Texas. Data Rep. Natl. Oceanic Atmos. Adm., Seattle. 74: 1-17.

1972. Diel fluctuations in the catch of larval Gulf menhaden, Brevoortia patronus, at Galveston Entrance, Texas. Trans. Am. Fish. Soc. 101(4); 729-732.

Henry, K.A. 1971. Atlantic menhaden (Brevoortia tyrannus) resource

and fishery-analysis of decline. Spec. Sci. Rep. US Fish. Wildl. Serv. 642: 1-32.

Hettler, W.F., Jr. 1968. Artificial fertilization among yellowfin and gulf menhadens (Brevoortia) and their hybrid. Trans. Am. Fish. Soc. 97: 119-123.

1970. Rearing larvae of yellowfin menhadens, Brevoortia smithi. Copeia. 4: 775-776.

1971. A yellowfin menhadens without pelvic fins. Q.J. Florida Acad. Sci. 34(1); 63-66.

Higham, J.R. and W.R. Nicholson. 1964. Sexual maturation and spawning of Atlantic Menhadens. Fish. Bull. US 63: 255-271.

June, F.C. and F.T. Carlson. 1971. Food of young Atlantic menhadens, Brevoortia tyrannus, in relation to metamorphosis. Fish. Bull. Natl. Oceanic Atmos. Adm., Seattle. 68(3); 493-512.

Lewis, R.M., W.F. Hettler, Jr., E.P.H. Wilkens and G.N. Johnson. 1970. A channel net for catching larval fishes. Chesapeake Sci. 11: 196-197.

Lewis, R.M. and W.C. Mann. 1971. Occurrence and abundance of larval Atlantic menhadens Brevoortia tyrannus, at two North Carolina inlets with notes on associated species. Trans. Am. Fish. Soc. 100(2); 296-301.

Lewis, R.M., E.P.H. Wilkens and H.R. Gordy. 1972. A description of young Atlantic menhadens, Brevoortia tyrannus, in the White Oak River estuary, North Carolina. Fish. Bull. Natl. Oceanic Atmos. Adm., Seattle. 70(1); 115-118.

Turner, W.R. 1969. Life history of manhadens in the eastern Gulf of Mexico. Trans. Amer. Fish. Soc. 98: 216-224.

BROSME

Oldham, W.S. 1972. Biology of Scotian Shelf cusk, Brosme brosme. Res. Bull. Int. Comm. Northwest Atl. Fish. 9: 85-98.

BRYCONALESTES

Frank, S. 1972. (Development of the eggs of the long-finned salmon-like fish, Bryconalestes longipinnis (Günther, 1864) (Pisces: Characinoidei)) Entwick lung der Eier des langflossensalmiers Bryconalestes longipinnis (Günther, 1864) (Pisces: Characinoidei)). Vestn. Cesk. Spol. Zool. 36(4); 237-240.

BULLISICHTHYS

Smith, C.L. and D.S. Erdman. 1973. Reproductive anatomy and color

pattern of Bullisichthys caribbaeus (Pisces: Serranidae). Copeia. 1: 149-151.

BUNOCEPHALUS

Morin, J.C. 1972. (A strange bunocephalid) Un curieux Bunocephalide. Piscic. Fr. 30: 32-33.

CALLINECTES

Anon 1970. Report of the Bureau of Commercial Fisheries biological laboratory, Beaufort, N.C. (1968). Circ. Fish Wildlife Serv. 341: 1-14.

CALLIONYMUS

Graffe, J.A. 1972. A range extension of the callionymid fish Callionymus pauciradiatus (Callionymidae). Chesapeake Sci. 13(2); 153.

Johnson, C.R. 1972. Biology and ecology of Callionymus belcheri (Pisces: Callionymidae). Copeia. 3: 461-470.

1973. Biology of the dragonet, Callionymus kaianus moretonensis Johnson. (Pisces: Callionymidae). Zool. J. Linn. Soc. 52(3); 217-230.

Lal Mohan, R.S. 1968. Callionymus jonesii a new callionymid fish (Pisces: Callionymidae) from the east coast of India. J. Mar. Biol. Ass. India. 10: 357-360.

CARANGIDAE

Subrahmanyam, C.B. 1964. Eggs and early development of a carangid from Madrid. (fish). J. Mar. Biol. Ass. India. 6: 142-146.

CARANX

Kagwade, V.N. 1967. Food and feeding habits of the horse-mackerel, Caranx kalla (Cuv. and Val.). Indian J. Fish. 14(1-2); 85-96.

1968. Maturation and spawning of the horse-mackerel, Caranx kalla (Cuv. and Val.). Indian J. Fish. 15(1-2); 207-220.

Von Westernhagen, H. 1974. Observations on the natural spawning of Alectis indicus (Ruppell) and Caranx ignobilis (Forsk.) (Carangidae). J. Fish. Biol. 6(4); 513-516.

CARASSIUS

Aduma-Bossman, J.A. and G. Keiz. (Comparative studies on growth and morphological properties of pure-bred carp (Cyprinus carpio L.) and goldfish (Carassius auratus gibelio (Bloch)) and on the produce of their reciprocal crossing) Vergleichende Untersuchungen über

Wachstum und morphologische Eigenschaften von reinrassigen Karpfen (Cyprinus carpio L.) und Goldgiebeln (Carassius auratus gibelio (Bloch)) sowie ihrer aus reziproken Kreuzungen hervorgegangenen Bastarde. Veröff. Zool. Staatssammn. München. 15: 203-307.

Anon 1970. 1970 Meeting with AAAS, Chicago, Illinois, 27-30 December 1970. Bull. Ecol. Soc. Am. 51: 20-56.

Balakhnin, I.A. and N.P. Galagan. 1973. (Family analysis of goldfish (Carassius auratus) x carp (Cyprinus carpio) hybrids with regard to their transferrin system) Semejnyj analiz gibridov kitajskogo zolotogo karasya (Carassius auratus) i karpa (Cyprinus carpio) po sisteme transferrinov (in: Biochemical genetics of Fishes, Leningrad, 1973). 141-143.

Billard, R. 1974. Testosterone: effects on the maintenance of spermatogenesis in intact and hypophysectomized goldfish (Carassius auratus). IRCS (Endocr. Physiol. Reprod.) 2: 1231.

Billard, R., B. Breton and A.M. Escaffre. 1971. (Effect of a carp pituitary acetone extract on spermatogenesis in the 'methallibure' treated goldfish Carassius auratus) Maintien et restauration de la spermatogenèse par un extrait acétonique hypophysaire de carpe chez la cyprin (Carassius auratus) traité au methallibure. Ann. Biol. Anim. Biochim. Biophys. 11(1); 167-174.

Billard, R. and A.M. Escaffre. 1973. Effects of HCG and carp gonadotropin on the maintenance of spermatogenesis in hypophysectomized goldfish (Carassius auratus). IRCS (73-12), 15-1-20.

Billard, R., A. Solari and A.M. Escaffre. 1974. (Technological note on a method of quantitative analysis for teleost fish spermatogenesis) Méthode d'analyse quantitative de la spermatogenèse des poissons téléostéens. Ann. Biol. Anim. Biochim. Biophys. 14(1): 87-104.

Billard, R., E. Burzawa-Gérard and B. Breton. 1970. (Regeneration of spermatogenesis in the hypophysectomised cyprinid Carassius auratus L. by a highly purified gonadotropin factor from carp) Régénération de la spermatogenèse du cyprin hypophysectomisé Carassius auratus L. par un facteur gonadotrope hautement purifié de carpe. Compt. Rend. Acad. Sci. Paris, Sér. D. 271: 1896-1899.

Blake, G.F., P.K.T. Pang and R.W. Griffith. 1969. 24-hour seminal hydration response in goldfish (Carassius auratus) 1. Na, K, Ca, Mg, chloride and osmolality of serum and seminal fluid. Comp. Biochem. Physiol. 30: 273-280.

Boarder, A. 1968. Breeding goldfish. Effects of warmth. Aquarist. Pondkpr. 32: 311.

1968. Goldfish breeding. Importance of pure water. Aquarist. Pondkpr. 33: 412-413.

1968. Breeding goldfish. Importance of space. Methods for

success. *Aquarist Pondkpr.* 33: 534-535, 556-557.

Bogenschutz, R.P. 1966. Histology and protein patterns of the pituitary of goldfish, *Carassius auratus*, in relation to food supply. *Diss. Abstr.* 27(4); *Diss.* 66-9564, 49 p.

1967. Protein patterns of the pituitary gland of goldfish, *Carassius auratus*, during dietary controlled gonadal regression. *Comp. Biochem. Physiol.* 22: 157-168.

Bogenschutz, R.P. and H.P. Clemens. 1967. Changes in the pituitary gland of goldfish, *Carassius auratus*, during diet-controlled gonadal regression. *Copeia.* 827-835.

Breton, B., R. Billard, B. Jalabert and G. Kann. 1972. (Radioimmunologic assay of plasmatic gonadotrophins in *Carassius auratus* for a 24-hr period during ovulation) Dosage radioimmunologique des gonadotropines plasmatiques chez *Carassius auratus*, au cours du nycthémère et pendant l'ovulation. *Gen. Comp. Endocrinol.* 18(3); 463-468.

Breton, B., B. Jalabert and R. Billard. 1973. Pituitary and plasma gonadotrophin levels and spermatogenesis in the goldfish *Carassius auratus* after methallibure treatment. *J. Endocrinol.* 59: 415-420.

Chu, H.W. and S.R. Lee. 1963. Cytological and cytochemical studies on the process of differentiation in the oocytes of *Carassius auratus* during vitellogenesis. *Acta Zool. Sinica.* 15: 354-356.

Chu, S.H. et al. 1964. Re-fertilization of the eggs of goldfish (*Carassius auratus*) and its time limit. *Acta Biol. Exp. Sin.* 9: 143-144. abstr.

Clemens, H.P. and F. Grant. 1964. Gonadal hydration of carp (*Cyprinus carpio*) and goldfish (*Carassius auratus*) after injections of pituitary extracts. *Zoologica* 49(3); 193-210.

Clemens, H.P. and C.A. Reed. 1967. Long-term gonadal growth and maturation of goldfish (*Carassius auratus*) with pituitary injections. *Copeia.* 465-466.

1967. Testicular characteristics of goldfish *Carassius auratus*, in nature and under diet limitations. *J. Morph.* 122: 131-138.

Cristian, A. and E. Costea. 1967. Hybridisation between *Cyprinus* and *Carassius*. *Bl. Inst. Cercet. Pisc.* 26(1); 12-21. It. sum. in Fr.

Danilenko, T.P. 1970. Dynamics of glycogen at the early stages of embryogenesis of *Carassius auratus* (L.) *Gidrobiol. Zh. Kiev.* 6(4); 84-90.

1971. Glycogen dynamics in carp and Chinese carp oocytes in the process of maturing. *Cytologia.* 5(3); 264-268.

Donaldson, E.M., F. Yamazaki and W.C. Clarke. 1968. Effect of hypophysectomy on plasma osmolarity in goldfish and its reversal by ovine prolactin and a preparation of salmon pituitary "prolactin". J. Fish. Res. Board Can. 25: 1497-1500.

Emmart, E.W. 1969. Localization of endogenous "prolactin" in the pituitary gland of the goldfish, Carassius auratus. Gen. Comp. Endocrinol. 12(3); 519-525.

Fenwick, J.C. 1970. The pineal organ: photoperiod and reproductive cycles in the goldfish, Carassius auratus L. J. Endocrinol. 46: 101-111.

Fontaine, Y.A., E. Burzawa-Gerard and N. Delerue-Lebelle. 1970. Hormonal stimulation of adenylycyclase activity of the ovary of a teleost, the goldfish (Carassius auratus L.). Compt. Rend. Hebd. Acad. Sci. Paris. Sér. D. 271: 780-783.

Fontaine, Y.A., C. Salmon, E. Fontaine-Bertrand, E. Burzawa-Gerard and E.M. Donaldson. 1972. Comparison of the activities of two purified fish gonadotropins on adenylycyclase activity in the goldfish ovary. Can. J. Zool. 50(12); 1673-1676.

Fontaine, Y.A., C. Salmon, E. Fontaine-Bertrand and N. Delerue-Lebelle. 1972. Ovarian adenylycyclase; effect of temperature in a mammal, the rat and a fish, Carassius auratus. Gen. Comp. Endocrinol. 18: 591. Fr. abstr.

Francis, A.A., F. Smith and P. Pfuderer. 1974. A heart-rate bioassay for crowding factors in goldfish. Progr. Fish-Cult. 36: 196-200.

Fribourgh, J.H., D.E. McClendon and B.L. Soloff. 1970. Ultrastructure of the goldfish, Carassius auratus (Cyprinidae), spermatozoon. Copeia. 274-279.

Golovinskaya, K.A., D.D. Romashov, V.N. Belyayeva and N.B. Tcherfas. 1969. Natural and artificial gynogenesis in fish (goldfish, carp, loach). 6th Int. Cong. Reproduction and Artificial Insemination, Paris 1968. Publ. Int. Nat. de Research Agronomique.

Golovinskaya, K.A. et al. 1965. Unisexual and bisexual forms of Carassius auratus. Vop. Ikhtiol. 5: 613-629. Rus.

Grant, F.B., P.K.T. Pang and R.W. Griffith. 1969. The twenty-four-hour seminal hydration response in goldfish (Carassius auratus). I. Sodium, potassium, calcium, magnesium, chloride and osmolality of serum and seminal fluid. Comp. Biochem. Physiol. 30: 273-280.

Grzenda, A.R., W.J. Taylor and D.F. Paris. 1971. The uptake and distribution of chlorinated residues by goldfish (Carassius auratus) fed a C-dieldrin contaminated diet. Trans. Am. Fish. Soc., 100(2); 215-221.

Grzenda, A.R. et al. 1970. The uptake, metabolism and elimination of

- chlorinated residues by goldfish fed a ^{14}C -DDT contaminated diet.
 Trans. Amer. Fish. Soc. 99:2. 385-396.
- Gulidov, M.V. 1971. (On characteristics of embryonal development of some cyprinid fishes as dependent on oxygen regime of incubation) K kharakteristike embrional'nogo razvitiya nyekotorykh karpovykh ryb v zavisimosti ot kislorodnykh usloviy pri inkubatsii. Dokl. Akad. Nauk SSSR. 197(1); 497-500.
- Gupta, N.N. and K. Yamamoto. 1971. See K. Yamamoto.
- Hara, T.J. 1967. Electrophysiological studies of the olfactory system of the goldfish, Carassius auratus. 3. Effects of sex hormones on olfactory activity. Comp. Biochem. Physiol. 22: 209-225.
- Hara, T.J., K. Ueda and A. Gorbman. 1965. Influences of thyroxine and sex hormones (oestradiol, testosterone) upon optically evoked potentials in the optic tectum of goldfish. Gen. Comp. Endocrinol. 5: 313-319.
- Haverkamp, G. 1969. Genetics of macrophtalmos and anophthalmos in goldfish. Graefe Arch. Klin. Exp. Ophthal. 179: 175-198. Ger.
- Hayward, J.N. 1974. Physiological and morphological identification of hypothalamic magnocellular neuroendocrine cells in goldfish preoptic nucleus. J. Physiol. London. 239: 103.
- Hirose, K. and T. Hibiya. 1968. Physiological studies on growth-promoting effect of protein-anabolic steroids on fish: effects on goldfish. Bull. Jap. Soc. Sci. Fish. 34: 466-471.
- Ishii, K. and K. Yamamoto. 1970. Sexual differences of the liver cells in the goldfish, Carassius auratus L. Bull. Fac. Fish. Hokkaido Univ. 21(3); 161-167.
- Iwai, T. 1968. Fat absorption in the gut epithelium of goldfish larvae. Bull. Jap. Soc. Sci. Fish. 34: 973-978.
- Jalabert, B., C. Bry, D. Szollosi and A. Fostier. 1973. Comparative study of pituitary and steroid hormone action on in vitro maturation of trout and goldfish (Teleost-fish) oocytes. Ann. de Biol. Anim. Bioch. Biophys. 13: 59-72.
- Johansen, P.H. 1967. The role of the pituitary in the resistance of goldfish (Carassius auratus L.) to a high temperature. Can. J. Zool. 45: 329-345.
- Johansen, P.H. and J.D. Gomery. 1973. Oxygen consumption of goldfish (Carassius auratus L.) after removal or autotransplantation of pituitary gland. Can. J. Zool. 51: 1289-1291.
- Jones, C.W. 1973. Intraneuronal transport in hypothalamoneurohypophysial system of goldfish (Carassius auratus). Gen. Comp. Endocrinol. 20: 99-106.

Jones, J.W. and R.S.J. Linfield. 1972. A note on the identification of a crucian carp Carassius carassius (L.) x common carp Cyprinus carpio (L.) hybrid from a still water in Nottinghamshire. *J. Fish. Biol.* 4(2); 309-310.

Kaul, S. and L. Vollrath. 1974. Goldfish pituitary. 1. Cytology. *Cell Tissue Res.* 154: 211-230.

Kaul, S. and L. Vollrath. 1974. Goldfish pituitary. 2. Innervation. *Cell Tissue Res.* 154: 231-249.

Kobayashi, H. 1963. Cytological aspects of fertilization in the cross between the funa (Carassius carassius) and the loach (Misgurnus anguillicaudatus). (bony fishes). *Biol. Bull. (Wood's Hole)* 125: 114-124.

1963. Some cytological observations on fertilization in the loach (female) - funa (male) cross. *Jap. J. Genet.* 38: 113-122.

1971. A cytological study on gynogenesis of the triploid ginbuna (Carassius auratus langsdorfi). *Zool. Mag. Zool. Soc. Jap.* 80(9); 316-322.

Kobayashi, H., Y. Kawashima and N. Takenchi. 1970. Comparative chromosome studies in the genus Carassius, especially with a finding of polyploidy in the ginbuna (C. auratus langsdorffii). *Jap. J. Ichthyol.* 17(4); 153-160.

Kobayashi, H. and H. Ochi. 1972. (Chromosome studies of the hybrids ginbuna (Carassius auratus langsdorffii) x kinbuna (C. auratus subsp.) and ginbuna x loach (Misgurnus anguillicaudatus)). *Zool. Mag. Tokyo Zool. Soc.* 81(1); 67-71.

Kudo, S. 1967. Electron microscope observations on the cortical changes in the egg of Carassius carassius. 1. The release of granules. *Sci. Rep. Tohoku Univ. Ser. 4.* 33: 185-195.

Leatherland, J.F. 1972. Histophysiology and innervation of the pituitary gland of the goldfish, Carassius auratus: light and electron microscope investigation. *Can. J. Zool.* 50: 835-844. Sum. in Fr.

1973. Activity of autotransplanted pituitary glands in goldfish, Carassius auratus L., maintained in different ambient salinities. *Can. J. Zool.* 51: 225-235.

Leatherland, J.F. and D.M. Ensor. 1974. Effect of hypothalamic extracts on prolactin secretion in the goldfish, Carassius auratus. *Comp. Biochem. Physiol.* 47(2A); 419-426.

Libosvarsky, J. 1963. Sex ratio in Carassius. (fish). *Zool. Anz.* 170: 191-197. Ger.

Lin, C.C., G. Schipmann, W.A. Kittrell and S. Ohno. 1969. The predominance

- of heterozygotes found in wild goldfish of Lake Erie at the gene locus for sorbitol dehydrogenase. Biochem. Genet. 3: 603-607.
- McCraren, J.P. and R.M. Jones. 1973. Evaluation of a new spawning material. Prog. Fish. Cult. 35(2); 81.
- McKenzie, L.S. 1971. Potential cell line developed from goldfish testis. J. Anat. 108: 214. abstr.
- Masai, H. and Y. Sato. 1969. The brain patterns of hybrids produced by back-cross between the hybrid, Carassius x Cyprinus and its parents. Jap. J. Ichthyol. 16: 123-125.
- Matsushima, M. 1964. Effect of hormone injection and other combined environmental regulations on the acceleration of maturation and spawning of 2 types of Carassius carassius in Japan in winter and early spring. Bull. Freshw. Fish. Res. Lab. Tokyo. 13: 93-104.
- Matsushima, M., and S.S. Felix. 1966. Modification of the sexual cycle in "Wakin" Carassius carassius by hormone injection, and with regulated environmental conditions. Bull. Freshw. Fish. Res. Lab. 16(2); 91-102.
- Mieszkowska, A. and A. Jasinski. 1973. Secretory activity of nucleus preopticus of the goldfish (Carassius auratus gibelio Bloch) in the annual cycle. Bull. de l'Acad. Polon. des Sciences. 21(5); 395-397.
- Minick, M.C. 1970. Effect of pituitary hormones upon serum-free fatty acids in goldfish, Carassius auratus L. Amer. Zool. 10: 500.
1971. Hormonal control of lipid metabolism in the goldfish Carassius auratus. (incl. oxytocin, prolactin). Diss. Abstr. Int. 32B: 527-528. abstr. order no. 71-17 288 (original 167 p.)
- Nagahama, Y. and K. Yamamoto. 1969. Basophils in the adenohypophysis of the goldfish. Gunma. Symp. Endocrinol. 6: 39-55.
- Nagoshi, M. and T. Miura. 1964. Population ecological studies of Gengorobuna, Carassius cuvieri, in the Lake Biwa. 1. Daily estimation of the spawning population, immigrants and emigrants at Hayasaki Lagoon by tagging method. Phys. Ecol. Tokyo. 12(1-2); 93-98.
- Neyfakh, A.A., A.A. Kostomarova and T.A. Burakova. 1972. Transfer of RNA from nucleus to cytoplasm in early development of fish. Autoradiographical study. (loach, goldfish). Expl. Cell. Res. 72: 223-232.
1974. Study of RNA transfer from nucleus to cytoplasma in early loach (Misgurnus fossilis) and hybrid loach female goldfish (Carassius auratus auratus) male embryos. Sov. J. Dev. Biol. 4: 307-314.

- Neyfakh, A.A., and V.P. Radievskaya. 1967. Morphogenetic function of nuclei in the goldfish and loach (Carassius auratus x Misgurnus fossilis) hybrids. Genetika No. 12: 80-88. Rus. sum. in En.
- Neyfakh, A.A., M.J. Timofeeva, M.R. Kriegshaber and N.A. Svetaylo. 1968. RNA and protein synthesis in the embryos of the hybrids: loach Misgurnus fossilis ♀ x goldfish Carassius auratus ♂. Genetika 4(12); 90-98. Rus. sum. in En.
- Oguri, M. 1973. Seasonal histologic changes in the ultimobranchial gland of goldfish. Bull. Jap. Soc. Sci. Fish. 39(8); 851-858.
- Oshima, K. and A. Gorbman. 1968. Modification by sex hormones of the spontaneous and evoked bulbar electrical activity in goldfish. J. Endocrinol. 40: 409-420.
1969. Effect of estradiol on NaCl-evoked olfactory bulbar potentials in goldfish: dose response relationships. Gen. Comp. Endocrinol. 13: 92-97.
- Paisley, P.B. 1971. Pyruvate metabolism in mammalian liver cells and in cells cultured from the testis of the goldfish (Carassius auratus). J. Anat. 110: 496. abstr.
- Pajetta, E.F. and G. Lanzavecchia. 1966. Ultrastructural morphology of oocyte in previtellogenic phase of Carassius auratus. Atti. Acad. Naz. Lincei. Rc. Cl. Sci. Fis. Mat. Nat. (8)40: 1140-1145. It.
- Pandey, S. and W.S. Hoar. 1972. Induction of ovulation in goldfish by clomiphene citrate. Can. J. Zool. 50(12); 1679-1680.
- Pandey, S., N. Stacey and W.S. Hoar. 1973. Mode of action of clomiphene citrate in inducing ovulation of goldfish. Can. J. Zool. 51(12); 1315-1316.
- Papadopol, M. 1969. Research on the biology of reproduction of the carp Carassius carassius (L.) in the lower basin of the Danube. Vest. Ceskislov. Spol. Zool. 33: 40-55.
- Peter, R.E. 1968. Failure to detect an effect of pinealectomy in goldfish (incl. gonads). Gen. Comp. Endocrinol. 10(3); 443-445.
1969. Hypothalamic control of gonadal activity in the goldfish, Carassius auratus. Gen. Comp. Endocrinol. 13(3); 525. abstr.
1970. Hypothalamic control of thyroid gland activity and gonadal activity in the goldfish, Carassius auratus. Diss. Abstr. Int. 30B: 5299-300. abstr. order no. 70-8489 (original 87 p.)
1970. Hypothalamic control of thyroid gland activity and gonadal activity in the goldfish, Carassius auratus. Gen. Comp. Endocrinol. 14: 334-356.

Peter, R.E. 1971. Feedback effects of thyroxine on hypothalamus and pituitary of goldfish, Carassius auratus. J. Endocrinol. 51: 31.

1972. Feedback effects of thyroxine in goldfish, Carassius auratus with an autotransplanted pituitary. Neuroendocrinology. 10: 273.

Peter, R.E. and B.A. McKeown. 1974. Effects of hypothalamic and thalamic lesions on prolactin secretion in goldfish (Carassius auratus). Gen. Comp. Endocrinol. 23(4); 438-452.

Pfuderer, P., P. Williams, and A.A. Francis. 1974. Partial purification of crowding factor from Carassius auratus and Cyprinus carpio. J. Exp. Zool. 187: 375-382.

Quiroz-Gutierrez, A. and S. Ohno. 1970. The evidence of gene duplication for S-form NADP-linked isocitrate dehydrogenase in carp and goldfish. Biochem. Genet. 4: 93-99.

Remacle, C. 1973. Action des hormones sexuelles et des gonadotropines sur le testicule de Carassius auratus L. en culture organotypique. 7th Conf. Europ. Comp. Endocrinol. Aug. 26-31, 1973.

1973. (Effect of sexual hormones and gonadotropins on the ovary of Carassius auratus L., in organotypical culture) Action des hormones sexuelles et des gonadotropines sur l'ovaire de Carassius auratus L., en cluture organotypique. Ann. Soc. R. Zool. Belg. 103(4); 405.

1973. (Pituitary-gonad parabiosis, in teleosts organ culture) Parabioses de l'hypophyse et de la gonade, en culture organotypique, chez les poissons téléostéens. Ann. Endocrinol. 34(3); 303-307.

1974. Action of sex hormones and gonadotropins on the testis of Carassius auratus in organotypic culture. Gen. Comp. Endocrinol. 22: 393. Fr. abstr.

Salmon, C., N. Delerue-Lebell and Y.A. Fontaine. 1974. Hormone stimulation of ovarian adenyl cyclase in the rat and teleost fish (Carassius auratus): effect of concentration of ATP. C.R. Hebd. Seanc. Acad. Sci. Paris. Ser. D. 278: 1959-1962.

1974. Temperature effects on ovarian adenyl cyclase and its hormonal stimulation - comparative study in rat and in a teleost fish (Carassius auratus). Biochimie. 56: 1229-1238.

Sasayama, Y. and H. Takahashi. 1972. (Effect of starvation and unilateral castration in male goldfish, Carassius auratus, and a design of bioassay for fish gonadotropin using starved goldfish). Bull. Fac. Fish. Hokkaido Univ. 22(4); 267-279.

Schreck, C.B. and M.L. Hopwood. 1974. Seasonal androgen and estrogen

- patterns in the goldfish, Carassius auratus. Trans. Am. Fish. Soc. 103(2); 375-378.
- Sinha, V.R.P. 1971. Induced spawning in carp with fractionated fish pituitary extract. J. Fish. Biol. 3(3); 263-272.
- Stacey, N.E. and N.R. Lilley. 1974. Regulation of spawning behaviour in the female goldfish. Nature. Lond. 247: 71-72.
- Sokabe, H., H. Nishimura, M. Ogawa and M. Oguri. 1970. Determination of renin in the corpuscles of Stannius of the teleost. Gen. Comp. Endocrinol. 14: 510-516.
- Spieler, R.E. 1971. A carp-goldfish hybrid with no caudal fin. Trans. Kans. Acad. Sci. 73(3-4); 342-343.
- Statova, M.P. and I.F. Kubrak. 1973. (The morphology and gonadotropic activity of the hypophyses of Carassius auratus (L.) and Cyprinus carpio (L.)) Morfologiya i gonadotropnaya aktivnost' gipofizov serebryanogo karasya i karpa. Biol. Resour. Moldavian waters. 11: 106-114.
- Suzuki, R. 1963. Hybridization experiments in cyprinid fishes. 5. Reciprocal crosses between Carassius carassius and Gnathopogon elongatus. Bull. Zool. Jap. 36: 203-207.
- Tafanelli, R. 1973. Effects of intraperitoneal injections of cadmium chloride on gonads, liver and kidney of goldfish, Carassius auratus. Diss. Abstr. Int. 33B: 6147, abstr. order no. 73-15 292 (original 129 p.).
- Takahashi, H. 1970. Peculiar hermaphroditic indications found in the ovary of the goldfish. Jap. J. Ichthyol. 17: 67-73.
1972. Methyltestosterone-induced differentiation of a seminal vesicle homologue in juvenile goldfish, Carassius auratus L. Dev. Growth and Different. 14: 297-306.
- Takahashi, H. and K. Takano. 1971. Sex hormone-induced precocious hypertrophy and ciliation of epithelial cells in the ovarian lumen of the goldfish. Annot. Zool. Jap. 44(1); 32-41.
1972. Morphogenesis of accessory reproductive organs in male goldfish, Carassius auratus. Bull. Fac. Fish. Hokkaido Univ., 23(2); 53-64.
- Tanaka, M. 1969. Studies on the structure and function of the digestive system in teleost larvae. 1. Development of the digestive system during prelarval stage. Jap. J. Ichthyol. 16: 1-9.
- Timofeeva, M.J., A.A. Neyfakh and A.A. Strokov. 1971. Transfer of RNA into cytoplasmic protein-synthesizing complexes in the embryos of haploid loach and haploid hybrids loach♀ (Misgurnus fossilis) x

- goldfish ♂ (Carassius auratus). Genetika 7(2); 93-102. Rus. sum. in En.
- Tung, T.C. and M.C. Niu. 1973. Nucleic acid-induced transformation in goldfish. Scientia Sinica. 16 (3); 377-384.
- Tung, T.C., Y.F.Y. Tung, T.Y. Luh, S.M. Tung and M. Tu. 1973. Transplantation of nuclei between two subfamilies of teleosts (Goldfish - domesticated Carassius auratus, and Chinese bitterling - Rhodeus sinensis). Acta Zool. Sin. 19(3); 210-218.
- Whiteside, B.G. and F.J. Richan. 1969. Repressive factors controlling reproduction in goldfish. Prog. Fish. Cult. 31: 165.
- Yamamoto, K., Y. Nagahama and F. Yamazaki. 1966. A method to induce artificial spawning of goldfish all through the year. Bull. Jap. Soc. Sci. Fish. 32(12); 977-983.
- Yamamoto, K. and H. Onozato. 1965. Electron microscope study on the growing oocyte of the goldfish during the first growth phase. Mem. Fac. Fish. Hokkaido Univ. 13: 79-106.
- Yamamoto, K. and F. Yamazaki. 1967. Hormonal control of ovulation and spermiation in goldfish. 1966 Ann. Rept. Inst. Endocrinol. 4: 131-145.
- Gupta, N.N. and K. Yamamoto. 1971. Electron microscope study on the fine structural changes in the oocytes of goldfish, Carassius auratus, during yolk formation stage. Bull. Fac. Fish. Hokkaido Univ. 22(3): 187-206.
- Yamamoto, T. and T. Kajishima. 1968. Sex hormone induction of sex reversal in the goldfish and evidence for male heterogamety. J. Exp. Zool. 168(2); 215-222.
- Yamazaki, F. 1963. On the multiplication of follicle cells in the oocyte of the goldfish, Carassius auratus. Bull. Fac. Fish. Hokkaido Univ. 14: 41-46.
1965. Endocrinological studies on the reproduction of the female goldfish, Carassius auratus L. with special reference to the function of the pituitary gland. Mem. Fac. Fish. Hokkaido Univ. 13(1); 1-64.
1969. The gonadotropin of fishes. Bull. Jap. Soc. Sci. Fish. 35: 695-710.
- Yamazaki, F. and E.M. Donaldson. 1969. Involvement of gonadotropin and steroid hormones in the spermiation of the goldfish (Carassius auratus). Gen. Comp. Endocrinol. 12: 491-487.
1968. The effect of partially purified salmon pituitary gonadotropin on spermatogenesis, vitellogenesis, and ovulation in hypophysectomised goldfish (Carassius auratus). Gen. Comp. Endocrinol. 11: 292-299.

Yamazaki, F. and E.M. Donaldson. 1968. Relationship between spermiation and 3-ol dehydrogenase activity in the testes of the goldfish Carassius auratus. Western Regional Conference on Comparative Endocrinology. May 9-11, 1968. Simon Fraser Univ. Abstr. 33 p. 36.

1968. Spermiation of goldfish (Carassius auratus) as a bioassay for salmon (Oncorhynchus tshawytscha) gonadotropin. Gen. Comp. Endocrinol. 10(3); 383-391.

Yokote, M. 1969. Observations on eggs spawned upon the artificial weeds set in the Sagami Reservoir. Bull. Freshw. Fish. Res. Lab. Tokyo. 19: 113-119.

Zirkin, B.R. 1971. Fine structure of nuclei in mature sperm. 1. Application of the Langmuir trough-critical point method to histone-containing sperm nuclei. (incl. leopard frog, goldfish). J. Ultrastruct. Res. 36: 237-248.

CARPIODES

Behmer, D.J. 1969. A method of estimating fecundity; with data on river carpsuckers, Carpoides carpio. Trans. Amer. Fish. Soc. 98: 523-524.

Jester, D.B. 1972. Life history, ecology, and management of the river carpsucker Carpoides carpio (Rafinesque), with reference to Elephant Butte Lake. Res. Rep., New Mexico Agric. Exp. Stn. 243: 120 p.

Padilla, R. 1972. Reproduction of carp, smallmouth buffalo, and river carpsucker in Elephant Butte Lake. M.Sc. Thesis, New Mexico State Univ. Las Cruces, New Mexico.

CATAETYX

Meyer-Rochow, V.B. 1972. The larval eye of the deep-sea fish Cataetyx memorabilis (Teleostei, Ophidiidae). Z. Morphol. Tiere. 72(4); 331-340.

1972. The lateral-line organs of the larvae of the deep-sea fish Cataetyx memorabilis (Ophidiidae): a scanning-electron and light-microscope study. Mar. Biol. 12(4); 272-276.

CATLA

Badami, V.C. and A. David. 1964. Preliminary observations on the successful inducement of breeding of Catla catla (Ham.) Curr. Sci. 33(10); 310-312.

Bhowmick, R.M. 1969. Economics of induced breeding of Indian major carps and Chinese carps - F.A.O./U.N.D.P. Regional Seminar on Induced breeding of Cultivated Fishes, India. FR1/1BCF/20. 13 p.

Bhowmick, R.M. and H. Chaudhuri. 1968. Preliminary observations on the

- use of trichloracetic acid for extraction of gonadotrophic hormones in induced spawning of carps. J. Zool. Soc. India. 20: 48-54.
- Chakrabarty, R.D. and D.S. Murty. 1973. Life history of India major carps, Cirrhinus mrigala (Ham.), Catla catla (Ham.) and Labeo rohita (Ham.). J. Inland Fish. Soc. India, Barrackpore. 4: 132-161.
- Chokder, A.H. 1970. Preliminary observation on the ova production of carps in the Karnafuli hydroelectric reservoir. Pak. J. Zool. 2(2); 247-248.
- Jhingran, V.G. 1966. Synopsis of biological data on catla Catla catla (Ham.) 1822. F.A.O. World Symposium on Warm Water Pond Fish Culture, Rome, 18-25 May, 1966.
- Karamchandani, S.J. and M.D. Pisolkar. 1967. Occurrence and breeding of Catla catla in Tapti River. J. Bombay Nat. Hist. Soc. 64: 375-377.
- Natarajan, A.V. and A.G. Jhingran. 1963. On the biology of Catla catla (Ham.) from the river Jamuna. Proc. Nat. Inst. Sci. India. (B), 29(3); 326-355.
- Verma, M.N. 1969. Hydrobiological study of a tropical impoundment, Tekanpur Reservoir, Gwalior, India, with special reference to the breeding of Indian carps. Hydrobiologia. 34: 358-368.
- CATOSTOMUS
- Bailey, M.M. 1969. Age, growth, and maturity of the longnose sucker Catostomus catostomus of western Lake Superior. J. Fish. Res. Board Can. 26: 1289-1299.
- Greenfield, D.W., S.T. Ross and G.D. Deckert. 1970. Some aspects of the life history of the Santa Ana sucker, Catostomus (Pantosteus) santaanae (Snyder). Calif. Fish and Game. 56: 166-179.
- Hale, J.G. 1970. White sucker spawning and culture of young in laboratory. Prog. Fish-Cult. 32: 169.
- Hauser, W.J. 1969. Life history of the mountain sucker, Catostomus platyrhynchus in Montana. Trans. Amer. Fish. Soc. 98: 209-215.
- Koehn, R.K. 1969. Esterase heterogeneity: dynamics of a polymorphism. Science. 163: 943-944.
- Long, W.L. 1973. History and function of the teleostean periblast (rainbow trout, white sucker). Diss. Abstr. Int. 34B: 1888. abstr. order no. 73-27 572 (original 141 p.)
- McCart, P. and N. Aspinwall. 1970. Spawning habits of the largescale sucker, Catostomus macrocheilus, at Stave Lake, British Columbia. J. Fish. Res. Board Can. 27: 1154-1158.
- Nelson, J.S. 1966. Hybridization and isolating mechanisms in Catostomus

commersonii and C. macrocheilus (Pisces: Catostomidae). Diss. Abstr. 27(4).

Nelson, J.S. 1968. Hybridization and isolating mechanisms between Catostomus commersonii and C. macrocheilus (Pisces: Catostomidae). J. Fish. Res. Board Can. 25: 101-150.

1973. Occurrence of hybrids between longnose sucker (Catostomus catostomus) and white sucker (C. commersoni) in Upper Kananaskis Reservoir, Alberta. J. Fish. Res. Board Can. 30(4): 557-560.

Oseid, D.M. and L.L. Smith, Jr. 1971. Survival and hatching of white sucker eggs at various dissolved oxygen levels. Prog. Fish-Cult. 33(3): 158-159.

Shilin, Yu. A. 1971. (Reproductive system of fish in the middle Kolyma) Vospriozvoditel'naya sistema ryb sredney kolymy. Ekologiya. 3: 73-81.

Siefert, R.E. and W.A. Spoor. 1974. Effects of reduced oxygen on embryos and larvae of the white sucker, coho salmon, brook trout and walleye. In: The Early Life History of Fish, Blaxter, J.H.S. (ed.). 487-498.

Tao, S.K. 1973. Investigations of the use of gonadotropins to induce spawning in the white sucker Catostomus commersoni (Lacépède) in North Dakota. Rep. Inst. Fish. Biol. Taiwan. 3(1): 173-186.

Weisel, G.F. 1967. Early ossification in the skeleton of the sucker (Catostomus macrocheilus) and the guppy (Poecilia reticulata). J. Morph. 121: 1-18.

CENTRARCHIDAE

Childers, W.F. 1965. Hybridization of 4 species of sunfishes (Centrarchidae). Diss. Abstr. 26. Diss. No. 65-11756. 79 p.

1968. Hybridization of 4 species of sunfishes. Bull. Ill. St. Nat. Hist. Surv. 29: 158-214.

Clugston, J.P. 1966. Cetrarchid spawning in the Florida Everglades. Q. Jl. Fla. Acad. Sci. 29: 137-143.

Gerald, J.W. 1971. Sound production during courtship in six species of sunfish (Centrarchidae). Evolution. 25(1): 75-87.

Merriner, J.U. 1971. Development of intergeneric centrarchid hybrid embryos. Trans. Am. Fish. Soc. 100(4): 611-618.

1971. Egg size as a factor in intergeneric hybrid success

of centrarchids. Trans. Am. Fish. Soc. 100(1); 29-32.

West, J.L. 1968. Growth and reproduction of 3 intergeneric Centrarchid hybrids (sunfish). Diss. Abstr. 29:2247B. abstr. order no. 68-17, 569 (original 154 p.).

West, J.L. and F.E. Hester. 1966. Intergeneric hybridization of centrarchids. (fish). Trans. Am. Fish. Soc. 95: 280-288.

CENTRARCHUS

Burr, B.M. 1974. A new intergeneric hybrid combination in nature: Pomoxis annularis x Centrarchus macropterus. Copeia. 1: 269-271.

CENTROLOPHUS

Krefft, G. 1969. Results of the research cruises of FRS 'Walther Herwig' to South America. VI. Fishes of the family Centrolophidae, (Perciformes, Stromateoidei). Arch. Fischereiwiss. 20: 1-9.

CENTROPHRYNE

Pietsch, T.W. and B.G. Nafpaktitis. 1971. A male Melanocetus johnsoni attached to a female Centrophryne spinulosa (Pisces: Ceratioidea). Copeia. 2: 322-324.

CENTROPOMUS

Martin, J. and R. Shipp. 1971. Occurrence of juvenile snook, Centropomus undecimalis, in North Carolina waters. Trans. Amer. Fish. Soc. 100(1); 131-132.

Merriner, J.V., W.T. Hogarth and W.A. Foster. 1970. Occurrence of the common snook, Centropomus undecimalis (Bloch) (Pisces: Centropomidae) in North Carolina waters. J. Elisha Mitchell Sci. Soc. 80(4); 194-195.

CENTROPRISTIS

Hoff, F.H., Jr. 1970. Artificial spawning of Black Sea bass, Centropristes striatus melanurus Ginsburg, aided by chorionic gonadotrophic hormones. Spec. Sci. Rep. Florida Dep. Natur. 25: 1-17.

Kendall, A.W., Jr. 1972. Description of Black sea bass, Centropristes striata (Linnaeus), larvae and their occurrences north of Cape Lookout, North Carolina, in 1966. Fish. Bull. Natl. Oceanic Atmos. Adm. 70(4); 1243-1259.

Reinboth, R. 1965. Sex reversal in the black sea bass, Centropristes striatus. Anat. Rec. 151: 403. abstr.

CEPOLA

Rao, V.V. 1969. Sexual dimorphism in coloration among band fishes of

the family Ceoplidae. J. Bombay Nat. Hist. Soc. 66(2); 388-390.

CERATIAS

Fitch, J.E. 1973. The second record of the giant seadevil, Ceratias holbollii from California, with notes on its life history. Bull. South Calif. Acad. Sci. 72(3); 164.

CETENGRAULIS

Brandhorts, W., J.G. Simpson, M. Carreño and O. Rojas. 1968. Anchoveta resources in northern Chile in relation to environmental conditions from January to February, 1965. Arch. Fischereiwiss. 19: 167-235.

CHAENOCEPHALUS

Douglas, E.L., and E.A. Hemmings. 1971. Respiration rates of larval icefish and spawning time of adults. Antarct. J. US. 6: 94.

CHAENOGOBius

Hamada, K. 1968. Development of a goby, Chaenogobius urotaenia, with special reference to the gill and the chloride cell. Bull. Fac. Fish. Hokkaido Univ. 19: 185-197.

Muroya, Y. and M. Sato. 1963. Spawning habit of a goby, Chaenogobius castanea, in a freshwater pond in Hirosaki city. Zool. Mag. 72: 297-299.

Takahashi, S. 1974. Sexual maturity of Isaza (Chaenogobius isaza). I. The seasonal changes of growth and sexual maturation. Bull. Jap. Soc. Sci. Fish. 40: 847-857.

Takogoshi, T. 1973. (Development of the thyroid gland in a goby, Chaenogobius urotaenia. Histogenesis and initiation of the uptake of I^{131}). Bull. Fac. Fish. Hokkaido Univ. 24(2); 59-62.

Yamada, J. 1967. Observation of the chromosomes in the embryonic cells of a goby, Chaenogobius urotaenia. Bull. Fac. Fish. Hokkaido Univ. 18: 183-187.

CHALCALBURNUS

Badenko, L.V. and L.Y. Androsyuk. 1970. A physiological and biochemical description of vimba and shemaya brood stocks maintained in lagoon (liman) type fish farms. J. Ichthyol. 10(4); 494-502.

Bitekhtina, V.A. and A.A. Melshko. 1970. A description of vimba and shemaya brood stocks in hatchery propagation. J. Ichthyol. 10(5); 610-618.

Doroshev, S.I. and V.K. Gorelov. 1964. Mobility of the sperm of Azov and Aral chalcalburnus and carp in sea water of various salt

contents. Dokl. (Proc.) Acad. Sci. (En. translation by Consultants Bureau) 159: 774-776. (original p. 1402-1404).

Gaibova, R.A. 1967. Biology of reproduction of a migratory Kurinian Chalcalburnus chalcooides in the underwater of Varvian weir. In: Biological Productivity of the Kurinsk-Caspian Fishing Region, Musaev, Kasbymov, Abdurakhmarov (eds.): 278-288.

Kozhin, N.I. and D.A. Kozlovskiy. 1968. An ecological approach to the breeding of food fishes. Probl. Ichthyol. 8: 459-460.

Pavlov, P.I. 1965. Hybrid of Scardinius erythrophthalmus x Chalcalburnus chalcooides. (fish). Zool. Zh. 44: 138-139.

CHALINURA

Novikov, N.P. 1970. Biology of Chalinura pectoralis in the North Pacific (in: Soviet fisheries investigations in the northeastern Pacific. Part 5., Moiseev, P.A. (ed.), Moscow, 'Pishchevaya Promyshlennost', 1970, Israel Program for Scientific Translations, Jerusalem, 1972). 304-331.

CHANDA

Zukal, R. 1967. Photographic record of the spawning of the Indian glassfish, Chanda ranga. Trop. Fish. Hobbyist 16(4); 24-27, 37-45.

CHANNA

Guraya, S.S. 1965. Comparative histochemical study of fish (Channa maruleus) and amphibian (Bufo stomaticus) oogenesis. Z. Zellforsch. Mikrosk. Anat. 65: 662-700.

Islam, A. and T. Akhtar. 1970. Effect of CGH in reproductive tract of female Channa punctatus. Biologia. Lahore. 16: 59-66.

Khanna, S.S. and R. Ganwal. 1971. Cyclic changes in the ovary of a freshwater teleost, Channa gachua. Zool. Beitr. 17(2/3); 311-326.

Khanna, S.S. and R. Sanwal. 1972. Influence of long and short photo-periods on the maturation of ovary in a freshwater teleost, Channa gachua. Zool. Beitr. 18(1); 71-88.

Konar, S.K. 1969. Lethal effects of the insecticide DDVP on the eggs and hatchlings of the snake-head, Channa punctatus (Bl.) (Ophiocephaliformes: Ophiocephalidae). Jap. J. Ichthyol. 15: 130-133.

Sanwal, R. and S.S. Khanna. 1972. Atretic and discharged follicles in a freshwater fish, Channa gachua. Anat. Anz. 130(314); 297-303.

1972. Seasonal changes in the testes of a freshwater fish Channa gachua. Acta. Anat. 83(1); 139-148.

Tandon, K.K. 1966. Ovarian abnormality in Channa punctatus. (fish)

Res. Bull. Panjab. Univ. Sci. N.S. 17: 205-206.

CHANOS

Angelos, H.G. 1971. A preliminary report on the observation and possibilities of induced spawning in mullet and milkfish. Occas. Pap. In o-Pac. Fish. Counc. 71(8): 1-12.

Liao, I.C. 1971. Note on some adult milkfish from the coast of Southern Taiwan. Aquaculture. 1: 1-10.

Olsson, R. 1974. Fine structure of pituitary eta cells of larval Chanos chanos (Teleostei). Gen. Comp. Endocrinol. 22: 364.

CHARACODON

Mendoza, G. 1965. Ovary and anal processes of Characodon eiseni, a viviparous cyprinodont teleost from Mexico. Biol. Bull. Mar. Biol. Lab., Woods Hole. 129: 303-315.

1972. The fine structure of an absorptive epithelium in a viviparous teleost. J. Morphol. 136(1): 109-115.

CHASMICHTHYS

Hyodo-Taguchi, Y. and N. Egami. 1971. Notes on X-ray effects on the testis of the goby, Chasmichthys glosus. Annot. Zool. Jap. 44(1): 19-22.

Sasaki, T. and J. Hattori. 1969. Comparative ecology of two closely related sympatric gobiid fishes living in tide pools. Jap. J. Ichthyol. 15: 143-155.

Tsuneki, K. and T. Ichikawa. 1973. The cell types of the adenohypophysis of the teleost. Chasmichthys dolichognathus. Annot. Zool. Jap. 46: 173-182.

CHASMISTES

Koch, D.L. 1973. Reproductive characteristics of cui-ui lakesucker (Chamistes cujus cope) and its spawning behaviour in Pyramid Lake, Nevada. Trans. Amer. Fish. Soc. 102(1): 145-149.

Koch, D.L. and G.P. Contreras. 1973. Hatching technique for the cui-ui lakesucker. Prog. Fish.-Cult. 35(1): 61-63.

CHASMODES

Ethogram, I. and R.R. Phillips. 1971. The relationship between social behavior and the use of space in the benthic fish Chasmodes bosquianus Lacépède (Teleostei, Blenniidae). Z. Tierpsychol. 29(1): 11-27.

Saksena, V.P. and E.B. Joseph. 1972. Dissolved oxygen requirements of newley-hatched larvae of the striped blenny (Chasmodes bosquianus), the naked goby (Gobiosoma boscii), and the skilletfish (Gobiesox strumosus). Chesapeake Sci. 13(1): 23-28.

CHEILODACTYLUS

Tong, L.J. and C.M. Vooren. 1972. The biology of the New Zealand tarakihi, Cheilodactylus macropterus (Bloch and Schneider). Fish. Res. Bull., Fish. Res. Div., N.Z. Min. Agric. and Fish. 6: 1-60.

Vooren, C.M. 1973. Early life history of the tarakihi, Cheilodactylus macropterus, in New Zealand waters (Annu. Conf. Australian Marine Sciences Association, 1973 Rottnest Island (Australia)). Aust. Mar. Sci. Bull. 44: 12.

CHEILODIPTERUS

Fishelson, L. 1970. Spawning behaviour of the cardinal fish, Cheilodipterus lineatus, in Eilat (Gulf of Arabia, Red Sea). Copeia. 370-371.

Smith, C.L., E.H. Atz and J.C. Tyler. 1971. Aspects of oral brooding in the cardinalfish Cheilodipterus affinis Poey (Apogonidae). Amer. Mus. Novit. 2456: 1-11.

CHEILOPOGON

Gorbunova, N.N. and N.V. Parin. 1963. Development of eggs and larvae of the flying fish, Cheilopogon unicolor. Trud. Inst. Okeanol. Moskva. 62: 62-67.

CHELONODON

Swarup, K. and D.K. Singh. 1971. Sexual dichromatism in the puffer fish, Chelonodon cutcutia. Curr. Sci. 40(2); 39-40.

CHLOROSCOMBRUS

Aboussouan, A. 1968. Eggs and larvae of the teleosts of West Africa: IV. Larvae of Chloroscombrus chrysurus L. and Blepharis crinitus Mitchell (Carangidae). Bull. Inst. Fondament. Afr. Noire. 30: 226-237.

CHONDROSTOMA

Hochman, L. 1965. Fecundity of Chondrostoma nasus in the Oslava River. (fish). Zool. Listy. 14: 71-83.

Pavlovic, V., O. Mladenovic-Gvozdenovic and H. Kekic. 1972. Sexual dimorphism and seasonal oscillations of an average haemoglobin content in the erythrocytes (MCH) of Salmo trutta m. fario L. and Thymallus thymallus L. near the spring of the River Bosna. Bull. Sci. Cons. Acad. Sci. Arts RSF Jugosl. (A), 17(9-10); 301-302.

Shcherbukha, A. Ya. 1971. (The biological characteristics of Chondrostoma nasus variabile (Pisces, Cyprinidae) from the thermal region of the Severskiy Donets) Biologicheskiye osobennosti podusta Chondrostoma nasus variabile (Pisces, Cyprinidae) iz termal'nogo

uchastka Severstogo Donta. Zool. Zh. 50(5); 713-723.

Zoric, M. 1967. Hypothalamo-hypophyseal relation in the fish Chondrostoma nasus in the course of sexual cycle. Acta Biol. Jugoslav. Ser. C. 3(2); 197-199.

CHROMIS

Contini, A. and A. Donato. 1973. The reproductive cycle of the teleost Chromis chromis L. Sul ciclo biologico riproduttive del teleosteo Chromis chromis L. Mem. Biol. Mar. Oceanogr., Messina. 3(6); 173-184.

Donato, A. 1967. Yolk-formation in Chromis chromis Cuv. (Teleostei, Labridae). Boll. Zool. 34: 115-116.

Donato, A. and A. Contini. 1972. The lipids in the growing oocytes of Boops boops and Chromis chromis. Acta Histochemica. 43(2); 260-264.

Myrberg, A.A., B.D. Brahy and H.R. Emery. 1967. Field observations on reproduction of the damselfish, Chromis multilineata, with additional notes on general behaviour. Copeia. 819-827.

Russell, B.C. 1971. Underwater observations on the reproductive activity of the demoiselle Chromis dispilus (Pisces: Pomacentridae). Mar. Biol. 10(1); 23-29.

Sale, P.F. 1971. The reproductive behaviour of the pomacentrid fish, Chromis caeruleus. Z. Tierpsychol. 29(2); 156-164.

CHROSOMUS

Greenfield, D.W., F. Abdel-Hameed, G.D. Deckert and R.R. Flinn. 1973. Hybridization between Chrosomus erythrogaster and Notropis cornutus (Pisces: Cyprinidae). Copeia. 1: 54-60.

Papadopol, M. 1970. Ecological characteristics of the main species of minnows (Pisces; Cyprinidae) from the Danube Delta. Vestnik. Cesk. Spolecnosti. Zool. 34: 240-251.

Phillips, G.L. 1969. Accuracy of fecundity estimates for the minnow Chrosomus erythrogaster (Cyprinidae). Trans. Amer. Fish. Soc. 98: 524-526.

Robison, H.W. and R.J. Miller. 1971. A new intergeneric cyprinid hybrid (Notropis pilsbryi x Chrosomus erythrogaster) from Oklahoma. Southwest. Nat. 16(3-4); 442-444.

Utiger, H. 1968. Influence of Cu on secondary sexual dimorphism in male minnow. Naturwissenschaften. 55: 498. Ger.

CHYRSICHTHYS

Chauvet, C. 1972-1973. (A preliminary note on the study of fish stocks

of the genus *Chrysichthys* from the lagoons and rivers of Ivory Coast) Note préliminaire a l'étude des stocks de poissons du genre *Chrysichthys* des lagunes et rivières de la Côte d'Ivoire. *Téthys.* 4(4): 981-988.

Kamel, A., W. Rizkalla and E. Shakhshir. 1973. Studies on the testis of the Nile teleost fish *Chrysichthys auratus* with special reference to its endocrine part. *Bull. Zool. Soc. Egypt.* 25: 89-95.

CHRYSORHYS

Chang, K., C. Huang and C. Lo. 1974. Sex reversal in one sparid fish, *Chrysophrys major* (Perciformes, Sparidae). *Bull. Inst. Zool., Academia Sinica.* 13(2): 55-60.

Okada, Yo. K. 1965. Bisexuality in sparid fishes. 3. Sporadic cases of bisexual gonads in *Chrysophrys major*. *Proc. Japan Acad.* 41: 471-476.

CICHLASOMA

Anon. 1973. Abstracts of papers presented at the 2nd Annual Meeting of the European Environmental Mutagen Society, May 10-12, 1972, Zinkovy Castle (Czechoslovakia) *Mutation Res.* 21(1): 19-53.

Buchanan, T.M. 1972. Reproductive ecology of the Rio Grande cichlid, *Cichlasoma cyanoguttatum*. (fish). *Diss. Abstr. Int.* 32B: 6119. abstr. order no. 72-11 322 (original 242 p.)

Holzberg, S. 1973. Change of aggressive readiness in post-irradiation generations of the convict Cichlid fish, *Cichlasoma nigrofasciatum* (in: Genetics and Mutagenesis of Fish, Proceedings of the Ichthyological Symposium on Genetics and Mutagenesis held at Neuherberg, Munich (GFR), 13-15 Oct. 1972, Schroder, J.H. (ed.), Springer-Verlag, 1973, p. 173-176).

Holzberg, S. and J.H. Schroder. 1972. Behavioural mutagenesis in the convict cichlid fish, *Cichlasoma nigrofasciatum* Guenther. I. The reduction of male aggressiveness in the first post-irradiation generation. *Mutation Res.* 16(3): 289-296.

Nicholls, T.J. and G. Maple. 1972. Ultrastructural observations on possible sites of steroid biosynthesis in the ovarian follicular epithelium of two species of cichlid fish, *Cichlasoma nigrofasciatum* and *Haplochromis multicolor*. *Z. Zellforsch. Mikrosk. Anat.* 128(3): 317-335.

Nicholls, T.J. and G.P. Graham. 1972. The ultrastructure of lobule boundary cells and Leydig cell homologs in the testis of a cichlid fish, *Cichlasoma nigrofasciatum*. *Gen. Comp. Endocrinol.* 19(1): 133-146.

Noakes, D.L.G. 1973. Parental behavior and some histological features of scales in Cichlasoma citrinellum (Pisces, Cichlidae). Can. J. Zool. 51(6): 619-622.

Weber, P.G. 1970. Visual aspects of egg care behaviour in Cichlasoma nigrofasciatum (Gunther). Anim. Behav. 18(4): 688-699.

Webber, R., G.W. Barlow and A.H. Brush. 1973. Pigments of a color polymorphism in a cichlid fish. Comp. Biochem. Physiol. (Biochem). 44B(4): 1127-1135.

Zukal, R. 1967. Breeding of the convict cichlid Cichlasoma nigrofasciatum. Trop. Fish Hobbyist. 15(12): 89-98.

CICHLIDAE

Backoff, R.E. 1969. Successful cichlid hybridization. Aquarium N.J. 2(11): 8-9; 44-47.

Barlow, G.W. 1974. Contrasts in social behaviour between Central American cichlid fishes and coral-reef surgeon fishes. Am. Zool. 14(1): 9-34.

Blum, V. 1974. Effect of prolactin in cichlid parental care. Fortschr. Zool. 22(2-3): 310-333. Ger. sum. in En.

Blum, V. and K. Fiedler. 1965. Hormonal (prolactin, FSH, LH) control of reproductive behaviour in some cichlid fish. Gen. Comp. Endocrinol. 5: 186-196.

Fryer, G. and T.D. Iles. 1972. The cichlid fishes of the Great Lakes of Africa: Their biology and evolution. Published by: Oliver and Boyd, Croythorn House, Edinburgh. 641 p.

Greenberg, B. 1963. Parental behaviour and imprinting in cichlid fishes. Behaviour. 21: 127-144.

Hackmann, E. 1974. Effect of testosterone on the sexual differentiation of some cichlids (Teleostei). Gen. Comp. Endocrinol. 24: 45-51. Ger. sum. in En.

- Jones, A.J. 1972. The early development of substrate-brooding cichlids (Teleostei: Cichlidae) with a discussion of a new system of staging. J. Morphol. 136(3); 255-272.
- Kühme, W. 1964. Eine chemische ausgelöste Brutpflegereaktion bei Cichliden (Pisces). Naturwissenschaften. 51: 20-21.
- Myrberg, A.A., Jr. 1964. Analysis of preferential care of eggs and young by adult cichlid fishes. Z. Tierpsychol. 21: 53-98. Sum. in Ger.
1966. Parental recognition of young in cichlid fishes. Anim. Behav. 14: 565-571.

Reinboth, R. 1972. Effects of steroid hormones on sex differentiation in cichlid fishes. Gen. Comp. Endocrinol. 18: 620. abstr.

Wickler, W. 1970. (Social behaviour as ecological adaptation) Soziales Verhalten als ökologische Anpassung. Verh. Dtsch. Zool. Ges. 291-304.

CIRRHINA

(CIRRHINUS)

Anand, J.N. 1973. Experiments on induced breeding of Indian major carps by pituitary hormone injections in Uttar Pradesh. J. Inland Fish. Soc. India, Barrackpore. 5: 37-45.

Bohwmick, R.M. 1969. Economics of induced breeding of Indian major carps and Chinese carps. - F.A.O./UNDP Regional Seminar on Induced breeding of Cultivated Fishes, India. FR1/IBCF/20. 13 p.

Bhowmick, R.M. and H. Chaudhuri. 1968. Preliminary observations on the use of trichloracetic acid for extraction of gonadotrophic hormones in induced spawning of carps. J. Zool. Soc. India. 20: 48-54.

Chakrabarty, R.D. and D.S. Murty. 1973. Life history of India major carps, Cirrhinus mrigala (Ham.), Catla catla (Ham.) and Labeo rohita (Ham.). J. Inland Fish. Soc. India, Barrackpore. 4: 132-161.

Chakrabarty, R.D. and S.B. Singh. 1963. Observations on some aspects of the fishery and biology of the Mrigal Cirrhinus mrigala (Ham.) from Allahabad. Indian J. Fish. (A), 10(1); 209-232.

Chokder, A.H. 1970. Preliminary observation on the ova production of carps in the Karnaphuli hydroelectric reservoir. Pakist. J. Zool. 2: 246-248.

Das, B.C. 1972. Effect of density on survival of Indian freshwater carp during the first two weeks of life. Aquaculture. 1(2); 199-212.

Das, A.K. 1972. Breeding of an Indian carp (Cirrhina mrigala) under different environmental temperatures. Biochem. J. 128: 40 p. abstr.

De, G.K. 1973. On the spawning of cultivable carps in the dead river,

Jalai: Tripura (India). J. Inland Fish. Soc. India, Barrackpore. 4: 183-188.

Desai, V.R. and K.J. Rao. 1971. On the retardation of gonadal development due to excessive adiposity in Cirrhinus mrigala (Hamilton). J. Inland Fish. Soc. India, Barrackpore. 3: 125-126.

Hooli, M.A. and V.B. Nadkarni. 1974. Functional anatomy of interrenal tissue and chromaffin cells in 2 teleosts, Cirrhina fulungee (Sykes) and Ompok bimaculatus (Bloch). Indian J. Exp. Biol. 12: 395-398.

Ibrahim, K.H. and H. Chaudhuri. 1970. Studies on the role of sex-specificity of carp pituitary glands in induced spawning of Indian carps. J. Inland Fish. Soc. India, Barrackpore. 2: 128-131.

Kamal, M.Y. 1967. Studies on the food and alimentary canal of the Indian major carps. 2. Labeo rohita (Ham.) and 3. Cirrhina mrigala (Ham.). Indian J. Fish. 14(1-2); 24-47.

Lal, B. 1963. Biochemical studies of the ovary of Cirrhina mrigala during different maturity stages. Sci. and Cult. 29: 305-306.

Lin, S. 1965. Induced spawning of Chinese carps by pituitary injection in Taiwan. Chin. Amer. Joint Comm. Rural Reconstr. No. 5. 31 p.

Naseem, S.M. and A.Q. Siddiqui. 1970. Seasonal variations in the biochemical composition of blood serum of Cirrhina mrigala (Ham.) and Labeo rohita (Ham.). Brotéria. 34(3-4); 197-204.

Parameswaran, S., C. Selvaraj and S. Radhakrishnan. 1970. Observations on the maturation and breeding season of carps in Assam. J. Inland Fish. Soc. India, Barrackpore. 2: 16-29.

Rao, N.G.S., P. Ray and K. Gopinathan. 1973. Observations on the spawning of Cirrhina reba (Hamilton) in the Cauvery and Bhavani Rivers. J. Inland Fish. Soc. India, Barrackpore. 4: 69-73.

Sinha, V.R.P., V.G. Jhingran and S.V. Ganapati. 1974. A review on spawning of the Indian major carps. Arch. Hydrobiol. 73(4); 518-536.

Srivastava, C.B.L. and M.D.L. Srivastava. 1970. Distribution of neuromasts at the 72-hour stage of Cirrhina mrigala Ham. Buch. (Cyprinidae). J. Wiss. Zool. 181(1-2); 1-6.

Verghese, P.U. 1967. Prolongation of spawning season in the carp Cirrhina reba by artificial light treatment. Curr. Sci. 36: 465-466.

1968. Preliminary experiments on the modification of the reproductive cycle of an Indian carp Cirrhina reba (Ham.) by control of light and temperature. Proc. Indo-Pacific Fish Council 13(II); 171-184.

1969. Effect of pituitary hormone injection on the carp

Cirrhina reba (Ham.) in relation to day-length and temperature.
Indian J. Zool. 10(3); 155-160.

Verma, M.N. 1969. Hydrobiological study of a tropical impoundment.
Tekanpur Reservoir, Gwalior, India, with special reference to the
breeding of Indian carps. Hydrobiologia. 34: 358-368.

1970. Breeding of major Indian carps in a fountain pond.
Prog. Fish-Cult. 32: 222-223.

CITHARICHTHYS

Gutherz, E.J. 1969. Hermaphroditism in Citharichthys cornutus (Heterosomata, family Bothidae). Copeia. 353-356.

Gutherz, E.J. and R.R. Blackman. 1970. Two new species of the flatfish genus Citharichthys (Bothidae) from the western North Atlantic. Copeia. 340-348.

Mironovo, O.G. 1967. Effect of low concentrations of oil and oil products on the developing eggs of the Black Sea flatfish. Vop. Ikhtiol. 7: 577-580. Rus.

Nikolotova, L.A. 1970. Materials on embryonal development of some species of flatfishes. Izv. Tikhookean. Nauchno-Issled. Inst. Ryb. Khoz. Okeanogr. 74: 22-41. Rus.

Wilkins, E.P.H. and R.M. Lewis. 1971. Occurrence of reversal and staining in North Carolina flounders. Chesapeake Sci. 12(2); 115-116.

CLARIAS

Aboul-Ela, I., F.I. Amer and A.R. El Bolock. 1973. Studies on spawning and spawning behaviour of Clarias lazera Cuv. and Val. in fish farms of the A.R. Egypt. Bull. Zool. Soc. Egypt. 25: 25-33.

Belsare, D.K. 1974. Studies on the development of endocrine glands in fishes. IV. Development of the gonads in Clarias batrachus. Zool. Jahrb., Abt. Anat. Ontog. Tiere. 93(2); 165-174.

Carreon, J.A., R.F. Ventwia and G.J. Almazan. 1973. Notes on the induced breeding of Clarias macrocephalus Gunther. Aquaculture. 2: 5-16.

Chandrasekhar, K. and D. Khosa. 1972. Effect of mammalian estrogens and progesterone on the hypothalamo-adenohypophysial complex of ovariectomised catfish Clarias batrachus (Linn.). Proc. Indian Acad. Sci. (B), 76(6); 240-250.

DeKimpe, P. and J.C. Micha. 1974. First guidelines for the culture of Clarias lazera in Central Africa. Aquaculture. 4: 227-248.

Devaraj, K.V., T.J. Varghese and Rao G.P. Satyanarayana. 1972. Induced

- breeding of the freshwater catfish Clarias batrachus by using pituitary glands from marine catfish. Curr. Sci. 41: 868-869.
- Dixit, V.P. 1970. Neurosecretion and feedback mechanism in Clarias batrachus L.: ovariectomy and administration of exogenous sex hormones. Cellule. 68: 213-221.
1971. The karyometric response of caudal neurosecretory cells in Clarias batrachus to sex steroids. Gen. Comp. Endocrinol. 17(3); 561-563.
- Holl, E.A. 1967. Notes on the spawning behaviour of the barbel Clarias gariepinus in Rhodesia. Zool. Africana. 3: 185-188.
- Huang, T.L., H.P. Chen and C.P. Hung. 1972. Experiment on artificial propogation of the white-spotted freshwater catfish, Clarias fuscus. Chin. Amer. Joint Comm. Rural Reconstr. No. 12: 151-155.
- Karamchandani, S.J. and V.R. Desai. 1964. On the early larval development of two freshwater catfishes from river Narbada. J. Zool. Soc. India. 16(1-2); 21-37.
- Khosa, D. and K. Chandrasekhar. 1972. Effect of copper acetate and asphalt on gonadal activities and the correlated changes in the pre-optic nucleus of two general of teleostean fishes, Clarias batrachus (Linn.) and Ophiocephalus punctatus (Bloch). Proc. Indian Acad. Sci. (B), 76(6); 229-239.
- Lehri, G.K. 1966. Studies on the pituitary gland in relation to the gonadal cycle in Clarias batrachus. Naturwissenschaften. 53: 20-21.
1966. Endocrine activity of gonadectomized fish, Clarias batrachus. Naturwissenschaften. 53: 390.
1967. Annual cycle in the testis of the catfish, Clarias batrachus. Acta Anat. 67(1); 135-154.
1968. Cyclical changes in the ovary of the catfish Clarias batrachus. Acta Anat. 69(1); 105-124. Sums. in Fr. Ger.
1970. Correlative cyclical changes in the pituitary gland and the testis of a catfish (Clarias batrachus). Mikroskopie. 26: 50-56.
- Malaviya, R.B. 1973. The yolk-nucleus in the oocytes of Clarias batrachus (Linn.). Zool. Pol. 22(3); 189-196.
- Micha, J. 1972. Induced breeding of Clarias spp. F.A.O. Aquacult. Bull. 4(2); 3-4.
- Muratori, A.R. 1974. (Thailand: traditions in fish culture) Tailandia: antiche tradizioni in piscicoltura. Riv. Ital. Piscic. Ittiopatol. 9(1); 5-6.
- Rao, P.D.P. and U.K. Betole. 1973. Changes in the hypothalamo-neuro-

- hypophysial complex after gonadectomy in the catfish, Clarias batrachus (Linn.). Zool. Beitr. 19(3): 319-333.
- Rao, P.D.P., U.K. Betole and V.V. Kondawar. 1972. Changes in the pituitary-interrenal axis after gonadectomy in the catfish, Clarias batrachus (Linn.). Acta Zool. Stockh. 53(2): 135-145.
- Rizkalla, W. 1970. Studies on the gonads of the teleost Nile fish, Clarias lazera, with special reference to their endocrine tissues. Acta Vet. Hung. 20(1): 1-12.
- Sathyanesan, A.G. 1969. An in situ study of the preoptic-neurohypophysial complex of the freshwater teleost Clarias batrachus. Z. Zellforsch. Mikrosk. Anat. 98(2): 202-216.
- Shaffi, S.A., A.K. Jafri and D.K. Khawaja. 1974. Alkaline phosphatase activity in the ovary of the catfish, Clarias batrachus (Linn.) during maturation. Curr. Sci. 43(2): 51.
- Sidthimunka, A. 1973. Culture of catfish on Thailand farms. Fish Farm. Int. 1: 81-83.
- Sidthimunka, A., J. Sanglert and O. Pawapootanon. 1968. The culture of catfish (Clarias spp.) in Thailand (RV). F.A.O. Fish. Rep. 44(5): 196-204.
- Sirgar, A.K. 1966. The seminal vesicles of the catfishes, Clarias batrachus (Linnaeus) and Heteropneustes fossilis (Bloch). Proc. Zool. Soc. Calcutta. 19: 47-55.
1970. Morphology of the urinogenital system of some siluroid fishes. Proc. Zool. Soc. Calcutta. 23(1): 93-117.
- Vander Waal, B. 1974. Observations on the breeding habits of Clarias gariepinus. J. Fish. Biol. 6: 23-27.
- Welcomme, R.L. 1969. The biology and ecology of the fishes of a small tropical stream. J. Zool. Lond. 158: 485-529.

CLEISTHENES

- Pertseva-Ostromova, T.A. 1963. New data on the distribution of flounder spawn in Primor'e waters. Tr. Inst. Okeanol. Adak. Nauk. SSSR. 62: 13-27. Eng. sum.

CLINOCOTTUS

- Hubbs, C. 1966. Fertilization, initiation of cleavage, and developmental temperature tolerance of the cottid fish Clinocottus analis. Copeia. 29-42.

CLINOSTOMUS

- Davis, R.M. 1972. Age, growth, and fecundity of the rosyside dace, Clinostomus funduloides Girard. Chesapeake Sci. 13(1): 63-66.

- Tsai, C. and R.B. Zeisel. 1969. Natural hybridization of cyprinid fishes in Little Patuxent River, Maryland. Chesapeake Sci. 10: 69-74.