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**Number 1**

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*on 13th October, 1959*

Edited on behalf of  
The Zoological Society of London  
by

**I. CHESTER JONES**

SIR SOLLY ZUCKERMAN, C.B., F.R.S. Foreword.

R. MORRIS. General problems of osmoregulation with special reference to cyclostomes.

I. CHESTER JONES and J. G. PHILLIPS. Adrenocorticosteroids in fish.

BERTHA BAGGERMAN. Factors in the diadromous migrations of fish.

UMBERTA D'ANCONA. The life-cycle of the Atlantic eel.

K. M. DODD, P. J. EVENNETT and C. K. GODDARD. Reproductive endocrinology in cyclostomes and elasmobranchs.

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iron 60-024er  
(60-2477)
- J. Acoust. Soc. Am.*, 31 : 1-6, *should read*  
*J. acoust. Soc. Amer.*, 31 (1) : 1-6 60-025er  
(60-3293)
- Germany. Deutsches . . . *should read*  
Germany. Federal Republic. Deutsches . . . 60-026er  
(60-2958)
- Annu. Conf. Engl. Inst.* . . . *should read*  
Paper presented on June 26th to the Annual Conference  
of the Institute of Sewage Purification, Bournemouth,  
23-26 June, 1959. 60-027er
- Thomson, D. A.** (1959) *should read* (60-4331)  
**Zusser, S. G.** (Thomson, D. A., Transl.) (1959) 60-028er  
(60-5275)
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- Annotation:* Issued also as: *Coll. Repr. Scott. mar. biol. Ass.*, 1957 (269), and as *Coll. Repr. Woods Hole oceanogr. Instn.*, 1957 (894). 60-141ad (570072)
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- Annotation:* Issued also as: *Coll. Repr. Woods Hole oceanogr. Instn*, 1957 (870). 60-189ad (59-4528)
- Annotation:* The rhythm is analysed into 2 components, 1 of diurnal and the other of tidal frequency with peaks in darkness and at high tide respectively. The joint effect results in a semilunar overall peak of activity. 60-190ad (59-7444)
- Title:* Soderzhanie radioaktivnykh elementov v domnykh otlozheniakh Tikhogo okeana v raione Iaponskikh ostrovov 60-191ad (60-4059)
- Title:* O formakh soedinenii sery v ilovykh vodakh osadkov moria. 60-192ad (60-4060)
- Annotation:* Marine animals that bite, sting, and are not edible. 60-193ad (59-7486)



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- WFA 10 (4) : 47. Molluscs—chemical composition.



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N.C. Wildl. Resources Comm., 68 p.  
A guide for teaching wildlife conservation.
- WR (93) : 5. Booklet aid to teachers. Why conservation is important and how it can be taught. History and organization of wildlife conservation in N.C. Life history, habits, and management needs of game and fur animals. Fishes are introduced by telling about several common fishes of fresh water and by answering common questions about fish biology. Conservation or natural history projects that can be carried out by individual children or groups of children.
- MF  
60-5904
- Brandborg, S. M. & J. S. Pacy** (Comp.) (1958)  
Washington, D.C., Nat. Wildl. Federation, 109 p.  
The conservation directory—A listing of organizations and officials concerned with the protection of wildlife and other natural resources.
- WR (93) : 6. Guide and address list.
- F  
60-5905
- Breckenridge, W. J.** (1958)  
*Flicker*, 30 (2) : 60-1.  
A new threat to wildlife.
- WR (93) : 14. Fish-rearing ponds offer hazard to fish-eating birds because predatory birds collect there.
- F  
60-5906
- Peet, C.** (1958)  
*Amer. Forests*, 64 (5) : 16-7, 47-9.  
Are we slowly committing suicide?
- WR (93) : 17. Reviews facts and figures on effects of DDT on fish and wildlife, discusses new insecticides briefly, and reports some of George's suggestions for large-scale study of pesticide problems. Essentially a summary of "The Pesticide Problem", by J. L. George.
- G  
60-5907
- Parker, R. R.** (1957)  
*Sci. in Alaska*, 1954 : 39.  
Two proposed methods of estimating animal population.
- WR (93) : 18. Abstr. only. Presents alternative methods from tagging programs. Methods used apply only to those cases where a population sustains a selective mortality. The first technique deals with cases in which exploitation is limited to certain size groups within a population. Gill net fisheries are examples of this type of exploitation. A hypothetical example is made from it. The second technique is limited to selective removal. The result of this technique is a pair of simultaneous linear equations whose solution gives an estimate of the population.

- Anon.** (1958) G  
60-5908  
*J. Amer. vet. med. Ass.*, 133 (6) : 42.  
 Flying syringe.

WR (93) : 19. Photo and diagram of a new syringe-dart used to capture large animals unharmed, or to tranquilize them for handling. When fired from a special gun, injects nicotine into the body of the animal as soon as it strikes home. Stuns for up to 30 minutes without harmful after-effects. Manufacturer is Palmer Chem. & Equipment Co., Atlanta, Ga.

- Overton, S. & J. Sincock** (1957) G  
60-5909  
*Proc. Conf. Stheast. Ass. Game Comm.*, (10) : 131-4.  
 Some uses of mark sensing in collecting game management data in the field.

WR (93) : 20. Mark sense cards are a type of IBM cards on which one marks with a special high-graphite—electrographic—pencil. These marks make possible automatic punching of cards that can be handled by machine in a great many ways with great speed.

- Thompson, D. R.** (1958) F  
60-5910  
*Spec. Wildl. Rep. Wis. Conserv. Dep.*, (1) : 44 p.  
 Field techniques for sexing and aging game animals.

WR (93) : 20. Handbook provides ill. data for beaver and otter. Indicates reliability of characters described. Limited to features that can be examined in the field. 23 selected references.

- Cottam, C.** (1957) F  
60-5911  
*Proc. Conf. Stheast. Ass. Game Comm.*, (10) : 6-11.  
 Some wildlife research problems of the Southeast.

WR (93) : 20. Need much more knowledge of several general fields: (1) how to integrate effective management with profitable agriculture, forestry, and grazing; (2) basic knowledge of ecological relationships of entire biological communities; (3) how to correlate effectively commercial use of water resources with management of fish and game; (4) effects of pesticides on fish and wildlife; (5) measurement of effects of all laws and regulations that pertain to harvest of fish and game; (6) appraisal of soundness and effectiveness of state programs; (7) determination of need and economy of introducing exotics. Each of these needs is discussed.

- Davison, V. E.** (1957) F  
60-5912  
*Proc. Conf. Stheast. Ass. Game Comm.*, (10) : 21-4:  
 Small watersheds.

WR (93) : 20. How the small watershed program operates, and what can be done under it for fish and wildlife.

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60-5913

**Webb, J. W. (Ed.)** (1958)  
Columbia, S.C., 393 p.

Proceedings of the eleventh annual conference, Southeastern Association of Game and Fish Commissioners, October 20-23 1957.

Contains 84 papers, 34 from technical fisheries sessions, 23 from law enforcement sessions, 4 from information and education sessions, and 4 of a general type. WR (93) : 22.

F

60-5914

**Aldous, S. E. (Ed.)** (1958)

*Circ. U.S. Fish Wildl. Serv.*, (52) : 164 p.

Survey of Pittman-Robertson activities, 1957.

WR (93) : 24. 3rd volume of useful annual reference that succeeds P-R quarterly. Every project of each state or territory is listed with statement of number, title, leader, and objectives. Summarizes some of the more interesting results arranged by subject.

MF

60-5915

**Louisiana Wildlife & Fisheries Commission** (1958)

220 p.

Seventh biennial report 1956-1957.

WR (93) : 26. Incl. many technical and semi-technical project reports. Fur division reports the fur take, by spp., for the years 1940-57. Also tells of successful efforts to popularize nutria flesh for human and animal food. Progress in controlling water hyacinth is described; research on other aquatic weeds is mentioned. Importance of river-basin studies. Contains technical information on pollution, fisheries, and shell-fisheries.

F

60-5916

**Arata, A. A.** (1957)

*Trans. Ill. Acad. Sci.*, 50 : 71-5.

Notes on the ecology of American lotus in Southern Illinois.

WR (93) : 26. This generally undesirable plant was studied because it was one of the spp. to be tested in strip-mine ponds. Immersion of *Nelumbo lutea* fruits in concentrated  $H_2SO_4$  for 5 hours was found to be the most feasible method of scarification.

F

60-5917

**Lawrence, J. M.** (1958)

*Proc. Conf. Stheast. Ass. Game Comm.*, (11) : 281-7.

Recent investigations on the use of sodium arsenite as an algacide and its effects on fish production in ponds.

WR (93) : 27. New apparatus for application of arsenite was developed. One or more applications of 4 p.p.m.  $As_2O_3$  as sodium arsenite gave fairly satisfactory control of the algae *Pithophora* and *Hydrodictyon* if made when algae were mature. The treatments greatly reduced numbers of invertebrate fish-food organisms; probably this explains poor growth and reproduction of the fish.

- Sullivan, C.** (1958) F  
60-5918  
*W. Va Conserv.*, 22 (6) : 1-5.  
Highway dams: water for the future.  
WR (93) : 27. New federal highway program offers opportunities for states to create many fish or wildlife impoundments. Highway fills across low areas need relatively minor changes to be acceptable dams.
- Wallace, H. E.** (1958) F  
60-5919  
*Proc. Conf. Stheast. Ass. Game Comm.*, (11) : 60-1.  
Our professional neglect of the water use problem—and a remedial approach.  
WR (93) : 28. Fish and wildlife interests.
- Wood, R., R. Grizzell & C. K. Rawls** (1957) F  
60-5920  
*Proc. Conf. Stheast. Ass. Game Comm.*, (10) : 100-12.  
Water use and the future of fish and wildlife conservation.  
WR (93) : 28. Committee report that cites many examples of what can be done for fish and wildlife in relation to water use. The first part of this paper deals with a discussion of trends and changing concepts of water use as viewed at the national, state, and local levels. The second part reviews sound management practices involving water use with conclusion and recommendations as to action which should be taken to implement them.
- Klimstra, W. D.** (1958) F  
60-5921  
Ecological Society of America, 16 p.  
The potential of wildlife management on strip-mined areas.  
WR (93) : 36. A review of studies made of stripped lands in Southern Illinois, and a discussion of what can be done with such areas by habitat management. Areas have considerable fish and wildlife potential.
- Wilke, F. & A. J. Nicholson** (1958) M  
60-5922  
*J. Mammal.*, 39 (3) : 441-3.  
Food of porpoises in waters off Japan.  
WR (93) : 59. Report on stomach contents of 86 true porpoises and 7 dall porpoises. Concludes these spp. not likely to cause damage to commercial fisheries.
- Carr, A.** (1957) M  
60-5923  
*Rev. Biol. trop.*, 5 (1) : 45-61.  
Notes on the zoogeography of the Atlantic Sea turtles of the genus *Lepidochelys*.  
WR (93) : 79. *L. kempfi* has an extensive range in coastal waters of the US and in parts of Florida is abundant as a seasonal resident. New records extend the range of the genus to Northern Mauritania and into the Mediterranean.

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- Pettus, D.** (1958) MF  
60-5924  
*Copeia*, 1958 (3) : 207-11.  
Water relationships in *Natrix sipedon*.

WR (93) : 81. *N. s. clarki* is a snake of saline coastal waters. *N. s. confluens*, which intergrades with *clarki*, is a fresh-water snake and cannot live long in saline water. Studies were made to find the basis of the differences.

- Went, A. E. J.** (1960) M  
60-5925  
London, Office of the Permanent Commission, PC 8/113, 7 p.  
International Fisheries Convention of 1946—Eighth meeting of the Permanent Commission—Report of the liaison committee.

Considers problems remitted to it by the Permanent Commission in Dublin in November 1958 under the following headings: (i) mesh size in the northern part of the convention area—see 60-5928; (ii) Lienesch Committee data—see 60-5926; (iii) mesh measuring pressure gauges; (iv) definition of a light trawl; (v) chafing of fish in trawl catches; (vi) use of cod-end chafers; (vii) other selectivity data. Each of these items is considered in the light of scientific evidence since the previous meeting of the Commission.

- International Fisheries Convention, 1946** (1960) M  
60-5926  
London, Office of the Permanent Commission, PC 8/115, 74 p.

Eighth meeting of the permanent Commission-Committee on mesh difficulties: publication of mixed fisheries section of the report by the sub-committee of scientists.

Text of report by the sub-committee, which will be published by ICES. Deals with statistics and assessments for mixed fisheries using meshes smaller than regulation size, and especially concerning bi-catches of whiting, haddock, cod and plaice in herring, mackerel, sand-eel, shrimp, Nephrops and sprat fisheries, and with effects of regulation in some of the Convention fisheries, especially for sole and whiting.

- Went, A. E. J.** (1960) 60-5927  
Office of the Permanent Commission, London, PC 8/116, 3 p.  
International Fisheries Convention of 1946—Eighth meeting of the Permanent Commission—Consideration of developments in the fisheries covered by the report of the committee on mesh difficulties.

CO 60-5926, dealing with data received after the original report of the Committee was written.

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- Went, A. E. J. (1960)** 60-5928  
 London, Office of the Permanent Commission, PC 8/117, 13 p.  
 International Fisheries Convention of 1946—Eighth meeting of the Permanent Commission—Proposal to increase the mesh size in the North-eastern part of the convention area.

Final report to the liaison committee of ICES by its Working Group on Arctic Fisheries; giving an assessment of the probable effects of introducing a larger mesh-size for the cod and haddock fisheries in the area. Haddock, coalfish and plaice are not considered. Gives a short account of a method of assessing effects of mesh increases and deals also with the effects of an expected geographical redistribution of the fishing effort.

- Drost, H. S. (1960)** M  
 60-5929  
 London, Office of the Permanent Commission, PC 8/118, 3 p.  
 International Fisheries Convention of 1946—Eighth meeting of the Permanent Commission—Report by the Standing Committee on Infractions.

Examination of summaries of infractions for 1957, 1958–1959, to assess the extent to which uniformity in enforcement had been achieved. Consideration of general comments regarding enforcement of mesh regulations and size limits.

- International Fisheries Convention, 1946 (1960)** M  
 60-5930  
 London, Office of the Permanent Commission, PC 8/119.  
 Eighth meeting of the Permanent Commission—Enforcement arrangements in member countries.

Changes that have taken place in enforcement arrangements by member countries as regards both legislation and procedure concerning mesh and size limit regulations in a circular letter, and texts legislative measures incl. in the replies.

- Westhoff, C. J. W. (1960)** M  
 60-5931  
 London, Office of the Permanent Commission, PC 8/120, 4 p.  
 International Fisheries Convention of 1946—Eighth meeting of the Permanent Commission—Enforcement arrangements in the Netherlands.

Co 60-5930.

- Hahn, J. (1957)** M  
 60-5932  
*Oceanus*, 5 : 20–31.  
 Oceanus goes to the bottom of the sea.

(Issued as: *Coll. Repr. Woods Hole oceanogr. Instn.*, (909) ).

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**International Fisheries Convention, 1946** (1960) M  
60-5933  
London, Office of the Permanent Commission, PC 8/123, 4 p.

Eighth meeting of the Permanent Commission—Proposal by the Danish delegation to extend beyond 4 April 1961 the provisions in annex I(1) of the Convention regarding the 75 mm mesh size for trawl nets.

Gives the reasons for the proposal to delay introduction of 80 mm mesh until the initial losses by introduction of the 75 mm mesh have been made good.

**Rzheplinskii, G. V.** (1959)\* M  
60-5934  
Washington, Office of Technical Services.

Some characteristics of the results of wave-meter observations in the ocean.

*En* 59-7845. Available from the Office of Technical Services, Washington, D.C.

**Agureiev, S. P.** (1958)\* M  
60-5935  
*Met. Gidrol.*, 1958 (1):

Nomogram for processing drift ice observations. *Ru*

**Agureiev, S. P.** (1959)\* M  
60-5936  
Washington, Office of Technical Services.

Nomogram for processing drift ice observations.

*En* 60-5935. Available from the Office of Technical Services, Washington, D.C.

**Norway. Laws, Statutes, etc.** (1959) M  
60-5937  
*Overnsk. Fremm. St.*, (2): 359-89.

Den internasjonale konvensjon om hindring av oljeforurensning av sjøen, undertegnet i London 12. mai 1954. (International convention for the prevention of pollution of the sea by oil, 1954—12 May 1954.)

The convention was ratified by Norway by the Crown Prince's resolution of 21 December 1956, and the instrument of ratification was deposited on 26 January 1957. The convention came into force on 26 July 1958.

**Norway. Laws, Statutes, etc.** (1959) M  
60-5938  
*Norsk Lovtid.*, (23): 715-9.

Lov Nr. 12 om kvalitetskontroll med fisk og fiskevarer o. a. (Act No. 12 relative to the quality control of fish and fisheries products, etc.—28 May 1959.)

Refers to the conservation, stocking and transport of fish and fisheries products, authority to utilize certain spp. of fish, trade control, etc.

**Norway. Laws, Statutes, etc. (1959)** M  
60-5939  
*Norsk Lovtid.*, (23) : 721.

Kongelig resolusjon om regulering av eksporten av fersk fisk og skalldyr. (Royal resolution governing export of fresh fish and crustaceans—28 May 1959.)

Amends resolution of 24 May 1956 on the above subject. All negotiations and agreements to be concluded relative to the sale to the Federal Republic of Germany may take place only through the Committee of experts appointed for the purpose by the Ministry of Fisheries.

**Norway. Laws, Statutes, etc. (1960)** M  
60-5940  
*Norsk Lovtid.*, (25) : 764-5.

Bestemmelse om endring av Handelsdepartementets bestemmelser av 24. juni 1950 om unntak fra den alminnelige utførselsregulering (med senere endringer). (Regulations amending regulations of 24 June 1950 governing exemptions from general provisions relative to export—11 June 1959.)

Refer to consignment free of charge, sending of samples of fish and fisheries by-products, etc.

**Barlow, J. P. (1957)\*** MF  
60-5941  
*Coll. Repr. Woods Hole oceanogr. Instn.*, (752).  
Effect of wind on salinity distribution in an estuary.

**Norway. Laws, Statutes, etc. (1960)** M  
60-5942  
*Norsk Lovtid.*, (6) : 159.

Kongelig resolusjon om utvidelse av lovbeskyttelsen for Norges Råfisklag til også å omfatte rognkjeks. (Royal resolution relative to the sale of raw fish—12 February 1960.)

Pursuant to art. 2 of the act on the above subject of 14 December 1951, it is prohibited to sell on the quayside along the coast between Finmark province and Nordmore, raw fish, *inter alia* plaice, skate, cod, turbot, etc., except with the approval of the Norwegian Raw Fish Association.

**Philippines. Laws, Statutes, etc. (1959)** F  
60-5943  
*Off. Gaz., Philippines*, (43) : 9019-9020.

Bureau of fisheries—Fisheries administrative order No. 14-11—Amending sub-sections (c) and (d) of section 3 of fisheries administrative order no. 14, as amended, and adding thereto sub-sections (e), (f), and (g)—23 April 1959.

Ad 60-2944. Regulations on size of area, duration of lease, authorizations, etc., of fish-ponds.



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**Portugal. Laws, Statutes, etc. (1959)** M  
60-5944  
*Diario do Gov., Portugal, (153) : 772.*

Declaração: mantém para a campanha de 1959-1960 os preços e características do bacalhau nacional e de proveniência estrangeira, fixados, respectivamente, pelas Portarias n.os 13 492 et 14 199. (Declaration of the Ministry of Economy maintaining in force for the economic year 1959-1960 the prices and specifications for Portuguese and foreign dried cod as established by orders No. 13.492 and No. 14.199 respectively—1 July 1959.)

**Rhodesia-Nyasaland. Laws, Statutes, etc. (1960)** M  
60-5945  
*Fed. Govt Gaz., Rhodesia, (8) : 55-6.*

Federal notice No. 120 of 1960. Trade arrangement with Japan—15 February 1960.

Imports incl. tinned fish of selected types.

**Hulburt, E. M. (1957)\*** F  
60-5946  
*Coll. Repr. Woods Hole oceanogr. Instn, (748).*

Distribution of phosphorus in Great Pond, Massachusetts.

**Spain. Laws, Statutes, etc. (1959)** M  
60-5947  
*Bol. ofic. Estado, Spain, (299) : 15976.*

Circular 16/1959 de la Comisaria General de Abastecimientos y Transportes por la que se dictan normas para el comercio del bacalao. (Circular 16/1959 of the Commissariat General of Supply and Transport, prescribing regulations for trade in cod-fish—5 December 1959.)

Concerns freedom of trade, profit margins, monthly statements of enterprises and importers.

**Spain. Laws, Statutes, etc. (1959)** M  
60-5948  
*Bol. ofic. Estado, Spain, (1) : 10.*

Orden de 23 de diciembre de 1959 por la que se dispone la formación de la estadística de elaboración de productos derivados de la caza de cetáceos. (Order providing for compilation of statistics of industrialization of products derived from whaling—23 December 1959.)

**Spain. Laws, Statutes, etc. (1959)** M  
60-5949  
*Bol. ofic. Estado, Spain, (1) : 10.*

Orden de 23 de diciembre de 1959 por la que se dispone la adaptación de la estadística de industrias derivadas de la pesca a las restantes estadísticas industriales de producción. (Order providing for the adaptation of fishing industry statistics to the other industrial production statistics—23 December 1959.)

**Sweden. Laws, Statutes, etc. (1959)**M  
60-5950*Svensk FörfattnSaml.*, (447) : 1125.

Kungl. Maj. ts Kungörelse Nr 447 om ändrad lydelse av 10 S fiskeristadgan den 24 september 1954 (nr 607). (Royal order No. 447 amending article 10 of the fisheries regulation No. 607 of 24 September 1954—10 September 1959.)

The amendments refer to minimum dimensions of various spp. of fish and crustaceans.

**Switzerland. Laws, Statutes, etc. (1959)**MF  
60-5951*Rec. Lois féd., Switz.*, (48) L1397-659.

Loi fédérale sur le tarif des douanes suisses. (Federal act relative to the Swiss customs tariff—19 June 1959.)

Embodies a newly revised customs tariff, inc. fish and sea food, brought completely up to date.

**U.A.R. (Egypt) Laws, Statutes, etc. (1959)**M  
60-5952*Rép. perm. Legisl. égypt.*, p. 371 (Marine Marchande).

Loi n° 218 du 16 septembre 1959 modifiant la loi du 14 juillet 1949 n° 84 relative à l'enregistrement des bateaux de commerce (J.O. 1982). (Act No. 218 amending the Act No. 84 of 14 July 1949 relative to the registration of merchant craft—16 September 1959.)

Provides that in particular sailing vessels used for fishing purposes shall be exempt from registration.

**U.A.R. (Syria). Laws, Statutes, etc. (1959)**M  
60-5953*Rec. Lois Législ. financ., U.A.R.*, (11) : 92.

Arrêté n° 766 autorisant l'importation de certains produits d'un pays autre que le pays d'origine. (Annexe du J.O. n° 52, 3 décembre 1959).—23 novembre 1959. (Order No. 766 authorizing the import of certain products from countries other than the country of origin.—23 November 1959.)

As an exception to the provision of order No. 326 of 4 June 1959, import of certain types of conserved fish is authorized.

**Scholander, P. F. et al. (1957)\***MF  
60-5954*Coll. Repr. Woods Hole oceanogr. Instn.*, (891).

Supercooling and osmoregulation in Arctic fish.

**Scholander, P. F. & L. Van Dam (1957)**MF  
60-5955*J. cell. comp. Physiol.*, 49 : 1-4.

The concentration of haemoglobin in some cold water Arctic fishes.

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*Acta physiol. scand.*, 41 : 340-4. 60-5956  
 Oxygen dissociation curves in fish blood.  
 (Issued also as: *Coll. Repr. Woods Hole oceanogr. Instn.*, (921).)
- U.A.R. (Syria). Laws, Statutes, etc.** (1959) M  
*Rec. Lois Législ. financ., U.A.R.*, (12) : 9-10. 60-5957  
 Arrêté n° 73 portant rectificatif au tarif des douanes—27 décembre 1959.  
 (Order No. 73 amending the customs tariff—27 December 1959.)  
 Affects certain types of conserved fish.
- Nursall, J. R.** (1958)\* MF  
*Evolution*, 12 (1) : 116-20. 60-5958  
 The caudal fin as a hydrofoil.
- U.S. Laws, Statutes, etc.** (1960) M:  
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 Code of federal regulations—title 50: Wildlife—Chapter I: Fish and Wildlife Service, Department of the Interior—Subchapter K: Processed fishery products, processed products thereof, and certain other processed food products—Part 177: United States standards for grades of frozen cod fillets.—26 February 1960.  
 Concerns product description and grades, factors of quality, definitions and methods of analysis, lot certification tolerances and score sheets.
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*Fed. Reg. nat. Arch. U.S.*, 25 (40) : 1717-9. 60-5960  
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 (Savings gear experiments with trawl nets (1958-59).) *Iwrit* En  
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(Chapter on the expansion of Israel fishing in Lake Tiberias.) *Iwrit*  
Co 60-2021.
- Kramer, M. & S. Lipstadt** (1959) M  
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*Fish. Bull., Haifa*, 3 (1 (21)) : 6-7.  
(Trawl boats expenses in foreign currency.) *Iwrit*
- Bykhovskii, B. E.** (1957)\* MF  
60-5964  
Moskva, 509 p.  
(Monogenetic trematodes: their taxonomy and phylogeny.) *Ru*
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- Ben-Tuvia, A.** (1959) M  
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*Fish. Bull., Haifa*, 3 (1 (21)) : 14-5.  
(Know your fish.) *Iwrit*  
Ill. and brief notes on spp. of *Scomber*, *Blennius*, *Coryphaena* and *Spondyllosoma*.
- Ben-Yami, M.** (1959) M  
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- Craig, R. E.** (1959) M  
*New Scient.*, 6 (140) : 96-7. 60-5977  
 Seeing with sound.  
 General account of the use of echo-sounding in the search for, and study of, fish shoals, and in research on the ocean floor.
- Cloudsley-Thompson, J. L.** (1959) MF  
*New Scient.*, 6 (140) : 104-5. 60-5978  
 Factors in the synchronisation of animal clocks.  
 Discussion of diurnal rhythms in animals, their study and the harmonic and other mechanisms underlying them.

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## VOLUME 4—EXPLANATION OF COVERAGE AND ARRANGEMENT

### 9. ERRATA AND ADDENDA to "EXPLANATION OF COVERAGE AND ARRANGEMENT" (contd.)

#### CONTENTS

Add the following title as sub-section 4.7:

4.7 Treatment of reports and proceedings of meetings

#### 1. SCOPE AND COVERAGE OF BIBLIOGRAPHY

*List of periodicals the contents of which are entered completely*

Insert:

after No. 141

Cahiers de Biologie marine

after No. 120

Bulletin of the Pusan Fisheries College

after No. 332

Memoirs of the Kobe Marine Observatory

before No. 569

496. Report of Nankai Regional Fisheries Research Laboratory

after new entry No. 496

Scientific Reports. Hokkaido Fish Hatchery, Sapporo

#### 3. REFERENCES

##### 3.1 Authors

*Names and Abbreviations of Organizations*

Under EIFAC, replace:

Commission consultative des pêches intérieures euro-  
péennes

by:

Commission européenne consultative pour les pêches  
dans les eaux intérieures

Delete

CCPIF .. .. see EIFAC

Insert, in alphabetical order, the following:

CECPI .. .. see EIFAC

IFIPS .. .. International Federation for Information Processing  
Societies

PIOSA .. .. Pan Indian Ocean Science Association

SEATO .. .. South-East Asia Treaty Organization

## BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

### 4. ANNOTATIONS AND TREATMENT OF SPECIAL CASES

#### 4.1 *Treatment of publications not seen by compilers*

In the last sentence of second paragraph replace:

“ by the phrase ‘ Orig. not seen ’ as annotation ”

by :

“ by an asterisk following the year of publication ”.

Add new sub-section as follows:

#### “4.7 *Treatment of reports and proceedings of meetings*

The usual bibliographic practice is followed of giving the title of the meeting as the *author*. The title of the document may also contain the title of the meeting; in such cases, however, it is not necessarily quoted in full in the document title as entered in this Bibliography. Meeting papers are, like the meetings themselves, entered normally with the name of the sponsor of the meeting as *author*. The Citation Index provides in conjunction with the Author Index or the Meetings section of Author Index a means of tracing reports when only the name of the sponsor is known exactly (see sub-sections 4.6 and 5.5, and section 7).”

### 5. INDEXES

#### 5.1 *Author*

Insert in the first sentence of the second paragraph after “ printed on the document ”, the word:

“ without ”.

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Edinburgh, H.M.S.O. *should read*  
*Mar. Res.*, (1) : 32 p.

60-030er  
(60-0701)

On the change in strength of netting immersed . . . *should read*  
On the change in strength of netting cords immersed . . .

60-031er  
(59-1734)



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# CURRENT BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

## VOLUME 4—MEETINGS : CONGRESSES, CONFERENCES, SYMPOSIA, COURSES, TRAINING CENTRES

- IFIPS.** 16/6/60 G  
Rome, Italy. 2 days. 60-205me  
First Council meeting.
- Kaiser Foundation Research Institute.** 6/9/60 MF  
Asilomar, Pacific Grove, Calif., U.S.A. 5 days. 60-206me  
2nd Symposium on lower metazoa, comparative biology and phylogeny.
- Water Pollution Control Federation.** 2/10/60 MF  
Philadelphia, Pa., U.S.A. 5 days. 60-207me  
3rd Annual meeting.
- Atlantic States Marine Fisheries Commission.** 29/9/60 M  
Charleston, S.C., U.S.A. 2 days. 60-208me  
Annual meeting.
- ECAFE.** 5/12/60 MF  
Colombo, Ceylon. 9 days. 60-209me  
4th Regional technical conference on water resources development.
- GLFC.** 29/11/60 F  
Cleveland, Ohio, U.S.A. 2 days. 60-210me  
Annual meeting.
- IAEA/IMCO.** 14/11/60 M  
Taormina, Italy. 5 days. 60-211me  
Symposium on nuclear ship propulsion with special reference to safety.  
Will incl. discussion of waste containment and disposal.
- ICES, Working Group on Mesh Selection.** Mid-Dec./60 M  
Copenhagen, Denmark. 10 days. 60-212me  
Meeting.  
To prepare report for publication.
- ECE/FAO/WHO/IAEA.** 22/2/61 F  
Geneva, Switzerland. 10 days. 60-213me  
Conference on water pollution problems in Europe.

BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

- PIOSA.** Nov./60 MF  
Karachi, Pakistan. 60-214me  
4th Pan-Indian ocean science congress.  
Topics to be discussed include "River and sea fish resources of Pakistan and their developmental programme" and "Biological aspects of oceanography".
- Polytechnical University of Gdansk.** 15/11/60 MF  
Gdansk, Poland. 5 days. 60-215me  
International meeting on "Advances in the engineering of the smoke curing process".
- ISO/TC 8.** 3/10/60 M  
Düsseldorf, Germany. 4 days. 60-216me  
Meeting on shipbuilding details.
- N.Y. Academy of Sciences/AAAS.** 30/12/60 G  
New York, N.Y., U.S.A. 60-217me  
Conference on electrobiology.
- Society for General Systems Research.** 30/12/60 G  
New York, N.Y., U.S.A. 1 day. 60-218me  
Annual meeting.  
To be held in conjunction with AAAS.
- Pacific Marine Fisheries Commission.** 28/11/60 M  
Portland, Ore., U.S.A. 3 days. 60-219me  
Annual meeting.
- WHO/Czechoslovakian Government.** 17/10/60 F  
Prague, Czechoslovakia. 27 days. 60-220me  
Water sanitation training course.
- USPHS, Taft Sanitary Engineering Center.** 7/11/60 MF  
Cincinnati, Ohio, U.S.A. 5 days. 60-221me  
Course on radioactive pollutants in water.
- USPHS, Taft Sanitary Engineering Center.** 14/11/60 MF  
Cincinnati, Ohio, U.S.A. 5 days. 60-222me  
Course on radionuclides in water.
- GCFI.** 14/11/60 M  
Miami Beach, Florida, U.S.A. 5 days. 60-223me  
13th Annual meeting.  
Amendment to 60-116me.  
Will incl. sessions on shrimp, industrial fisheries, technology and exploratory fishing, shellfish, and a Caribbean and general session.



## MEETINGS

**Thunderbird Enterprises Ltd.** 18/10/60 MF  
60-224me  
London, U.K. 4 days.

Exhibition and conference on the treatment of industrial waters and effluents.

**USPHS.** 12/12/60 MF  
60-225me  
Washington, D.C., U.S.A. 3 days.  
National conference on problems and progress in water pollution control.

**USPHS, Taft Sanitary Engineering Center.** 13/2/61 MF  
60-226me  
Cincinnati, Ohio, U.S.A. 5 days.  
Course on radioactive pollutants in water.

**USPHS, Taft Sanitary Engineering Center.** 20/2/61 MF  
60-227me  
Cincinnati, Ohio, U.S.A. 5 days.  
Course on radionuclides in water.

**AAAS.** 26/12/61 MF  
60-228me  
Philadelphia, Pa., U.S.A. 6 days.  
Meeting.

**American Fisheries Society.** 14/9/61. MF  
60-229me  
Memphis, Tennessee, U.S.A. 2 days.  
Meeting.

**British Ecological Society.** 5/4/61 MF  
60-230me  
Imperial College, London, U.K. 4 days.  
Symposium on the water relations of plants.

Will incl. consideration of both physical and biological aspects of water relations in the ecology of plants. Provisional programme incl. sessions devoted to the measurement of water and water movement in the plant environment, the rôle of water in determining the distribution of spp. and types of vegetation, the movement of water through plants, their water balance and adaptations to varied water conditions, and the relation of water and water balance to growth.

**Challenger Society/Representatives from the Marine Laboratories.** 26/1/61 MF  
60-231me  
Reading, U.K. 2 days.  
Joint meeting.

**Challenger Society/Representatives from the Marine Laboratories.** 24/5/61 MF  
60-232me  
Dublin, Ireland. 2 days.  
Joint meeting.

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- Challenger Society/Representatives from the Marine Laboratories.** 20/9/61  
Plymouth, U.K. 3 days.  
Joint meeting. MF  
60-233me
- ECAFE/WMO.** Nov.-Dec./61  
New Delhi, India. F  
2nd Seminar on hydrology. 60-234me
- FAO.** Jan.-March/61  
Manila, Philippines. 6 weeks. MF  
Training centre on fish processing technology. 60-235me
- FAO.** 18/9/61  
Washington, D.C., U.S.A. 2 weeks. M  
World conference on fishery products nutrition "Health from the seas". 60-236me
- FBA(UK).** 29/3/61  
Windermere, U.K. 14 days. F  
Vacation course in freshwater biology. 60-237me  
An introduction to the problem with emphasis on ecological aspects suitable for those who have completed one or more years of biological study for a university degree.
- GCFL.** 13/11/61  
Miami Beach, Fla., U.S.A. 5 days. M  
Meeting. 60-238me
- Gulf States Marine Fisheries Commission.** 16/3/61  
Biloxi, Mississippi, U.S.A. 2 days. M  
Meeting. 60-239me
- ICNAF. Standing Committee on Research and Statistics.** End May/61  
Woods Hole, Mass., U.S.A. 1 week. M  
Meeting. 60-240me  
(Precedes annual meeting of ICNAF.)
- ICNAF.** 1/6/61  
Washington, D.C., U.S.A. 4 days. M  
Marking symposium. 60-241me  
(Precedes 10th annual meeting.)
- ICNAF.** 5/6/61  
Washington, D.C., U.S.A. M  
11th (10th annual) meeting. 60-242me

MEETINGS

- IFIPS.** 22/2/61 G  
 Darmstadt, Germany. 2 days. 60-243me  
 2nd Council meeting.
- IPHC.** 7/2/61 M  
 Prince Rupert, Br. Columbia, Canada. 4 days. 60-244me  
 Meeting.
- IWC.** 19/6/61 M  
 London, U.K. 5 days. 60-245me  
 Annual meeting.
- International Association of Game, Fish, and  
 Conservation Commissioners.** 11/9/61 MF  
 Memphis, Tennessee, U.S.A. 3 days. 60-246me  
 Meeting.
- Operations Research Society of America.** 25/5/61 G  
 Chicago, Ill., U.S.A. 2 days. 60-247me  
 19th National meeting.
- PSA.** 21/8/61 M  
 Honolulu, Hawaii, U.S.A. 17 days. 60-248me  
 10th Pacific science congress.  
 Amendment to 60-048me.

Symposia: Biological sciences—Botany (a) Plant biosystematics in the Pacific Basin; (b) The algae and their productivity in the Pacific Basin region. Biological sciences—Zoology and entomology, botany, geography (a) Pacific Basin biogeography. Biological sciences—Limnology and freshwater fisheries (a) The role of gonadotropins in the reproductive cycle in fishes; (b) Progress in the culture of pond fishes; (c) The effects of introduced fishes on indigenous fishes; (d) (Jointly with Division of Marine Biology and Fisheries) Endocrinology of fish; (e) Fishery protection in relation to dams and water development projects; (f) Productivity of streams; (g) Speciation in freshwater fishes; (h) Recent advances in limnology. Biological sciences—Marine biology and fisheries (a) Serology and immunology of marine organisms; (b) Factors affecting the behaviour of predaceous marine fishes, especially sharks; (c) (Jointly with Division of Oceanography Section of Geophysical Sciences) Biological and physical aspects of light in the sea.

See also 60-249me.

BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

**Pacific Tuna Conference.** 21/9/61  
Honolulu, Hawaii, U.S.A.

M  
60-249me

Pacific tuna biological conference.

Special meeting in conjunction with 60-248me.

**Estación de Biología Marina "Puerto Deseado".** Feb./61  
Two courses: (1) Marine invertebrates; (2) Marine algae and phytoplankton.

M  
60-250me

Both for advanced and post-graduate students.

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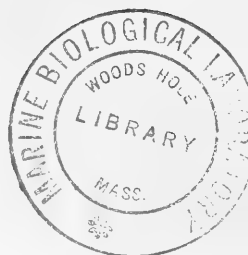
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# CURRENT BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

## VOLUME 4—EXPLANATION OF COVERAGE AND ARRANGEMENT

### 9. ERRATA AND ADDENDA to "EXPLANATION OF COVERAGE AND ARRANGEMENT" (contd.)

#### 1. SCOPE AND COVERAGE OF BIBLIOGRAPHY

*List of periodicals the contents of which are entered completely*

Insert:

after No. 320

Journal of the Tokyo University of Fisheries

after No. 483

Reports of the Faculty of Fisheries, Mie Prefectural University

#### 3. REFERENCES

##### 3.3 *Short forms of periodical titles*

Delete from the first sentence:

"and not from the French".

Make a new paragraph starting with second sentence.

Delete from the first sentence of the new second paragraph the phrase:

"the title from which".

Insert in the first sentence of the new second paragraph after "... language" the following:

"and which may contain articles in several languages (including multilingual periodicals), the title of the periodical from which".

Add at the end of the new second paragraph the following sentence:

"For national periodicals, however, and also for international periodicals in which the articles generally are all in a single language, the periodical title from which the short form is derived is the title in the national language or the usual language of the articles."

#### 4. ANNOTATIONS AND TREATMENT OF SPECIAL CASES

##### 4.1 *Treatment of publications not seen by compilers*

*Code for Abstracting Journals*

Insert, in alphabetical order:

Abstracts of scientific and technical papers published in Egypt and papers received from Afghanistan, Cyprus, Iran, Iraq, Jordan, Lebanon, Pakistan, Saudi Arabia, Sudan and Syria .. .. .

Landwirtschaftliches Zentralblatt .. .. . LZ  
Nutrition Abstracts and Reviews .. .. . NAR



# CURRENT BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

## VOLUME 3—ERRATA

*Met. i Gidrol.*, (5) : 18-47 should read

*Met. i Gidrol.*, (5) : 18-24

60-032er

(60-4823)

*Met. i Gidrol.*, (6) : 34-44 should read

*Met. i Gidrol.*, (6) : 34-8

60-033er

(60-4859)

(d.u.) should read

(1959)

60-034er

(60-6709)





# CURRENT BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

## VOLUME 4—ADDENDA

- Annotation:* Orig. published as *Invest. Ind. Lakes*, 5:1-46. 60-248ad  
BA 35E (7) 18025. Account of observations on the development (59-8114)  
of O<sub>2</sub> maximum in this lake, with a brief contribution toward  
generalized theory of metalimnetic O<sub>2</sub> maximum.
- Annotation:* Review of literature up to May 1956; ref. to tempera- 60-249ad  
ture co-efficients and acclimatization in fishes. (59-2708)
- Annotation:* Taxonomic monograph with notes on distribution 60-250ad  
and ecology. (60-5069)
- Annotation:* Description of biological, chemical and physical 60-251ad  
characteristics of marine harbours with different degree of pollution. (60-5204)
- Annotation:* Lists the spp. (Diptera, Trichoptera and Gerroidea 60-252ad  
excluded) collected from a range of low-to-high salinity habitats. (59-5516)  
Flooding results in the elimination of the stenohaline spp.
- Annotation:* Variation in 306 specimens of rainbow trout, *Salmo* 60-253ad  
*gardnerii* Richardson, of 17 different population samples collected (60-2923)  
from northern California to near Ciudad Durango, Durango,  
Mexico, is reported. Data on 12 meristic and 28 linear characters  
are analyzed statistically and plotted graphically and conclusions  
are drawn.
- Annotation:* As per title covering description of *Lutra lutra* L., its 60-254ad  
distribution and habits, reproduction and breeding habits, para- (60-4322)  
sites and diseases, feeding habits, and observations on captive  
otters, bibliography and summary tables on weight, measurements,  
food habits.
- Annotation:* A spring and summer maximum is associated with 60-255ad  
reproductive activity. The oxygen consumption temperature (59-5506)  
relationship was shown, with suitable qualifications, to follow  
Krogh's curve. The regression of oxygen consumption on body  
weight is also studied.
- Annotation:* A useful key. 60-256ad  
(60-5218)
- Annotation:* A systematic list of reptiles, Amphibia and freshwater 60-257ad  
and marine fish. (60-5219)
- Annotation:* Collected, mostly with electric shocker, from a 7-mile 60-258ad  
section of river in 1958 and fall of 1957. Condition factor; growth; (60-3424)  
maturity; number of eggs per female; food. Unsegmented tape-  
worm tentatively identified as *Caryophyllaeus laticeps* was found in  
many carp. Although a common parasite of carp in Europe, it  
has not been reported previously in America.

BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

- Annotation:* Incl. sections on freshwater and marine resources; food consumption and resources; economics and policies of resource conservation; natural resources research problems; with bibliography, name index and subject index. 60-259ad (60-2534)
- Annotation:* BA 34E (3) 8961. Review of the non-pteraclid bramid fishes led to union of the families Steinegeriidae and Trachyberycidae with the Bramidae. *Steinegeria* is placed in the synonymy of *Taractes*, and *Trachyberxy* provisionally placed there, these conclusions based on the study of juveniles and adults from Madeira and the Gulf of Mexico. 60-260ad (59-2947)
- Annotation:* WPA 33 (6) 1185. The history of the "red tide" on the west coast of Florida, caused by blooms of *Gymnodinium brevis*, is reviewed. 60-261ad (60-2975)
- Annotation:* (Issued also as: *Sechenov. Physiol. J.*, 45 : 161-8.) Stable positive buoyancy was developed in carp as a result of a series of rises to a height of 80 cm. IABS 16 (1) 1731. 60-262ad (60-4102)
- Annotation:* BA 34A (4) 12788. Identification, classification, names, distribution and habitat, behavior, food and baits, migration and spawning are discussed. Over 40 pages of identification charts of more than 150 fish, a glossary, name and subject indexes, with generic and spp. names, many maps, photographs of catches, and charts. 60-263ad (59-2495)
- Annotation:* Test showed reduction of 42% in water loss. 60-264ad (59-8637)
- Annotation:* Lists 19 families and 38 genera. 60-265ad (59-8639)
- Annotation:* Brief discussion of problems of management of National Parks waters. 60-266ad (59-8645)
- Annotation:* Describes fishing methods and catch. 60-267ad (59-8640)
- Annotation:* Brief account of current commercial fishing. 60-268ad (59-8641)
- Annotation:* Brief account of 3 spp. of *Tilapia* in natural and artificial waters. 60-269ad (59-8642)
- Annotation:* Results of 3 years fishing with gill nets, long line and rod and line in 40 acre unstocked dam. 60-270ad (59-8643)
- Annotation:* Production of *Tilapia*, principally *T. mossambica*, in relation to stocking rates was investigated at 3 levels of nutrition. 60-271ad (59-8648)
- Annotation:* The percentage of different size groups occurring under different stocking rates and levels of nutrition, and the average weights of each size group are considered. 60-272ad (59-8649)
- Annotation:* Results of experiments using ducks on *Tilapia* ponds in place of fertilization, feeding and weeding. 60-273ad (59-8650)

## ADDENDA

- |  |                       |
|--|-----------------------|
| <i>Annotation:</i> Results of 4 years experiments.   | 60-274ad<br>(59-8651) |
| <i>Annotation:</i> General summary of management of weeds in ponds and dams.   | 60-275ad<br>(59-8653) |
| <i>Annotation:</i> Observations on chemistry of water in ponds.  | 60-276ad<br>(59-8654) |
| <i>Annotation:</i> WFA 11 (4) : 13.  | 60-277ad<br>(583278)  |
| <i>Annotation:</i> CR 59-8903.   | 60-278ad<br>(60-2057) |
| <i>Annotation:</i> WFA 11 (4) : 17.  | 60-279ad<br>(60-2901) |
| <i>Annotation:</i> WFA 11 (4) : 17.  | 60-280ad<br>(60-2066) |
| <i>Annotation:</i> (Issued also as: <i>Mar. Repr. Scott. Home Dep.</i> (122).)   | 60-281ad<br>(60-4917) |
| <i>Annotation:</i> Two captive porpoises, or bottle-nosed dolphins, were given a variety of tests for their ability to perceive and avoid objects in water by reflected sound signals. The tests were made in a specially constructed anechoic pool in which visual perception was eliminated by the turbidity of the water. | 60-282ad<br>(60-3293) |
| <i>Annotation:</i> Classification of the Syngnathidae with discussion of hypothetical development of the broken arch, and offering a hypothetical evolutionary sequence from a typical Syngnathidae pipefish with an inverted brood pouch closure to a typical seahorse.   | 60-283ad<br>(60-1395) |
| <i>Annotation:</i> Co 59-7424. Orig. issued as: <i>Trans. nat. Hist. Soc. Northumb.</i> 13 (2) : 33-64.  | 60-284ad<br>(60-3541) |
| <i>Annotation:</i> (Issued also as: <i>Proc. Pacif. Sci. Congr.</i> , 3A (8) : 1177-96.)   | 60-285ad<br>(59-2593) |



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MF

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Draft of the chapter prepared in FAO for use by UNESCO in report to be published on the project on "Main Trends of Research in the Field of Natural Sciences" undertaken with collaboration from FAO, the International Atomic Energy Agency, and the other specialized agencies. The project was initiated in response to the United Nations General Assembly resolution 1260 (XIII) dated 8 Oct. 1958. Incl. section on fisheries with following sub-titles: Productivity of waters; Taxonomy of aquatic organisms; Distribution of aquatic organisms; Population dynamics; Fish finding; Fish husbandry; Pollution problems; Fishing gear; Improvement of keeping quality.

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 En Ru

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*Trans. Amer. micr. Soc.*, 78 (2) : 202-6.  
Morphology and biology of a species of *Protospongia*.
- BA 34 (3) 8786. Bloom of colonial choanoflagellates which occurred in the Clinch River near Oak Ridge, Tennessee in the summer of 1957 was determined to be a species of *Protospongia*. Morphology, food ingestion. Organism is definitely not a fragment of a freshwater sponge.
- Kramp, P. L.** (1958) M  
60-6953  
*Vidensk. Medd. dansk naturh. Foren. Kbh.*, 119 : 47-54.  
Notes on a living specimen of the hydroid *Kinetocodium danae* Kramp, parasitic on a pteropod.
- BA 34 (3) 8812. Specimen of *Diacria trispinosa*, taken by ringtrawl off the coast of Portugal, carried a colony. Newly liberated medusae are described. *K. danae* belongs to Hydractiniidae, closely related to *Hydractinia* and *Podocoryne*, but warrants a distinct genus.
- Kramp, P. L.** (1958) M  
60-6954  
*Vidensk. Medd. dansk naturh. Foren. Kbh.*, 119 : 115-28.  
Some Mediterranean Hydromedusae collected by A. K. Totton in 1954 and 1956.
- BA 34 (3) 8813. Collection data and distribution notes, with some descriptive notes, on 23 spp., incl. *Sarsia evimia* and *Mitrocomella brownei* not previously recorded from the Mediterranean.
- Petersen, K. W.** (1958) M  
60-6955  
*Vidensk. Medd. dansk naturh. Foren. Kbh.*, 119 : 25-45.  
On some medusae from the North Atlantic.
- BA 34 (3) 8814. Collection data and distribution notes, for 32 spp. Descriptions of *Calycopsis gara* and *C. krampi*.
- Banse, K.** (1958) M  
60-6956  
*Vidensk. Medd. dansk naturh. Foren. Kbh.*, 119 : 67-105.  
Die Gattungen *Oriopsis*, *Desdemona* und *Augeneriella* (Sabellidae, Polychaeta). (The genera *Oriopsis*, *Desdemona* and *Augeneriella*, Sabellidae, Polychaeta.)
- BA 34 (3) 8817. Genus in sub-family Fabricinae of Sabellidae, is revised, with emended diagnosis, key, and descriptions, synonymy, distribution and discussion.

- M  
60-6957
- Hutton, R. F. & F. Sogandares-Bernal** (1959)  
*J. Parasit.*, 45 (4) : 384-404, 430.

Notes on the distribution of the leech, *Myzobdella lugubris* Leidy, and its association with mortality of the blue crab, *Callinectes sapidus* Rathbun.

BA 34 (3) 8818. Appears to be first record of *M. lugubris* in Florida waters. Leech implicated as possible factor in mortality of crab.

- M  
60-6958
- van der Spoel, S.** (1958)  
*Basteria*, 22 (4-5) : 77-90.

Groei en ouderdom bij *Viviparus contectus* (Millet, 1813) en *Viviparus viviparus* (Linne, 1758). (Growth and age in *Viviparus contectus* Millet, 1813 and *Viviparus viviparus* Linne, 1758.)

BA 34 (3) 8935. *V. contectus* grows faster than *V. viviparus* and reaches seven years. The maximum ages are 10 and 11 years, respectively. Females live about half a year longer than the males. Maximum number of embryos; abnormal eggs.

- M  
60-6959
- Thorson, G.** (1958)  
*Vidensk. Medd. dansk naturh. Foren. Kbh.*, 119 : 55-8.

Parasitism in the marine gastropod family Scalidae.

BA 34 (3) 8936. In rocky, flatly-sloping tidal zone at La Jolla, sea anemone, *Anthopleura xanthogrammica*, was found to have *Opalia crenimarginata* sucking on the base of its body cylinder. Observations on other spp. of Scalidae are needed to see whether whole family is adapted to parasitic mode of life.

- M  
60-6960
- van Urk, R. M.** (1959)  
*Basteria*, 23 (1-2) : 1-28.

De *Spisula*'s van het Nederlandse strand. (The *Spisula* species of the Netherlands beach.)

BA 34 (3) 8938.

- F  
60-6961
- Gupta, P. D. & R. M. Bhowmik** (1958)  
*Sci. & Cult.*, 24 (6) : 283.

An interesting case of albinism in *Arius jella* Day from India.

BA 34 (3) 8956. Fifth record of albinism among catfishes and the second from India.

- F  
60-6962
- Holmgren, U.** (1959)  
*Breviora*, 109 : 1-11.

On the pineal area and adjacent structures of the brain of the dipnoan fish, *Protopterus annectens* (Owen).

BA 34 (3) 8957. Morphology of the area resembles that of primitive teleosts. Histology is similar to that of amphibians. Aldehydefuchsin-positive granules were observed in the paraphysis.

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- Moona, J. C.** (1959) M  
60-6963  
*Sci. & Cult.*, 24 (8) : 385-7.  
The skull of *Septipinna phasa* (Ham.).
- BA 34 (3) 8964. Description of the skull of this fish with the differences from observations of others. Ill. note.
- Connell, J. J.** (1960) M  
60-6964  
*Biochem. J.*, 75 : 530-8.  
Studies on the proteins of fish skeletal muscle—7. Denaturation and aggregation of cod myosin.
- Daily, W. A.** (1959) F  
60-6965  
*Proc. Ind. Acad. Sci.*, 68 : 43-57.  
In search of some blue-green wanderers.
- BA 35 (7) 18024. Presidential address. Spp. composition of planktonic mixophyccean communities of some lakes and ponds of Indiana discussed.
- Arena, P.** (1959) M  
60-6966  
*Proc. gen. Fish. Coun. Medit.*, 5 (71) : 501-4.  
Observations accomplies pendant la saison de pêche 1958 dans une madrague le long des côtes de la Sicile. (Observations made during the 1958 fishing season in a tuna trap on the Sicilian coast.) En
- Observations made in a tuna trap situated near Trapani on the physico-chemical properties of the water, the plankton, the sexual maturity, the behaviour, and the pigmentation of the tunas, as well as on the results of the fishing operations.
- Provost, M. W. & N. Branch** (1959) F  
60-6967  
*Fla. Ent.*, 42 (2) : 50-62.  
Food of chironomid larvae in Polk County lakes.
- BA 35 (7) 18039. *Glyptotendipes paripes* larvae in lakes of Central Florida prefer sand bottoms and are deterred by accumulations of organic matter. Positive correlation is shown between density of plankton in lakes and in chironomid stomachs.
- Murie, O. J.** (1959) MF  
60-6968  
*N. Amer. Fauna*, 61 : 1-406.  
Fauna of the Aleutian Islands and Alaska Peninsula.
- BA 35 (7) 17977. Introduction incl. descriptions of geography and geology, climate, environment and biotic distribution, and vegetation. Notes presented on invertebrates and fishes most commonly observed or because of some special relationship to birds and mammals.

- MF  
60-6969
- Krau, L.** (1958)  
*Mem. Inst. Osw. Crus.*, 56 (2) : 473-6.  
Modificações no plancton da Enseada de Inhauma, antes e depois da poluição. (Modifications in the plankton of Enseada de Inhauma, before and after pollution.)
- BA 35 (7) 18010. List of spp. taken in 1918, when the water was pure, is given. Examination in the same locality, in 1944, by the hydrobiological station of the Ilha do Pinheiro, showed great changes. The truly marine spp. no longer occurred. In 1958 the water is as black as carbon, with characteristic indicators of extremely polluted water.
- M  
60-6970
- Menache, M.** (1957)  
*Mem. Inst. Sci. Madagascar (F)*, 1 : 317-23.  
Etude préliminaire de l'eau de mer de surface dans la baie de Nossi-bé. (A preliminary study on ocean surface-waters in the Bay of Nossi-bé.)
- BA 35 (7) 18012. Observations were made, 1955-1956, between 7 and 8 a.m. and between 4 and 5 p.m.
- F  
60-6971
- Czeczuga, B.** (1957)  
*Rocz. Akad. Med. J. Marchlewskiego Białymstok*, 3 : 85-126.  
Wpływ związków humusowych na zooplankton. (The effect of humus compound on zooplankton.)
- BA 35 (7) 18023. Lakes Blado, Bladko and Mlynek, belonging to the Narocz groups of lakes, USSR, and also temporary collections of water—pools—in the Narocz district were examined. Laboratory observations also were carried out in the years 1953-1955.
- F  
60-6972
- Furukawa, M.** (1958)  
*Igaku Kenkyu*, 28 (2) : 339-54.  
(Planktons in the pit-waters of coal mines.) Ni En
- BA 35 (7) 18026. Kishima Mine in Saga Prefecture and Yotsuyama Mine in Omuta were examined. Spp. are ill. and tabulated. Fauna of pit-waters is different from surface waters, because the number of spp. common to the pit and surface waters is only six.
- MF  
60-6973
- Havinga, B.** (1958)  
*Natura, Amst.*, 55 : 89-91.  
De fauna bij de overgang van Zuiderzee tot IJsselmeer. (The fauna at the transition from Zuydersea to Yssellake.)
- BA 35 (7) 18028. Zuydersea was closed by a dike in 1932, and transformed gradually into a nearly fresh lake. The changes in the water fauna are briefly described.

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**Hori, S. & I. Ito** (1959)*Jap. J. Ecol.*, 9 (4) : 152-4.(The annual succession of desmids communities in consequence of organic pollution.) *Ni En*

BA 35 (7) 18031. Annual succession from 1950 to 1958 of communities in Tataranuma, a small lake, has been studied.

F

60-6975

**Illies, J. & G. H. Schwabe** (1959)*Biol. Zbl.*, 78 (2) : 391-6.

Limnologie und Ecologie. (Limnology and ecology.)

BA 35 (7) 18032. Develops the idea that limnology is historically the oldest branch of ecology.

F

60-6976

**Stahl, J. B.** (1959)*Invest. Ind. Lakes*, 5 : 47-102.The developmental history of the chironomid and *Chaoborus* faunas of Myers Lake.

BA 35 (7) 18041. Suggested that productivity of lake has not varied appreciably during its developmental history.

M

60-6977

**Van der Wiel, P.** (1958)*Natura, Amst.*, 55 : 80-1.

Kevers op palen van zeeweringen. (Coleoptera in piles of sea-walls.)

BA 35 (7) 19799. Describes habits and burrows of *Helops rossii*, *Codiosoma spadix*, *Hylotropes bajulus*, *Ocys harpaloides*, and *Nacerda melanura*. All infest piles of old palisades in the Netherlands, causing sometimes considerable damage.

F

60-6978

**Kachalova, O. L.** (1957)*Ent. Obozr.*, 36 (1) : 175-8.Larvae of the caddis flies *Rhyacophila obliterata* McL. (Trichoptera, Rhyacophilidae.)

BA 35 (7) 19936. Life history on Latvia; some details of morphology of larvae.

F

60-6979

**Wiggins, G. B.** (1959)*Canad. Ent.*, 91 (7) : 402-5.

A method of rearing caddisflies (Trichoptera).

BA 35 (7) 19940. Wire screen cages which can be half submerged in running water are described and ill.

- Fritchman, H. K. II.** (1960) M  
60-6980  
*Veliger*, 2 (3) : 53-7.  
*Acmaea paradigitalis* sp. nov. (Acmaeidae, Gastropoda).  
 BA 35 (7) 19953. Taxonomic description and ecological notes on new limpet of N. American west coast.
- Gilbert, M.** (1959) F  
60-6981  
*Bull. Inst. roy. Sci. nat. Belg.*, 35 (10) : 1-27.  
 Gastropodes du Diestien, du Scaldisien et du Merxemien de la Belgique—3ème note. (Gastropods of Diestien, Scaldisien and Merxemien of Belgium)—3rd note.)  
 BA 35 (7) 19954.
- Gregoire, C.** (1959) M  
60-6982  
*Bull. Inst. roy. Sci. nat. Belg.*, 35 (13) : 1-14.  
 A study of the remains of organic components in fossil mother-of-pearl.  
 BA 35 (7) 19955. Electron microscope shows three patterns of structure similar to that recognized in living Cephalopoda, Gastropoda and Pelecypoda.
- Hertlein, L. G. & A. G. Smith** (1960) F  
60-6983  
*Veliger*, 2 (3) : 48-51.  
 Molluscs from Mountain Lake, San Francisco, California.  
 BA 35 (7) 19956. Nineteen spp. and sub-spp. of molluscs, three pelecypods and 16 gastropods, are listed.
- Leloup, E.** (1959) M  
60-6984  
*Bull. Inst. roy. Sci. nat. Belg.*, 35 (5) : 1-4.  
 A propos d'*Ischnoradsia australis* (Sowerby, 1840). (Concerning *Ischnoradsia australis* Sowerby, 1840.)  
 BA 35 (7) 19958. Suggests synonymy of *I. evanida* (Sowerby, 1840) and *I. novaehollandiae* (Reeve, 1847), with *I. australis*.
- McLean, J. H.** (1960) M  
60-6985  
*Veliger*, 2 (3) : 61-3.  
*Batillaria cumingi*, introduced cerithiid in Elkhorn Slough.  
 BA 35 (7) 19959. Establishment of Japanese gastropod is reported with ecological observations.
- Smith, A. G.** (1960) M  
60-6986  
*Veliger*, 2 (3) : 57-60.  
 Additional notes on *Beringius*.  
 BA 35 (7) 19960. Sculptural and other variations in eight specimens of the marine molluscan genus, family Neptuneidae, from deep water off Washington coast are discussed.



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**Wright, H. O.** (1960)*Veliger*, 2 (3) : 63-4.Note on an aggregation of *Aplysia californica* (Cooper).

BA 35 (7) 19961. Large number observed on jetty in Sonoma County, California.

M

60-6988

**Caldwell, D. K., L. H. Ogren & L. Giovannoli** (1959)*Rev. Biol. trop.*, 7 (1) : 7-33.

Systematic and ecological notes on some fishes collected in the vicinity of Tortuguero, Caribbean Coast of Costa Rica. Es

BA 35 (7) 19963.

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**De Buen, F.** (1958)*Bol. Soc. Biol. Concepción*, 33 : 107-24.Investigaciones sistemáticas y biológicas sobre la merluza. (Systematic and biological investigations of *Merluccius*.) En Fr DeBA 35 (7) 19965. Distinguishes 2 spp. of genus *Merluccius* in Chilean waters: *M. gayi gayi* (Guichenot) and *M. polylepis* (Ginsburg). Growth rate, geographical distribution, bathymetry, date of spawning, sexual dimorphism, stomach contents, and migration.

M

60-6990

**Willis, R. P.** (1959)*N.Z.J. Sci.*, 2 : 393-7.

Some methods of obtaining large sea-water samples from depth.

WPA 33 (6) 1080. Ill. descriptions are given of three samplers used by the New Zealand Oceanographic Institute to obtain larger samples of sea water from great depth than can be obtained with conventional apparatus, particularly to collect sufficient water for determining the carbon-14 activity.

F

60-6991

**Marczek, E. & J. Zieliński** (1957)*Gaz. Woda Tech. sanit.*, 31 : 45-9.

The effect of sulphite waste waters on death of fish.

WPA 33 (6) 1184. Fish in non-aerated sulphite waste waters died in 5-9 hours; slight aeration prolonged the period to 10-16 hours. The sensitivity of different fish is discussed. Mortality in well-aerated waste waters was normal.

MF

60-6992

**Howe, E. D.** (1959)*J. Amer. Wat. Wks Ass.*, 51 : 1191-200.

Progress in saline water conversion.

WPA 33 (5) 819. Reviews recent developments in the demineralization of saline water.

- M  
60-6993
- Nogusa, S.** (1957)  
*Jap. J. Ichthyol.*, 6 (4-6) : 141-6.  
Chromosomes studies in Pisces—VII. A comparative study of the chromosomes in six species of the Gobiidae.
- BA 33 (4) 12452. Special regard to the chromosomal relationships of closely related spp.
- F  
60-6994
- Hora, S. L.** (1958)  
*Mem. Indian Mus.*, 14 (2) : 73-86.  
Fish paintings of the third millenium B.C. from Nal (Baluchistan) and their zoogeographical significance.
- BA 33 (4) 12551. Available data regarding paintings on pottery brought together and the various types of fish identified and ill. Ecological association of these fishes is discussed, and it is pointed out that wetter conditions are likely to have prevailed in the Baluchistan hills during the period of the Nal culture. Identification of *Glyptothorax* Blyth fills gap in the range of its distribution. Doubtful identification of *Cyprinion* Heckel shows that the Middle East fauna either had not spread to Baluchistan at the time of the Nal culture, or had only just begun to spread. Absence of fishing implements presumed that fish were caught by hand, either by damming portions of streams or by poisoning pools with plant juices.
- M  
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- Punt, A., F. Nijhof-Rombach & B. Schippers** (1957)  
*Acta physiol. pharmacol. Neerland.*, 6 : 551-5.  
Muscle contracture elicited by ultra-violet irradiation.
- BA 33 (4) 12620. Anterior retractor byssal muscle of *Mytilus edulis* showed contractions.
- M  
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- Fish, M. P. & W. H. Mowbray** (1959)  
*Zoologica, N.Y.*, 44 (2) : 71-6.  
The production of underwater sound by *Opsanus* sp., a new toadfish from Bimini, Bahamas.
- BA 34 (4) 9403. "Aggravation", "alarm", "fright", and "defensive"—or "offensive"—attitudes were evidenced. Large air bladder with heavy intrinsic musculature provided the mechanism.
- M  
60-6997
- Robins, C. R., C. Phillips & F. Phillips** (1959)  
*Zoologica, N.Y.*, 44 (2) : 77-84.  
Some aspects of the behavior of the blennioid fish *Chaenopsis ocellata* Poey.
- BA 34 (4) 9417. Observations described under aquarium conditions. Spp. is strongly territorial. Notes for *C. alepidota*, a related sp. from the eastern Pacific.

**Serbetis, C. (1959)***Proc. gen. Fish. Coun. Medit.*, 5 (72) : 505-7.

Un nouveau crustacé comestible en Mer Egée *Callinectes sapidus* Rath. (Decapode brach.) (A new edible crustacean in the Aegean Sea *Callinectes sapidus* Rath.—Decapod brach.) En

MF  
60-6998

Since 1954 *Callinectes sapidus* has progressively invaded the Greek coasts, and especially the brackish waters. It seems that this crab could be used by the canning industry. The conditions in which it has been introduced into Greek waters are still unknown.

**Margalef, R. (1958)***Scientia, Milan*, 93 (2) : 41-6.

Orientaciones modernas de la hydrobiologia. (Modern trends in hydrobiology.)

BA 34 (4) 9488.

MF  
60-6999**FAO (1959)**

Rome, 40 p.

A survey of the investigations required for planning development of agriculture, forests and fisheries in the lower Mekong Basin.

Fisheries section incl. discussion of effect on Great Lake fisheries of manipulation of water flow in Tonlé Sap.

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60-7000**Goncharova, L. I. (1957)\****Trud. MOSRYBVTUZA*, 8 : 214-9.

K voprosu snizheniia sebestoimosti godovikov karpa (po materialam gosudarstvennykh rybovodnykh pitomnikov stepnykh i lesostepnykh raionov RSFSR). (Problem of lowering the costs of carp yearlings (according to materials of state fish-nurseries of steppe and forest-steppe regions of RSFSR).)

F  
60-7001**Egorova, A. A. (1958)\****Trud. Inst. Mikrobiol.*, 5 : 206-13.

Izuchenie vliianiia gerbisida "AE-1" na zhizn' vodoema pri unichtozhenii zaroslei zhestkoi rastitel'nosti. (Study of the effect of the herbicide "AE-1" on the life in a bay of water, in which rank vegetation is being destroyed.)

F  
60-7002**Kanaev, A. I. (1957)\****Trud. MOSRYBVTUZA*, 8 : 255-64.

Dinamika zarazhennosti karpov gvozdichnikom *Caryophyllaeus laticeps* v zavisimosti ot vosrasta ryb. (Trends of carp infection by *Caryophyllaeus laticeps* in relation to the age of fish.)

F  
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- Liaiman, E. M. (1957)\***  
*Trud. MOSRYBVTUZA*, 8 : 235-40.  
 Vliianie stochnykh vod zavodov Molotovskoi oblasti na invazii ryb r. Kamy. (Influence of industrial waste waters in the Molotov (Perm) province on parasitic infections of R. Kama fish.)
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*Trud. MOSRYBVTUZA*, 8 : 241-4.  
 Klinika i diagnostika zhabernoï gnili karpov. (Clinical studies and diagnostics of branchiomycosis of carp.)
- F  
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- Pashnev, G. S. (1957)\***  
*Trud. voronezh Univ.*, 43 : 123-35.  
 Laboratornye i polevye issledovaniia kol'matatsii gruntov kolkhoznykh prudov. (Laboratory and field research on silt, deposited in collective farm fish ponds.)
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- Roitman, V. A. (1957)\***  
*Trud. MOSRYBVTUZA*, 8 : 265-70.  
 Sravnenie parazitofauny sintsa, *Abramis ballerus* L. i gustery, *Blicca bjoerkna* L. rybinskogo vodokhranilishcha v zavicimosti ot ikh obraza zhisni i kharaktera pishchi. (Comparison between the parasitofauna of *Abramis ballerus* L. and *Blicca bjoerkna* L. in the Rybinsk water reservoir, according to their way of life and to the nature of their food.)
- F  
60-7008
- Sadkovskaia, O. D. (1957)\***  
*Trud. MOSRYBVTUZA*, 8 : 245-6.  
 Invazii foreli v zavisimosti ot vodosnabzheniia i pitaniia. (Parasitic infections of trout in relation to water supply and to nutrition.)
- F  
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 Parazitofauna ryb Tsimlianskogo i Manychskogo vodokhranilishch. (Parasitofauna of the Tsimla and Manych water reservoirs.)  
 Research during 1952-3 Tsimla water reservoir.
- F  
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*Trud. MOSRYBVTUZA*, 8 : 247-9.  
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 Sravnitel'naia prochnost' dvukh setnykh poloten. (Comparative resistance of two sheets of netting.)

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*Trud. MOSRYBVTUZA*, 8 : 3-37.  
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- Baranov, F. I.** (1957)\*  
*Trud. MOSRYBVTUZA*, 8 : 133-9.  
 Primenenie obratnogo grafostaticheskogo metoda dlia opredeleniia formy dvizhushcheisia niti. (Application of the reverse graphostatical method for determining the shape of mobile twine.)
- MF  
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- Baranov, F. I.** (1957)\*  
*Trud. MOSRYBVTUZA*, 8 : 127-32.  
 Usloviia podobii rybolovnykh orudii. (Conditions for similitude of fishing gear.)
- MF  
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- Gurevich, M. I. & A. N. Grigor'iants** (1957)\*  
*Trud. MOSRYBVTUZA*, 8 : 72-5.  
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- Gurevich, M. I. & A. I. Zonov** (1957)\*  
*Trud. MOSRYBVTUZA*, 8 : 66-71.  
 Postroenie iz elementarnykh krivolineinykh treugol'nikov chetyrekhugol'nogo setnogo polotna s ravnym kolichestvom uzlov na kromkakh. (The forming of a quadrangular piece of netting, with an equal number of knots at the edges, out of elementary curvilinear triangles.)
- M  
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- Zotov, E. A.** (1957)\*  
 Vladivostok, Primorskoe knizh. izd., 27 p.  
 Opyt raboty koshel'kovymi nevodami na lobe sel'di u beregov Sakhalina. (Operational experience with purse seines on herring fishing off the coasts of Sakhalin.)
- M  
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 Kaliningrad, "Kaliningradskaia Pravda", 90 p.  
 Rukovodstvo po ekspluatatsii, obsluzhivaniiu, remontu sudovogo elektrooborudovaniia i ukhodu za nim (dlia sudov tipa SRT). (Manual for the operating, servicing, repairing and general maintenance of electrical equipment of a medium trawler.)
- M  
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- Nikonorov, I. V.** (1958)\*  
 M., Pishchepromizdat, 96 p.  
 Lov kaspiskoi kil'ki rybonasosom pri podvodnom osveshchenii. (Fishing of Caspian shad by means of fish-pumps and submerged light.)
- M  
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**Segal', A. I. (1957)**M  
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Dinamicheskii raschet sudovykh perekrytii. (Dynamical calculation of ship superstructures.)

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60-7021*Sudostroenie*, (4) : 18-20.

Ob isparitel'nykh ustanovkakh antarkticheskoi kitoboinoi basy 'Slava'. (Evaporation plants on board the Antarctic whaler mother-ship 'Slava'.)

**Kizevetter, I. V. (1958)\***MF  
60-7022

M., Pishchepromizdat, 128 p.

Tekhnologiya lososevoi i chastikovoi solenoi ikry. (Technological aspect of production of salt roe, obtained from Salmonidae and some other fish (exclusive of Acipenseridae).)

**Matveev, V. I. (1958)\***MF  
60-7023

M., Pishchepromizdat, 86 p.

Apparaty intensivnogo deistviia dlia zamorazhivaniia ryby i ryboproduktov. (Intensive-action appliances for freezing fish and their by-products.)

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MF  
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**Vsesoiuznaia nauchno-tekhnicheskaiia konferentsiia po primeneniiu radioaktivnykh i stabil'nykh izotopov i izluchanii v narodnom khozeistve i nauke, 4-12 apreliia 1957 g.** (1958)

Trudy, 263 p.

Izuchenie zhivotnogo organizma. Rybnoe khoziaistvo. Pishchevaia promyshlennost'. (Study of the animal organism. Fisheries. Food Industry.)

Contains papers on studies by means of isotopes and radiations on various biological problems. Many articles deal with problems of human and animal biochemistry and physiology. Apart from man, various animals, in particular fish, served as objects of these studies.

M  
60-7185

**Butkevich, V. S.** (1958)\*

*In:* 60-7181, 161-75.

O bakterial'nom naselenii Kaspiiskogo i Azovskogo morei. (Bacterial population of the Caspian and Azov Seas.)

M  
60-7186

**Butkevich, V. S.** (1958)

*In:* 60-7181, 5-29.

O roli bakterii v more. (Role of bacteria in the sea.)

M  
60-7187

**Butkevich, V. S.** (1958)\*

*In:* 60-7181, 2 : 244-305.

Obrazovanie morskikh zhelezo-margantsovykh otlozhenii i uchastvuiushchie v nem mikroorganizmy. (Formation of ferro-manganese deposits and microorganisms which take part in the process.)

M  
60-7188

**Butkevich, V. S.** (1958)\*

*In:* 60-7181, 30-35.

Pribor dlia vziatiiia prob vody dlia mikrobiologicheskikh issledovaniia. (Water sampling device for microbiological research.)

M  
60-7189

**Butkevich, V. S. & I. V. Bogdanova** (1958)\*

*In:* 60-7181, 135-60.

Nekotorye osobennosti bakterial'nogo naseleniia arkticheskikh morei. (Certain peculiarities of the bacterial population of Arctic seas.)

M  
60-7190

**Butkevich, V. S. & N. V. Butkevich** (1958)\*

*In:* 60-7181, 2 : 197-203.

Vliianie dlitel'nogo kul'tivirovaniia bakterii pri razlichnykh temperaturakh i razlichnykh kontsentratsiia khloristogo natriia na kharakter ikh posleduiushchego razvitiia. (Influence of a prolonged cultivation of bacteria, at various temperatures and various sodium chloride concentrations, on the character of their further development.)

- M
- Butkevich, V. S. & N. V. Butkevich** (1958)\* 60-7191  
*In: 60-7181, 2 : 176-96.*  
 Razmnozhenie morskikh bakterii v zavisimosti ot sostava sredy i temperatury. (Reproduction of marine bacteria according to the composition of environment and temperature.)
- M
- Butkevich, V. S. & G. S. Rusakova** (1958)\* 60-7192  
*In: 60-7181, 221-43.*  
 Denitrifikatsiia bez ispol'zovaniia nitratov v kachestve istochnika azota. (Denitrification without the use of nitrates as a source of nitrogen.)
- M
- Butkevich, V. S. & G. S. Rusakova** (1958)\* 60-7193  
*In: 60-7181, 204-20.*  
 Denitrifitsiruiushchie bakterii iz vody i gruntov Barentseva moria. (Denitrifying bacteria found in water and ground of the Barents Sea.)
- F
- Timofeev-Resovskii, N. V. et al.** (1957) 60-7194  
*Trud. Inst. Biol. ural. Fil. Akad. Nauk S.S.S.R., 9 : 202-51.*  
 Vliianie izluchatelei na biomassu i struktury nazemnykh, pochvennykh i presnovodnykh biotsenozov. (Influence of radiation emitters on the biomass and structure of the land, soil and freshwater biocoenosis.)
- In memoriam of Academician V.I. Vernadskii. In particular, results of tests with freshwater periphyton (mainly with algae).
- F
- Gambarian, M. E.** (1958)\* 60-7195  
*Mikrobiol., Moskva, 27 (3) : 366-70.*  
 Assimiliatsiia molekuliarnogo azota v vode i gruntakh ozera Sevan. (Assimilation of molecular nitrogen in the water and ground of Lake Sevan.)
- MF
- Anon.** (1958)\* 60-7196  
*Nauka i Zhizn', (6) : 73.*  
 Golosa podvodnykh zhivotnykh (Zametka). (Voices of subaqueous animals (Note).)
- MF
- Gomazkov, O. A.** (1958)\* 60-7197  
*Priroda, Moskva, (6) : 127-8.*  
 Eshe raz o svechenii morskikh odonokletochnykh organizmov. (Again about the luminescence of unicellular organisms.)
- MF
- Zhadin, V. I.** (1958)\* 60-7198  
*Priroda, Moskva; (6) : 58-62.*  
 Primenenie radioaktivnykh izotopov v gidrobiologii i rybovodstve. (Use of radioactive isotopes in hydrobiology and fishing.)

- Zhadin, V. I., A. G. Rodina & A. S. Troshin** (1958) F  
60-7199  
*In*: 60-7184, 194-8.  
Izucheniye biologicheskoi produktivnosti vodoemov pri pomoshchi radioizotopov. (Investigation of the biological productivity of water bodies by means of radioisotopes.)  
Results of tests, carried out in 1956 at the fish-farm, Skrunda, in the Latvian SSR.
- Zhuravel', P. A.** (1958)\* F  
60-7200  
*Priroda, Moskva*, (6) : 55-6.  
Obogashcheniye fauny presnykh vodoemov Kryma. (Enrichment of the Crimean freshwater fauna.)
- Okada, et al.** (1958) M  
60-7201  
*Materialy Mezhdunarodnoi konferentsii po mirnomu ispol'zovaniuu atomnoi energii*, 12 : 386-90.  
Issledovanie mekhanizma obrazovaniia zhemchuga radioavtograficheskim metodom. (Study of the mechanism of pearl formation by the radioautographic method.)  
Results of tests performed on three year-old pearl oysters in aquaria.
- Liakhov, S. M.** (1958) M  
60-7202  
*Biull. mosk. Obshch. Ispyt. Prir. (biol.)*, 63 (2) : 99-105.  
Ocherk zhivotnogo naseleniia peschanogalechnogo pribrezh'ia Chernogo moria u Karadaga. (Brief description of the animal population of the sand and shingle shore of the Black Sea near Karadag.)  
Data on the composition, numerical development of the population of the sand and shingle shore of the Black Sea near Karadag.
- Ponomareva, L. A.** (1958)\* M  
60-7203  
*Ryb. Khoz.*, (4) : 10-2.  
Nerestovye skopleniia eufauziid u iugo-zapadnogo poberezh'ia Sakhalina. (Spawn accumulation of euphausiids on the south western coast of Sakhalin.)
- Rozanova, E. P. & M. I. Novozhilova** (1958)\* F  
60-7204  
*Mikrobiol., Moskva*, 27 (3) : 371-6.  
Kolichestvennoe raspredeleniye i vidovoi sostav drozhzhei Rybinskogo vodokhranilishcha. (Quantitative distribution and species composition of Saccharomycetaceae of the Rybinsk water reservoir.) En
- Sorokin, Iu. I.** (1958)\* F  
60-7205  
*Microbiol., Moskva*, 27 (3) : 357-65.  
Rol' khemosinteza v produktsii organicheskogo veshchestva v vodokhranilishchakh. Soobshcheniye 3. (Role of chemo-synthesis in the production of organic matter in water reservoirs. Report 3.)

- Sokolova, N. Iu.** (1958)\* F  
60-7206  
*Nauch. Dokl. vyssh. Shk. (biol.)*, (2) : 14-7.  
Nekotorye nabludeniia po faune obrastanii vodovodov. (Some observations performed on the fauna of incrustations fouling water conduits.)
- Sorokin, Iu. I.** (1958) F  
60-7207  
*In*: 60-7184, 188-93.  
Rezultaty i perspektivy primeneniia radioaktivnogo ugleroda ( $C^{14}$ ) dlia izucheniia krugovorota organicheskikh veshchestv v vodoemakh. (Results and perspectives of the use of radioactive carbohydrate ( $C^{14}$ ) for the study of the rotation of organic matter in reservoirs.)  
Research carried out on the Rybinsk reservoir in 1955-56.
- Iablokov, A. V.** (1958) M  
60-7208  
*Bull. mosk. Obshch. Ispyt. Prir. (biol.)*, 63 (2) : 37-48.  
O stroenii zubnoi sistemy i tipakh zubov u kitoobraznykh. (Structure of the dental system and type of teeth of Cetacea.) En  
The author reviews publications dealing with the subject, states results of his own studies. Studies were carried out on teeth of white whale, sperm whale, beaked whale and killer whale.
- Barsukov, V. V.** (1958) M  
60-7209  
*Trud. zool. Inst. Akad. Nauk S.S.S.R.*, 25 : 130-63.  
Ryby bukhty Provideniia i sopredel'nykh vod Uchkotskogo poluoostrova. (Fishes of the Bay of Providence and of adjacent waters of the Chukot peninsula.)  
Data on sampling and observations, carried out in the summer and autumn of 1955.
- Biriukov, N. P.** (1958)\* M  
60-7210  
*Ryb. Khoz.*, (4) : 13-4.  
O vozmozhnosti uvelicheniia vylova baltiiskoi kil'ki. (Regarding the potential increase of catches of Baltic sprat.)
- Zaitsev, Iu. P.** (1958)\* M  
60-7211  
*Ryb. Khoz.*, (4) : 12-3.  
O priniatii mer po prekrashcheniiu vylova molodi stavridy. (The peculiar structure of the bronchial branches of dolphins.)
- Kamyshnaia, M.** (1958)\* MF  
60-7212  
*Rybovod. i Rybolov.*, (3) : 54.  
Vozrast i rost ryb (Otvét chitataliu). (Age and growth of fishes (Reply to a reader).)

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MF  
60-7213

*Dokl. nauch. Sess. iakutsk. Fil. Akad. Nauk S.S.S.R.*, 76-8.

Novoe v opredelenii vosrasta osetrovyykh po kostiam. (Novelty in determining the age of Acipenseridae by their bones.)

Determining the age by the supramaxillae. Age analysis was carried out on 170 sturgeons.

**Kafiani, K. A., R. I. Tatarskaia & S. M. Kanopkaite** (1958)

MF  
60-7214

*Biokhimiia*, 23 (3) : 416-28.

Fosfornyi obmen v embrional'nom razvitii osetrovyykh ryb. (Phosphorus exchange in the embryonic development of Acipenseridae.) En

Results and estimation of contents of basic fractions in phosphorus containing compounds and of their exchange in developing eggs of Acipenseridae, *Acipenser stellatus* and *Huso huso*.

**Kirillov, F. N.** (1957)

F  
60-7215

*Dokl. nauch. Sess. iakutsk. Fil. Akad. Nauk S.S.S.R.*, 82-91.

Perspektivy razvitiia rybnogo promysla v nizov'e reki Indigirki. (Prospects of commercial fishing development in the lower course of the River Indigirka.)

Brief description of physico-geographical peculiarities of the Indigirka watershed. Fish fauna of the lower course of the Indigirka, stock conditions of the main commercial fishes, *Coregonus sardinella Valenciennes*, *Coregonus pelod* (Gmelin), *Coregonus autumnalis* (Pallas), *Coregonus nasus* (Pallas), *Coregonus muksun* (Pallas). Data on catches, organization of commercial fishing.

**Kirillov, F. N.** (1957)

F  
60-7216

*Dokl. nauch. Sess. iakutsk. Fil. Akad. Nauk S.S.S.R.*, 79-81.

Riapuski basseina reki Leny. (Whitefish of the Lena River basin.)

Brief biological characteristic of two varieties, *Coregonus sardinella baunti* Muchomediarov, *C. sardinella Valenciennes*.

**Kuznetsova, I. I.** (1958)\*

MF  
60-7217

*Priroda, Moskva*, (6) : 102-4.

"Khimicheskaiia teoriia" migratsii ryb. ("The chemical theory" of fish migration.)

**Makeeva, A. P.** (1958)\*

F  
60-7218

*Nauch. Dokl. vyssh. Shk. (biol.)*, (2) : 41-5.

Razvitie stato-akusticheskogo organa u nekotorykh karpovykh ryb v embrional'nolichinochnyi period zhizni. (Development of the stato-acoustic organ in certain Cyprinidae during their embryo-larval period of life.)

- M  
60-7219
- Maslov, V. (1958)\***  
*Ryb. Khoz.*, (4) : 35-7.  
Aviatsionnaia navodka sudov na kosiaki sel'di. (Aircraft guidance of vessels to schools of herring.)
- WFA 11 (4) : 11. In 1957, purse seining for herring was developed to a large scale in the Kamchatka coastal fishery. The catches improved considerably after fish reconnaissance aircraft started to direct vessels to the schools of fish.
- M  
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- Mironova, N. V. (1958)\***  
*Priroda, Moskva*, (6) : 116.  
Evropeiskaia khimera na Vostochnom Murmane. (The European chimaera in Eastern Murman.)
- M  
60-7221
- Rass, T. S. (1958)\***  
*Priroda, Moskva*, (7) : 107-8.  
Ryby samykh bol'shikh glubin. (Fishes of the greatest depths.)
- M  
60-7222
- Reznik, G. K. (1958)\***  
*Biull. mosk. Obshch. Ispyt. Prir. (biol.)*, 63 (2) : 174.  
K voprosu morfologii pishchevaritel'nogo trakta treski i pikshi (Avtoreferat doklada, pročitannogo 19 aprelia 1957 g.). (Morphology of the digestive tract of cod and haddock (Self-review of paper, submitted on 19 Apr. 1957).)
- M  
60-7223
- Rumiantsev, A. I. (1958)**  
*Ryb. Khoz.*, (4) : 3-9.  
Sovremennoe sostoianie chislennosti sakhalino-khokkaidoskogo stada sel'di. (The present numerical strength of the Sakhalin-Hokkaido herring population.)
- Analysis of the numerical strength of herring generations between 1921 and 1957.
- F  
60-7224
- Tagiev, Sh. K. (1958)**  
*Zh. vyssh. nerv. Deiat.*, 8 (3) : 431-6.  
Sintez dvukh razlichnykh dvigatel'nykh uslovnykh refleksov v tsep' dvizheniia u ryb, golubei i krolikov. (Synthesis of two different motor conditional reflexes in the motion chain of fish, pigeons and rabbits.) En
- In particular, results of tests with carp. Six fishes were studied.
- F  
60-7225
- Kholodov, Iu. A. (1958)**  
*Nauch. Dokl. vyssh. Shk. (biol.)*, (2) : 74-7.  
Vyrobotka uslovnykh refleksov na svet u osleplennykh ryb. (Elaboration of conditional reflexes to light in blinded fish.)
- Studies were carried out on 13 goldfish.



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*Ryb. Khoz.*, (4) : 16-7.  
Amurskii som v basseine Baikala. (The Amur catfish within the Baikal watershed.)
- F  
60-7227
- Bazarova, G. P.** (1958)\*  
*Ryb. Khoz.*, (4) : 14-5.  
O vosstanovlenii zapasov ryb v ozere Khanka. (Restoration of fish stocks in Lake Hanka.)
- MF  
60-7228
- Bogaiavlenskaia, M. P. & I. A. Shekhanova** (1958)  
*In*: 60-7184, 207-11.  
Primenenie  $P^{32}$  i  $Ca^{45}$  pri izuchenii nekotorykh storon fosfornogo i kal'tsievogo obmena u molodi karpovykh i osetrovyykh ryb. (Use made of  $P^{32}$  and  $Ca^{45}$  in studying certain aspects of phosphorus and calcium exchange in young Cyprinidae and Acipenseridae.)  
Data obtained through biochemical analysis of tissues of fish bodies. Tests were performed on yearlings of scale and mirror-carp and on young Acipenseridae.
- F  
60-7229
- Galaktionova, E. L.** (1958)\*  
*Ryb. Khoz.*, (4) : 17-8.  
Opyt perevozki sudaka v zhivorybnykh vagonakh. (Operational experience with perchpike transportation in railway livestock cars.)
- F  
60-7230
- Zadubin, M. N.** (1958)  
Pishchepromizdat, 74 p.  
Okhrana rybokhoziaistvennykh vodoemov ot zagriazneniia promyshlennymi stochnymi vodami i drugimi sbrosami. (Protection of fisheries' water bodies against fouling by industrial waste water and other refuse.)  
Importance of USSR water bodies for fisheries, fish stocks conservation. Characteristics of waste waters, their effect on fisheries' water bodies, methods for their cleansing.
- MF  
60-7231
- Konovalov, P. M.** (1958)\*  
*Priroda, Moskva*, (7) : 106-7.  
Akklimatizatsiia kaspiskoi sevriugi v Aral'skom more. (Acclimatization of Caspian sturgeon in the Aral Sea.)
- F  
60-7232
- Lobachev, L. L.** (1958)  
*Bull. mosk. Obshch. Ispyt. Prir. (biol.)*, 63 (2) : 174-5.  
Izmenenie pervonachal'noi pitatel'noi tseнности iskusstvennykh kormov posle prebyvaniia ikh v vode. (Alteration of the original nutritive value of artificial feed after it having been kept in the water.)  
Self-review of paper, read on 9 May 1957.

- Tseeb, Ia. Ia., & G. A. Olivari (1958)\*** F  
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*Priroda, Moskva, (6) : 104-5.*  
Opyt perevozki kormovykh bespozvonochnykh dlia introduktsii. (Experimental transportation of live feed invertebrata for introduction.)
- Grinko, E. P. & V. D. Alimov (1958)\*** M  
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*Ryb. Khoz., (4) : 21-5.*  
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- Zhuchov, B. N. (1958)\*** M  
60-7235  
*Ryb. Khoz., (4) : 76-80.*  
Nekotorye osobennosti planirovaniia montazhnykh i otdelochnykh rabot pri ritmichno-seriinoi postroike promyslovykh sudov. (Certain peculiarities in planning assembly and finishing operations within a rhythmical-serial system of fishing-ship building.)
- Ivanov, Iu. V. (1958)\*** M  
60-7236  
*Ryb. Khoz., (4) : 49-51.*  
Nekotorye voprosy konstruksii setei dlia lova kambaly v Chernom more. (Certain problems connected with the design of nets used for catching flatfish in the Black Sea.)
- Pechenik, L. N. (1958)\*** M  
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- Dubrova, G. B., Iu. A. Ravich-Shcherbo & A. Ia. Onikienko** (1958)\* MF  
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- Zaitsev, V. P.** (1958)\* MF  
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60-7245  
*Volga*, 35 p.  
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of "sardines", methods and regimen of thermic treatment and of all conse-  
cutive technological operations. Data on weight variations of the fish at  
different stages of processing.
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- Levanidov, I. P.** (1958)\* MF  
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protivnei. (Machine, designed by I. A. Slepnev, for separating frozen fish  
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- In particular, results of chemical analyses of fish flesh: *Lota lota*, *Leuciscus leuciscus*, *Coregonus albula*, *Acerina cernua*, *Esox lucius*, *Rutilus rutilus*, *Phoxinus sp.*
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*Ryb. Khoz.*, (4) : 66-7.  
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Shellfish toxicity and the weather in the Strait of Georgia during 1957.

CFA 12 (5) : 2.9. An outbreak of shellfish poisoning in British Columbia during October 1957 was caused by consumption from coastal areas near Comox. Pacific oysters, *Crassostrea gigas*, were affected in addition to various species of clams and mussels. Toxicity was caused by dense crops of dinoflagellates. The unusual weather provided suitable conditions and possibly an enriched medium from soil run-off water for the rapid growth of these organisms.

M  
60-7258

**Anon.** (1959)

*J. agric. Fd Chem.*, 7 : 75-6.

Fish farming.

CFA 12 (6) : 9.16. Article on pisciculture in America—especially bluegills and bass. Culture in Arkansas; in rice-fields. Fertilization, population balance and harvesting.

F  
60-7259

**Richards, B. T.** (1959)

*West. Fish.*, 57 : 16-8, 42-3.

The echo sounder Part 2. The trend to cathode ray and asdic sounders.

CFA 12 (7) : 2.116. Review of situation.

M  
60-7260



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## VOLUME 4—MEETINGS: CONGRESSES, CONFERENCES, SYMPOSIA, COURSES, TRAINING CENTRES

- Shrimp Association of the Americas.** 14/11/60 M  
Miami Beach, Florida, U.S.A. 5 days. 60-251me  
Semi-annual meeting.
- Simultaneously with 60-223me.
- Southeastern Fisheries Association.** 14/11/60 M  
Miami Beach, Florida, U.S.A. 5 days. 60-252me  
Quarterly Meeting.
- Simultaneously with 60-223me.
- National Fisheries Institute, Industrial Products  
Division.** 14/11/60 M  
Miami Beach, Florida, U.S.A. 5 days. 60-253me  
Semi-annual meeting.
- Simultaneously with 60-223me.
- National Shrimp Congress.** 14/11/60 M  
Miami Beach, Florida, U.S.A. 5 days. 60-254me  
Board of Directors meeting.
- Simultaneously with 60-223me.
- PCIFC.** 9/5/61 M  
Copenhagen, Denmark. 4 days. 60-255me
- Biological Abstracts.** 6/10/60 G  
Philadelphia, Pa., U.S.A. 2 days. 60-256me  
Symposium on problems and trends in scientific communications.
- Marine Biological Association of U.K.** 15/3/61 M  
Plymouth, U.K. 14 days. 60-257me  
Course in marine biology.
- Marine Biological Association of U.K.** 5/4/61 M  
Plymouth, U.K. 14 days. 60-258me  
Course in marine biology.

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- Scottish Marine Biological Association.** 22/3/61 M  
60-259me  
 Millport, Isle of Cumbrae, Scotland. 16 days.  
 Course in marine biology.  
 An introduction to marine ecology.
- Scottish Marine Biological Association.** 6/9/61 M  
60-260me  
 Millport, Isle of Cumbrae, Scotland. 15 days.  
 Course in marine biology.  
 An introduction to marine ecology.
- OAS/FAO.** 8/8/60 M  
60-261me  
 Mexico City, D.F., Mexico. 13 days.  
 5th Inter-American agriculture conference and 6th FAO regional conference  
 on Latin America.  
 Amendment to 60-138me. Joint agenda incl. item "Significant factors in  
 fisheries development".
- FAO.** 15/9/61 M  
60-262me  
 Washington, D.C., U.S.A. 16 days.  
 "Fish in nutrition" meeting.  
 Amendment to 60-236me.
- FAO.** 6/3/61 MF  
60-263me  
 Quezon City, Philippines. 6 weeks.  
 Training centre on fish processing technology.  
 Amendment to 60-235me.
- ICNAF.** 24/5/61. M  
60-264me  
 Woods Hole, Mass., U.S.A. 4 days.  
 Symposium on marking.  
 Amendment to 60-341me. Precedes the 10th annual meeting.
- UNESCO.** 14/11/60 MG  
60-265me  
 Paris, France. 1 month.  
 11th Session of the general conference.  
 Items for discussion and decision incl. establishment of an "Office of  
 Oceanography" and an "International Oceanographic Commission".



MEETINGS

**WMO, Commission for Climatology.** 1/12/60  
London, U.K. 16 days.  
3rd Session.

M  
60-266me

Agenda incl. discussion of collaboration with FAO in production of synopses of oceanographic data, especially for fisheries purposes.

**Associazione Genetica Italiana/Biometric Society,  
Italian Region.**  
Rome, Italy. 3 days.

MF  
60-267me

6th Scientific meeting of the Italian Genetic Association and 9th annual meeting of the Biometric Society, Italian Region.

Will incl. presentation and discussion of the following papers: P. Metalli, E. Ballardin and C. Barigozzi "First results on the treatment with X-rays of *Artemia salina*"; M. Adinolfi, G. Chieffi and M. Siniscalco "The haemoglobin of Cyclostomes and the problems of evolution of respiratory pigments in the animal kingdom".



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## VOLUME 4—ERRATA

60-035er to 60-038er

1958 *should read*  
1959

60-035er  
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1958 *should read*  
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60-036er  
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1958 *should read*  
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- Title:* Nekotoryie osobennosti rezul'tatov volnografnykh nablidenii v okeane. (Some peculiarities of the results of wave-graphic observations in the ocean.) 60-286ad (59-7845)
- Author:* & O. H. Robertson 60-287ad (59-6688)
- Reference:* 247 p. 60-288ad (570735)
- Annotation:* Issued also as: *Contr. Va Fish. Lab.*, 1958-59 (79), publ. 1960. 60-289ad (582559)
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- Annotation:* WPA 32 (8) 1414. Discussion on the chemical differences of waters of the Lake District and possible reasons for these differences. 60-297ad (583890)
- Annotation:* WPA 32 (8) 1414. Description of the algal populations and their relations to the concentrations of major ions in the waters of the Lake District. 60-298ad (59-2629)
- Annotation:* WPA 32 (8) 1414. Investigations of the relation between aquatic fauna and chemistry of the waters in Lake District. 60-299ad (59-2630)

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- Annotation:* WPA 32 (8) 1435. An ill. description is given of a counter for the automatic determination of low levels of  $\beta$ -activity in the solid residue left when samples of water are evaporated to dryness. By using an automatic counter it is possible to examine many more samples than if the counter is operated manually. 60-300ad (60-0533)
- Annotation:* WPA 32 (8) 1540. Experiments were made on the effect of exposure to non-actively lethal levels of chromium on the physiology of the blood of rainbow trout. 60-301ad (59-6722)
- Title:* Vol. 1. 60-302ad (59-6847)
- Annotation:* BA 35 (5) 14617. Comparison of ovaries with those of previously caught turtles suggested that egg deposition occurs in July. 60-303ad (59-2920)
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- Title:* K voprosu o prichinakh periodicheskoi izmenchivosti temperatury vody v more. (On the problem of the periodic variability of the sea water temperature.)
- Annotation:* BA 35A (2) 3454. 18 spp. recorded from harbor and adjacent outer coastal areas in 2 year study, most important being *Martesia*, *Bankia*, *Teredo* and the isoped *Sphaeroma*. Attachment of borers on test panels, in harbor and in open ocean. 60-305ad (59-7593)
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- Aquatic adaptations. Anhinga stalks its prey; cormorant pursues it or searches the bottom for it. In south Florida slow-moving fish comprise the bulk of the Anhinga's diet. It is unable to impale thick-bodied fish or fish with thick scales, which the cormorant easily seizes. Where the two species may fish the same body of water, they are not direct competitors.
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60-7688  
*Polsk. Arch. Hydrobiol.*, 5 (18), No. 2 : 183-201.  
Odonata drobnych zbiorników okolie Mikolajek. (Odonata in small pools situated in the environs of Mikolajki.) Ru En  
List of Odonata larvae found and description of environmental conditions determining their survival and length of larval life.

**Dowgiallo, A. (1959)**

*Polak. Arch. Hydrobiol.*, 5 (18), No. 2 : 203-17.

Zastosowanie węgla aktywnego do odbarwiania wody przed oznaczeniem wapnia oraz twardości ogólnej metoda wersenianowa. (Use of charcoal to decoloration of water before the determination of calcium and total hardness by the EDTA method.) Ru En

F  
60-7689

**New Zealand. Royal Society (1959)**

*Proc. roy. Soc. N.Z.*, 87, Nov. 1959 : 157 p.

Contains half-yearly meeting report, presentation of awards, annual meeting, presidential address, Hudson lecture, obituaries, lecture (Alley). Appendix lists awards, officers, members, mailing addresses for publications, library accessions. Report of New Zealand delegation to the Special Committee on Antarctic Research third meeting, Canberra, 2-6 Mar. 1959, contains statement that marine biology is an integral part of oceanography because the interpretation of marine biological studies requires physical oceanographical data. The necessity to integrate all types of oceanographical research was stressed both from the scientific point of view and because they all require the same expensive facility—namely, a research vessel.

MF  
60-7690

**Wood, E. J. F., L. H. Crosby & V. Cassie (1959)**

*Trans. roy. Soc. N.Z.*, 87 (3-4) : 211-9.

Studies on Australian and New Zealand diatoms. III. Descriptions of further discoid species.

37 species are described and illustrated. New species are *Stephanopyxis orbicularis* sp. nov. in the Port Hacking region, *Biddulphia cylindrata* sp. nov., Arafura and Timor Seas, and an apparently new *Gosslerella* (*G. punctata* sp. nov.) in New Zealand waters and off Jervic Bay.

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**Stokell, G. (1959)**

*Trans. roy. Soc. N.Z.*, 87 (3-4) : 255-69.

The structural characters of Te Anau Salmon.

Comparison shows that the freshwater-dwelling salmon of the Lake agree more closely with normal *Salmo salar* than with the lake-dwelling forms known as ouananiche and sebago. Conclusion that Te Anau salmon derived from sea-going salmon supported by analogous structural modifications in lake-dwelling *Oncorhynchus tshawytscha*. The American forms, ouananiche and sebago, which have been regarded as subspecies or varieties of *Salmo salar*, are reinstated as a distinct species under the original name of *Salmo sebago* Girard.

MF  
60-7692

**Garrick, J. A. F. (1959)**

*Trans. roy. Soc. N.Z.*, 87 (3-4) : 271-82.

Studies on New Zealand Elasmobranchii. Part IX. *Scymnodon plunketi* (Waite, 1910), an abundant deep-water shark of New Zealand waters.

Co 60-1404. *Centrophorus plunketi* Waite, 1910, is referred to *Scymnodon*. *Centroscymnus waitei* (Thompson, 1930), known only as juveniles, is recognized as *S. plunketi*, abundant in New Zealand waters beyond 300 fathoms, appears to be a bottom-dwelling, schooling species. Its liver has a high oil content.

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 N.Z. Hirudinea—IV. *MAKARABDELLA manteri* n.g., n.sp., a new  
 marine piscicolid leech.  
 Described from a single specimen.
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60-7695  
*Aust. J. Sci.*, 22 (5) : 181-6.  
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*Fish. Newslett. Aust.*, 18 (10) : 17.  
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 Short note on use for salmon, tuna and whale spotting around Australia.
- Anon.** (1959) M  
60-7697  
*Fish. Newslett. Aust.*, 18 (10) : 23.  
 Studying fouling organisms.  
 Note on CSIRO Research.
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 'Princess Elizabeth' to fish Bight.  
 Short description of first large diesel otter-trawler to work in Australian  
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- Anon.** (1959) M  
60-7700  
*Fish. Newslett. Aust.*, 18 (12) : 11, 27.  
 Australia's new FRV.  
 Description and plans of 'Thyrsites', CSIRO research vessel for barracouta  
 programme (map shows stations for the latter in Bass Strait).

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- Note on oceanographic cruise by 'Ran Diamantina'.
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Description of a new method for evaluating pollution in seawater.

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*Naturwissenschaften*, 47 (4) : 93.

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Mitochondria of goldfish, *Carassius auratus*.

Isolated from liver to study oxidative phosphorylation to obtain information about temperature adaptation in fish.

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Spread of the ascidian *Styela mammiculata* Carlisle.

Discovery in Hampshire, England, in 1959; previously only near Plymouth (in 1953). Ci (1954) Carlisle, D.B.

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*Nature, Lond.*, 185 (4716) : 866.

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The long-range future of operational research.

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 I. *Pinnotheres sinensis* living in *Tapes japonica* and the influence of the crab on the weight of the host's flesh.

Spawning season of the crab and seasonal changes in the relation of flesh weight to shell weight of *Tapes* infested by the crab.

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X

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X

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 Closure notification under the fisheries and oyster farms act, 1935-1957.—9 March 1960.

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M

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All portions of Western Australian waters defined in the schedule thereto shall be closed against the use of long lines or set lines for a period of five years.

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*Govt Gaz. W. Aust.*, (26) : 884.

Proclamation F.D. 53/54, Ex. Co. 535, under the fisheries act, 1905-1956.—  
16 March 1960.

Prohibits all persons from taking any fish by means of fishing nets in any of the portions of Western Australian waters specified in the schedule thereto for a period of five years.

**Belgium. Laws, Statutes, etc. (1959)**

F  
60-7760

*Monit. belge*, (256) : 7260.

Arrêté ministériel interdisant temporairement toute pêche dans certaines parties de cours d'eau.—8 octobre 1959. (Ministerial decree temporarily prohibiting all fishing in certain parts of watercourses.—8 October 1959.)

Concerns Meuse, Amblève, Ourthe, Leuse and Semois rivers.

**Belgium. Laws, Statutes, etc. (1959)**

F  
60-7761

*Monit. belge*, (263) : 7474.

Arrêté ministériel levant pour une partie de la Meuse l'interdiction de pêche.—16 octobre 1959. (Ministerial order lifting the ban on fishing in part of the River Meuse.—October 16, 1959.)

Ad 60-7760. The ban prescribed in the ministerial order of 8 Oct. 1959 on fishing in the River Meuse is lifted in respect of that part comprised between the French frontier and the Amspin-Neuville dam.

**Belgium. Laws, Statutes, etc. (1959)**

F  
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*Monit. belge*, (278) : 7906-7.

Arrêté ministériel levant pour certaines parties de cours d'eau l'interdiction de pêche.—3 novembre 1959. (Ministerial order raising the ban on fishing in certain watercourses.—3 November 1959.)

Ad 60-7760 & 60-7761. Repeals the ministerial order of 8 Oct. 1959, as amended by the order of 16 Oct. 1959.

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Bekendtgørelse af lov om oprettelse af et kreditinstitut for fiskerierhvervet.—30.7.1959. (Order No. 258 relative to the act governing the establishment of a credit institute for the fisheries industry.—30 July 1959.)

The present text represents a version revised up to date of the act No. 78 of 23 Mar. 1932 on the same subject together with the amendments and amplifications arising from act No. 162 of 31 Mar. 1941, act No. 158 of 30 Mar. 1942, act No. 352 of 8 Jul. 1943 and act No. 203 of 10 Jun. 1959.



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- Incl. freshwater fish, live or dead, chilled or frozen; sea fish—sardines, tunny, anchovy and mackerel and other varieties of sea fish, live or dead, chilled or frozen; salted or in brine sardines and other fish except haddock.
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## VOLUME 4—MEETINGS : CONGRESSES, CONFERENCES, SYMPOSIA, COURSES, TRAINING CENTRES

60-268me to 60-285me

- CCTA/CSA/IUCN** (?). 1961 F  
Uganda. 60-268me  
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- WPFC.** Nov./60 MF  
Peking, Chinese People's Republic. 2 weeks. 60-269me  
5th Meeting.
- FAO.** 12/6/61 MF  
Ottawa, Canada. 6 days. 60-270me  
Expert meeting on economic effects of fishing regulations.
- CCTA** 2/2/61 MF  
Lagos, Nigeria. 2½ days. 60-271me  
16th Session.
- Helminthological Society of Washington.** 8/10/60 MF  
College Park, Md., U.S.A. 1 day. 60-272me  
50th Meeting.
- American Fisheries Society, North Central Division.** 5/12/60 MF  
Toronto, Canada. 3 days. 60-273me  
Midwest fish and wildlife conference.
- Long Island Biological Association.** 5/6/60 G  
Cold Spring Harbor, N.Y., U.S.A. 10 days. 60-274me  
25th Symposium on quantitative biology.
- Society of Naval Architects and Marine Engineers.** 16/11/60 M  
New York, N.Y., U.S.A. 4 days. 60-275me  
Annual meeting.
- Institut Océanographique, Musée de Monaco.** 21/11/60 MF  
Monaco. 6 days. 60-276me  
Congrès International d'aquariologie (CIA) [International congress of aquariology (CIA)].
- 4 Sections: I. Vertebrates and invertebrates in the aquarium; II. Technique and equipment; III. Construction; IV. Biology in the aquarium. Languages: Fr, En, De. Report to be published in *Bull. Inst. Oceanogr.* (4 volumes, 1 for each section) in original languages.

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**Biomedical Information Processing Organization.** 30/12/60 G  
60-277me  
New York, N.Y., U.S.A. 1 day.  
Meeting.

In association with 60-191me. "Symposium" agenda concerns analog-digital devices; problems of sharing codes and programs.

**Ecological Society of America.** 29/12/60 MF  
60-278me  
New York, N.Y., U.S.A. 1 day.  
Symposium on "Aquatic biology".

In association with 60-191me.

**Society of Systematic Zoology.** 29/12/60 G  
60-279me  
New York, N.Y., U.S.A. 1 day.

Symposium on "The new international code of zoological nomenclature adopted by the XV International congress of zoology".

**American Society of Naturalists.** 27/12/60 G  
60-280me  
New York, N.Y., U.S.A. 1 day.  
Symposium on "Modern aspects of population biology".

In association with 60-191me. Will include discussion of relation between laboratory and field investigations.

**American Society of Zoologists.** 29/12/60 MF  
60-281me  
New York, N.Y., U.S.A. 2 days.  
Symposium on "Physiology of Molluscs".

In association with 60-191me. Papers on acclimation, digestion, nitrogen metabolism, boring mechanisms, neurohormones, reproduction, chemoreception by gastropods, heart rate variations of mussels.

**American Society of Zoologists.** 28/12/60 MF  
60-282me  
New York, N.Y., U.S.A. 1 day.  
Symposium on "Evolution and dynamics of vertebrate feeding mechanisms".

In association with 60-191me. Papers on agnatha, sharks, holostei, cross-pterygians.

**AAAS** 29/12/60 M  
60-283me  
New York, N.Y., U.S.A. 1 day.  
Symposium on "Frontiers in the earth sciences".

In association with 60-191me. Papers on marine geophysical exploration; international collaboration at sea.

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**AAAS.** 30/12/60  
New York, N.Y., U.S.A. 1 day.  
Symposium on "The Mohole".

M  
60-284me

In association with 60-191me. Paper on drilling from vessels in the open sea.

**Association of American Geographers.** 30/12/60  
New York, N.Y., U.S.A. 1 day.

M  
60-285me

Symposium on "Programming the use of natural resources".

In association with 60-191me. Discussion of sea resources.







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## VOLUME 4—EDITORIAL NOTE

The American Institute of Biological Sciences (AIBS) has been awarded a grant by the U.S. National Science Foundation to launch a new *Biological Sciences Communication Project* (Director: C. W. Shilling) to study the flow of scientific information from producer to user. The first step will be an overall review of the problems of acquiring, indexing, storing and retrieving literature. The needs of teachers, administrators and science writers, as well as of research workers will be considered. At the international level, the project will consider a practicable way of obtaining and disseminating in the U.S.A. information about research activities acquired by American Scientists visiting other countries. The Advisory Committee for the Project will meet four times a year. (See entry 60-304me.)





# CURRENT BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

## VOLUME 4—EXPLANATION OF COVERAGE AND ARRANGEMENT

9. ERRATA AND ADDENDA to "EXPLANATION OF COVERAGE AND ARRANGEMENT" (contd.)

1. SCOPE AND COVERAGE OF BIBLIOGRAPHY

*List of periodicals the contents of which are entered completely*  
Insert after No. 496:

Thalassia Yugoslavica.

3. REFERENCES

3.1 *Authors*

*Names and Abbreviations of Organizations*

Under CPCIZ, add the following French name:

Comité Permanent Congrès International de Zoologie

Insert, in alphabetical order, the following:

CAB .. ..	Commonwealth Agricultural Bureau(x)
FAO/NERO .. ..	Near East Regional Office, FAO Bureau Regional pour la Proche Orient
IAEA/SAC .. ..	Scientific Advisory Committee, IAEA
NERO .. ..	see FAO/NERO
SAC .. ..	see IAEA/SAC

4. ANNOTATIONS AND TREATMENT OF SPECIAL CASES

4.1 *Treatment of publications not seen by compilers*  
*Code for Abstracting Journals*

Insert, in alphabetical order, the following:

Journal of Applied Chemistry .. ..	JAC
International Journal of Abstracts. Statistical Theory and Method .. ..	STA

4.3 *Treatment of translations*

Delete from Para. 4.32:

"(a) Original treated as under 4.31 (a) "

Insert under Para. 4.32, instead of the deleted sentence "(a) Original . . .", the following sentence:

"(a) Reference to original is given as under 4.31 (a), but entries are not normally annotated nor fully indexed "

Insert in the first sentence of Para. 4.32 (b) after "... separately," the following phrase:

"annotated and indexing completed,"



# CURRENT BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

## VOLUME 4—ERRATA

60-039er to 60-041er

Please delete the following duplicate entries:

59-2972 & 60-3277

60-039er  
(59-2972 & 60-3277)

Annual Taxonomic Index 2 : T 18  
under 2,16 *Sacculina* 4156 should read  
4158

60-040er

3 (5) : T 10  
under 2,13 *Balanus* 1283 should read  
2183

60-041er



# CURRENT BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

## VOLUME 4—ADDENDA

60-307ad to 60-325ad

- Annotation:* Issued also as: *Coll. Repr. Tokai reg. Fish. Res. Lab.*, 60-307ad  
(A-83) (59-4901)
- Annotation:* Issued also as: *Coll. Repr. Tokai reg. Fish. Res. Lab.*, 60-308ad  
(B-237). (581558)
- Annotation:* Issued also as: *Coll. Repr. Tokai reg. Fish. Res. Lab.*, 60-309ad  
(B-273). (583396)
- Annotation:* Issued also as: *Coll. Repr. Tokai reg. Fish. Res. Lab.*, 60-310ad  
(B-291). (59-4880)
- Annotation:* Issued also as: *Coll. Repr. Tokai reg. Fish. Res. Lab.*, 60-311ad  
(B-294). (59-4899)
- Annotation:* Issued also as: *Coll. Repr. Tokai reg. Fish. Res. Lab.*, 60-312ad  
(B-295). (59-4900)
- Annotation:* Issued also as: *Coll. Repr. Tokai reg. Fish. Res. Lab.*, 60-313ad  
(B-298). (59-4896)
- Annotation:* Orig. issued as: *Tellus* 11 (4) : 478-80. 60-314ad  
(60-1176)
- Annotation:* Reports data from 'Scotia' cruise of June 1951 and 60-315ad  
some other information, under the following headings: Instru- (60-0701)  
ments and methods; Surface temperature; Surface salinity;  
Surface oxygen; Dynamic results; Vertical sections; Surface drift-  
bottle results; Weather ships' drift-bottle results.
- Annotation:* Modification of a method suggested by Ruppin making 60-316ad  
use of oxydation. Standard error of the method described: (59-2153)  
 $\pm 0.07$  mg C-equivalent per liter. Course of reaction, carrying  
out of the measurements, remarks concerning the method,  
example of application.
- Reference:* 48-63.
- Annotation:* Descriptions of the construction and use of a device 60-317ad  
for continuous determination of oxygen in seawater and fresh- (59-9376)  
water. Notes on experiments to determinate the oxygen con-  
sumption of aquatic animals in a closed sample and in running  
water and of isolated tissues.
- Annotation:* Published erratum: *Biometrics*, 15 (4) : 631. Er 60-318ad  
(59-3762)
- Annotation:* Various tabulated meteorological data. 60-319ad  
(581276)
- Annotation:* Summary, analyses and graphical and tabular presen- 60-320ad  
tation of available data on the subject. (59-4606)

BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

- Reference:* 284 p. 60-321ad  
(59-2984)
- Annotation:* BA 35E (6) 14897. Studies zoo-organisms and biogenic elements in bottom deposits, compares northern zone with tropical zone. 60-322ad  
(60-4723)
- Annotation:* BA 35E (6) 17635. Annotated list of spp. contains anadromous and catadromous fishes in addition to the strictly freshwater fishes. Incl. bibliography of about 70 titles and various distributional tables. 60-323ad  
(60-5115)
- Annotation:* Co 28-3017BO. 60-324ad  
(60-2665)
- Annotation:* NE 1839 Darwin, C. 60-325ad  
Abridged and ed. by M. E. Selsam. First publ. in 1839 under (60-4545)  
title: Journal of researches into the geology and natural history of the various countries visited by H.M.S. 'Beagle'.

REFERENCES

- Saint-Guily, B.** (1959) M  
60-7834  
*Bull. Inst. océanogr. Monaco*, (1148) : 7 p.  
 Note sur l'action de la force de Coriolis dans la circulation convective.  
 (Note on the action of the Coriolis force in the convective circulation.) En
- A contribution to the study of the convective sinking of high density waters in a canal-shaped sea.
- Belloc, G.** (1959) M  
60-7835  
*Bull. Inst. océanogr. Monaco*, (1149) : 4 p.  
 Catalogue des types de géphyriens du Musée océanographique de Monaco.  
 (Catalogue of types of geophyrians of the Oceanographic Museum of Monaco.)  
 En
- A catalogue of spp.
- Belloc, G.** (1959) M  
60-7836  
*Bull. Inst. océanogr. Monaco*, (1150) : 9 p.  
 Catalogue des types de Plathelminthes du Musée océanographique de Monaco.  
 (Catalogue of types of Platyhelminthes of the Oceanographic Museum of Monaco.) En
- A catalogue of spp. of cestods and trematods parasites.
- Vernet-Cornubert, G.** (1959) M  
60-7837  
*Bull. Inst. océanogr. Monaco*, (1151) : 29 p.  
 Régénération des pléopodes chez le crabe *Pachygrapsus marmoratus*  
 (Fabricius) parasité par *Sacculina carcini* (Thompson). (Regeneration of  
 pleopods of the crab *Pachygrapsus marmoratus* (Fabricius) parasitized by  
*Sacculina carcini* (Thompson).) En
- Results of a study of regeneration of pleopods.
- Lecal, J.** (1959) M  
60-7838  
*Bull. Inst. océanogr. Monaco*, (1152) : 11 p.  
 Nannoplancton de la mer Catalane. (Nannoplankton of the Catalan Sea.)  
 En
- Determination and interpretation of nannoplankton production.
- Tuzet, O., J.-F. Manier & J. Gras** (1959) M  
60-7839  
*Bull. Inst. océanogr. Monaco*, (1153) : 9 p.  
 Localisation du glycogène dans le manteau de quelques lamellibranches.  
 (Localization of glycogen into the mantle of some Lamellibranchia.) En
- In the mantle properly of certain spp. glycogen is chiefly localized in the epithelium external feature. In other spp. the amount of glycogen in external epithelium is rather weak, but this polysaccharid is accumulated in the large Leydig's cells. Glycogen is abundant about the muscular fibers levels of the mantle outline.

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- M  
60-7840
- Millott, N. & M. Yoshida** (1959)  
*Proc. zool. Soc. Lond.*, 133 (1) : 67-71.  
The photosensitivity of the sea urchin *Diadema antillarum* Philippi: responses to increases in light intensity.  
Controlled darkroom experiments. Responds to increases in intensity by spine movements which are reflexes involving the radial nerve. The receptive surface is diffuse extending over the skin. Ill.
- M  
60-7841
- Williamson, G. R.** (1959)  
*Proc. zool. Soc. Lond.*, 133 (1) : 135-44.  
Three unusual porqual whales from the Antarctic.  
Describes, ill. and gives morphometric data for small specimens of *Balaenoptera* sp. taken by 'Balaena' in 1955 and 1957, resembling *B. acutorostrata*, but probably to be grouped into two earlier stranded specimens, as *B. bonaerensis*. Reviews distribution of these spp.
- M  
60-7842
- Kidson, C. & A. P. Carr** (1959)  
*Geogr. J.*, 125 (3-4) : 380-9.  
The movement of shingle over the sea bed close inshore.  
Results of the investigations of movement of shingle by wave and current action. Radioactive tracer has been used for the tagging of sand and shingle.
- MF  
60-7843
- Fuhrman, F. A.** (1959)  
*Annu. Rev. Physiol.*, 21 : 19-48.  
Transport through biological membranes.  
Comprehensive review of literature up to May 1958; incl. references to osmoregulation in *Eriocheir sinensis* which can live in salt or fresh water.
- MF  
60-7844
- Tobias, J. M.** (1959)  
*Annu. Rev. Physiol.*, 21 : 299-324.  
Biophysical aspects of conduction and transmission of the nervous system.  
Comprehensive review of literature up to June 1958; bibliography incl. references to experiments with aquatic animals.
- M  
60-7845
- Giese, A. C.** (1959)  
*Annu. Rev. Physiol.*, 21 : 547-76.  
Comparative physiology: annual reproductive cycles of marine invertebrates.  
Comprehensive review of literature up to August 1958. Bibliography.
- M  
60-7846
- IHB** (1960)  
*Int. hydr. Bull.*, (1) : 24 p.  
Contains notes on activities of the Bureau and information on charts, sailing directions, lights, tides and currents, work carried out and projected and new charts and new editions of charts.



## REFERENCES

- M  
60-7847
- Templeman, W.** (1959)  
*Bull. Fish. Res. Bd Can.*, (120) : 173 p.  
Redfish distribution in the North Atlantic.
- The distribution of *Sebastes marinus* and to a much lesser degree that of *S. viviparus* are described.
- M  
60-7848
- Maldura, C. M.** (1959)  
*Boll. Pesca Piscic. Idrobiol.*, 13 (1-2) : 7-8.  
Relazione sull'attività del Laboratorio Centrale di Idrobiologia durante l'anno 1958. (Report on the activity of the Central Laboratory of Hydrobiology during the year 1958.)
- M  
60-7849
- Picotti, M.** (1959)  
*Boll. Pesca Piscic. Idrobiol.*, 13 (1-2) : 9-11.  
Relazione sull'attività svolta dall'Istituto Sperimentale Talassografico di Trieste nel 1958. (Report on the activity of the Istituto Sperimentale Talassografico in Trieste during 1958.)
- M  
60-7850
- Maldura, C. M.** (1959)  
*Boll. Pesca Piscic. Idrobiol.*, 13 (1-2) : 13-21.  
Le ricerche sulla biologia della pesca in Italia. (Researches on the fishery biology in Italy.)
- Brief summary.
- M  
60-7851
- Matta, F.** (1959)  
*Boll. Pesca Piscic. Idrobiol.*, 13 (1-2) : 23-326.  
La Pesca a strascico nell'Arcipelago Toscano. (Trawl fishing in the Tuscan Archipelago.) En Fr
- Discusses trawl fishing in the Tuscan Archipelago and gives biometrical analysis, length-weight relationship, sexual maturity and marketable sizes for 8 spp.—*Gadus capelanus* Risso, *Micromesistius poutassou* Risso, *Pagellus erythrinus* L., *Boops boops* L., *Mullus barbatus* L., *Trachurus trachurus* L., *Spicara smaris* L., *Arnoglossus laterna* Walb.—Meteorological data are given. Also descriptions of gear and boats. Lastly a discussion of regulations in regard to fish populations.
- MF  
60-7852
- Siepmann, R.** (1959)  
*Veröff. Inst. Meeresf.*, 6 (2) : 283-301.  
Ein Beitrag zur saprophytischen Pilzflora des Wattes der Wesermündung—II. (A contribution to saprophytic fungus flora of the tidal flat of Weser estuary—II.)
- Growth of fungi at different salinities and ecology of different spp. of fungi with special consideration of salinity.

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- Viets, K.** (1959) F  
60-7853  
*Veröff. Inst. Meeresf.*, 6 (2) : 303-513.

Die aus dem Einzugsgebiet der Weser bekannten oberirdisch und unterirdisch lebenden Wassermilben. (The water mites from the surface and ground waters from the catchment area of Weser.)

Taxonomic lists and ecological notes on different spp. and groups of spp.

- Bank, O.** (1959) F  
60-7854  
*Fischwirt*, 9 (8) : 235-7.

Bekämpfung der Wasserpest mit Kalkstickstoff. (Control of water weed by means of calcium cyanamide.)

States that *Elodea canadensis* is sensible to calcium cyanamide and reports on experiments with fertilizers containing this substance.

- Whitehead, P. J. P.** (1959) F  
60-7855  
*Rev. Zool. Bot. Afr.*, 59 (3-4) : 329-63.

The anadromous fishes of Lake Victoria.

Fishing records taken on rivers affluent to Lake Victoria, Nyanza Province, Kenya, are used to show that certain lake fishes regularly ascend flooding rivers to breed; it is on such anadromous fishes that the large river fisheries of Nyanza depend. Four patterns of migration are discussed, and the possible hydrological factors influencing spawning runs are examined. The evolutionary significance of such anadromous behaviour is dealt with briefly, together with its bearing on the source and the present composition of the Lake Victoria ichthyofauna.

- Miller, R. R.** (1959) F  
60-7856  
*Occ. Pap. Mus. Zool. Univ. Mich.*, (607) : 1-11.

Variation, distribution and relationships of the Mexican electroid fish *Gobiomorus polylepis*.

- USFWS. Bureau of Commercial Fisheries. Branch of Economics** M  
60-7857  
 (1959)

*Spec. sci. Rep. U.S. Fish Wildl. Serv.*, (308) : 167 p.

Survey of the United States shrimp industry—Vol. II.

Co 59-6145. This volume contains the last 4 chapters, 3 of which deal with marketing. The last chapter contains a summary of conclusions and recommendations addressed to industry. A subject index to both volumes is appended.

REFERENCES

- Hanavan, M. G. & G. K. Tanonaka** (1959) MF  
60-7858  
*Spec. sci. Rep. U.S. Fish Wildl. Serv.*, (302) : 22 p.  
Experimental fishing to determine distribution of salmon in the North Pacific Ocean and Bering Sea, 1956.

Five vessels were employed from May to Oct., 1956 to provide samples of fish for racial identification, and evidence of seasonal movements and changes in the distribution of salmon and study ocean habitat and conditions that control distribution, movement and survival. Length frequencies are shown graphically by spp. and area and in relation to the mesh size in which the fish were captured.

- Stickney, A. P.** (1959) MF  
60-7859  
*Spec. sci. Rep. U.S. Fish Wildl. Serv.*, (309) : 21 p.  
Ecology of the Sheepscot River estuary.

Comprehensive study of this Maine estuary in connexion with *Salmo salar* investigations. Gives background material to introduce papers to follow by describing the physical and biological characteristics of the estuary: its geography, hydrography, bottom sediments, plankton composition and distribution, and higher animals and plants in the several habitat zones. Lists of the common aquatic animals and plants.

- Tokida, J. & T. Masaki** (1959) M  
60-7860  
*Bull. Fac. Fish. Hokkaido*, 10 (2) : 83-6.  
Studies on the Melobesioideae of Japan—I.

Ci Segawa, S., 1956, "Coloured illustrations of the seaweeds of Japan".

- Tokida, J. & T. Masaki** (1959) M  
60-7861  
*Bull. Fac. Fish. Hokkaido*, 10 (2) : 87-96.  
Studies on the reproductive organs of red algae—III. On the structure and development of female organs in *Schizymania dubyi*, *Gymnogongrus flabelliformis* and *Rhodymenia pertusa*.

Ill.

- Niiyama, H.** (1959) M  
60-7862  
*Bull. Fac. Fish. Hokkaido*, 10 (2) : 97-105.  
A chromosome study in five species of isopod Crustacea.

Male germ cell study of spp. of *Cleantiella*, *Idotea*, *Cymodoce*, *Megaligia* and *Tylos*. Tabulates chromosome numbers in other isopod general, from literature review.

- Niiyama, H.** (1959) M  
60-7863  
*Bull. Fac. Fish. Hokkaido*, 10 (2) : 106-12.  
An xx-y sex-mechanism in the male of a decapod Crustacea *Cervimunida princeps* Benedict.

Study of spermatogonia in this deep-sea galatheid crab, from Suruga Bay.

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M

**Sano, N. & T. Suzuki** (1959)

60-7864

*Bull. Fac. Fish. Hokkaido*, 10 (2) : 113-22.

On some useful radar figures obtained in the Tsugaru Straits recently.)  
Ni En

Series of photographs, with notes of screen Sperry Marine Radar MK-2 Model 2 on ferry-boat crossing Tsugaru Straits, of tide rips, wooden fishing boats, glass set-net floats, and rain and snow falls.

M

**Nakamura, H. & G. Kawasaki** (1959)

60-7865

*Bull. Fac. Fish. Hokkaido*, 10 (2) : 123-30.

(Results of fishing experiments with trinal gill nets.) Ni En

Comparison, on coast of Oma, of these synthetic fibres with bottom-set cotton gill-nets, mostly taking pleuronectids. Relation of mesh size and twine color to amount of catch; effect of entanglement.

M

**Oishi, K.** (1959)

60-7866

*Bull. Fac. Fish. Hokkaido*, 10 (2) : 131-46.

(Quality of flatfish from Hakodate—Part 3. Factors deciding the quality —2. Relations between the quality and ordinary chemical constituents.)  
Ni En

Chemical, especially fat compositions and palatability of several pleuronectids are tabulated.

M

**Tanikawa, E. & Y. Fujii** (1959)

60-7867

*Bull. Fac. Fish. Hokkaido*, 10 (2) : 147-66.

(Utilization value of fish caught abundantly in waters around Hokkaido as raw material for fish jelly products ("Kamaboko" or "Chikuwa")—I.)  
Ni En

Study of biochemical composition and properties of *Pleurogrammus* and *Ommastrephes*.

M

**Murata, K. & A. Iida** (1959)

60-7868

*Bull. Fac. Fish. Hokkaido*, 10 (2) : 167-72.

(Biochemical studies on squid meat food poisoning—IV. The inhibition of human serum acetylcholinesterase by the amines of squid meat, beef and hog-flesh.) Ni En

MF

**Barth, L. G.** (1957)

60-7869

*Annu. Rev. Physiol.*, 19 : 41-58.

Development physiology.

Review of literature up to April 1956 incl. references to *Lebistes*, *Chaetopterus*, various echinoderms, *Stentor*, *Mytilus*, *Ciona*, *Tubifex*, *Tubularia* and other aquatic animals.

REFERENCES

- Visscher, M. B. & G. J. Stephens** (1957) MF  
*Annu. Rev. Physiol.*, 19 : 359-96. 60-7870  
 Heart.  
 Reviews literature 1951-1955 for invertebrates, and 1955 for vertebrates. Reference to *Anodonta*, *Cancer*, *Homarus*, *Maia*, *Squilla*, *Panulirus*, *Venus*, *Helix*, *Stichopus*, *Aplysia*, *Daphnia*, *Eledone*, *Ciona*, *Octopus*, *Sepia*, *Gammarus*, *Myxine*, *Lampetra* and other aquatic genera.
- Bradley, S. E.** (1957) MF  
*Annu. Rev. Physiol.*, 19 : 513-56. 60-7871  
 Kidney.  
 Reviews literature up to June 1956; reference to aquatic genera, incl. *Squalus*, *Myoxocephalus*, *Ameiurus*, *Lophius*.
- Liberson, W. T.** (1957) MF  
*Annu. Rev. Physiol.*, 19 : 557-88. 60-7872  
 Recent advances in Russian neurophysiology.  
 Reviews literature from Jan. 1950 to Jul. 1956. Section on comparative studies refers to conditioned reflexes in fishes—eels, goldfish, carp; compares light reactions of demersal and pelagic marine fish.
- Osterhout, W. J. V.** (1958) MF  
*Annu. Rev. Physiol.*, 20 : 1-12. 60-7873  
 Studies of some fundamental problems by the use of aquatic organisms.  
 Summary of experiments at Rockefeller Institute for Medical Research, using *Nitella*, *Valonia*, *Laminaria*, *Choda*.
- Russell, J. A. & A. E. Wilhelmi** (1958) MF  
*Annu. Rev. Physiol.*, 20 : 43-66. 60-7874  
 Growth (hormonal regulation).  
 Survey of literature up to June 1957, incl. reference to hormones in fishes and other aquatic animals.
- Martin, A. W.** (1958) MF  
*Annu. Rev. Physiol.*, 20 : 225-42. 60-7875  
 Comparative physiology (excretion).  
 Review of literature up to July 1957, with emphasis on previous five years; deals with excretion by all aquatic animal groups—Protista, Coelenterata, molluscs, Crustacea, and fishes.
- Mann, T. & C. Lutwak-Mann** (1958) MF  
*Annu. Rev. Physiol.*, 20 : 275-304. 60-7876  
 Reproduction.  
 Reviews literature up to May 1957. Incl. references to sex reversal in Crustacea, hormones, fertilization of echinoderm eggs.

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- Lotspeich, W. D.** (1958) M  
60-7877  
*Annu. Rev. Physiol.*, 20 : 339-76.  
 Kidney, water and electrolyte metabolism.

Reviews literature up to June 1957; section on comparative studies refers to diving of the harbour seal.

- Taylor, F. J.** (1960) F  
60-7878  
*Proc. roy. Soc.*, 151B (944) : 400-18.  
 The absorption of glucose by *Scenedesmus quadricauda*—I. Some kinetic aspects.

Describes experiments to study effect of various conditions on rate of uptake and part of study of metabolism.

- Wigley, R. L.** (1959) MF  
60-7879  
*Fish. Bull., U.S.*, 59 (154) : 561-617.  
 Life history of the sea lamprey of Cayuga Lake, New York.

Description of the establishment of the sea lamprey in Cayuga Lake; size, growth, and morphometry of the sea lamprey; its spawning migration; spawning habits; egg, and development and habits of ammocoetes; parasitic habits; the parasites and predators of the lamprey and methods for its control.

- Kelly, G. F. & R. S. Wolf** (1959) M  
60-7880  
*Fish. Bull., U.S.*, 60 (156) : 1-31.  
 Age and growth of the redfish (*Sebastes marinus*) in the Gulf of Maine.

CR 581397. Methods are described and the validity of the use of the otolith in age and growth studies of this sp. is demonstrated. Growth during the first year is reported; length and age composition of various groups is given.

- Bennett, E. B.** (1959) M  
60-7881  
*J. Fish. Res. Bd Can.*, 16 (5) : 565-633.

Some oceanographic features of the Northeast Pacific Ocean during August 1955.

Describes the structure and physical properties of the water with reference to temperature, salinity and the mass field, and gives an account of currents and volume transport.

- Pickard, G. L. & K. Rodgers** (1959) MF  
60-7882  
*J. Fish. Res. Bd Can.*, 16 (5) : 635-78.  
 Current measurements in Knight Inlet, British Columbia.

Techniques employed and results obtained are described and discussed; calculations of net freshwater transport in surface and deep layers are presented and discussed. Possible sources of error in the calculations are suggested, and recommendations are made for future work.

REFERENCES

- Lindsey, C. C., T. G. Northcote & C. F. Hartman** (1959) F  
60-7883  
*J. Fish. Res. Bd Can.*, 16 (5) : 695-719.  
 Homing of rainbow trout to inlet and outlet spawning streams at Loon Lake, British Columbia.

Report of a 4-year field study on *Salmo gairdneri* in which young and adult trout were trapped, and marked. Discussion of evidence from recovery of marked fish, movement of adults within the lake, and experimental transfer of adults found between streams with regard to a possible genetic difference in their responses to currents.

- Parker, R. R. & P. A. Larkin** (1959) MF  
60-7884  
*J. Fish. Res. Bd Can.*, 16 (5) : 721-45.

A concept of growth in fishes.

The use of size as a basic determinant of growth rate is discussed; a parabolic function is developed into a growth equation for their dimensions and its application explored and discussed using steelhead trout and chinook salmon examples.

- Barraclough, W. E.** (1959) M  
60-7885  
*J. Fish. Res. Bd Can.*, 16 (5) : 759-60.

The first record of a northern blennioid fish, *Plectobranchnus evides* Gilbert (family Stichaeidae), in British Columbia waters.

Description of the specimen.

- Butler, T. H.** (1959) M  
60-7886  
*J. Fish. Res. Bd Can.*, 16 (5) : 761.

A record of the anomuran crustacean *Emerita analoga* (Stimpson) from British Columbia.

Report of this occurrence.

- Maéda, H. & M. Tsukamoto** (1959) MF  
60-7887  
*J. Shimonoseki Coll. Fish.*, 8 (2) : 1-14.

The relation between chlorinity and silicate concentration of waters observed in some estuaries—IV.

Reports hydrochemical studies on Pacific Ocean coast of Japan.

- Hata, Y. et al.** (1959) M  
60-7888  
*J. Shimonoseki Coll. Fish.*, 8 (2) : 15-25.

(Studies on the marine sulfate-reducing bacteria—VII. Relation between the activity of marine sulfate-reducing bacteria and the oxidation-reduction potential of the culture media (I).) *Ni En*

Describes culture experiments.

- Fujii, M. & T. Tomida** (1959) X  
60-7889  
*J. Shimonoseki Coll. Fish.*, 8 (2) : 27-32.  
(Studies on a new rapid determination of proteolytic activity by means of the so-called "pad-method".) Ni En

- Syazuki, K. & M. Onizuka** (1959) X  
60-7890  
*J. Shimonoseki Coll. Fish.*, 8 (2) : 33-40.  
(Studies on the foul-water drained from factories—10. Treatment of acidic waste liquor with limestone.) Ni En

- Kojima, Y., Y. Inamasu & T. Shiraishi** (1959) X  
60-7891  
*J. Shimonoseki Coll. Fish.*, 8 (2) : 41-6.  
(Studies on the agar gel in canned "Mitsumame"—I. On the gel reinforcing agents.) Ni En

- Inamasu, Y., Y. Kojima & T. Shiraishi** (1959) X  
60-7892  
*J. Shimonoseki Coll. Fish.*, 8 (2) : 47-52.  
(Studies on the agar gel in canned "Mitsumame"—II. Changes of jelly strength in the agar gel, while stored as canned contents, and some others.) Ni En

- Matsui, I. & T. Takai** (1959) MF  
60-7893  
*J. Shimonoseki Coll. Fish.*, 8 (2) : 53-62.  
(Osteology of the Japanese eel, *Anguilla japonica* Temminck et Schlegel.) Ni En

Ill. comparative anatomical studies reveal resemblances to *Conger japonicus*.

- Takai, T., A. Mizokami & I. Matsui** (1959) M  
60-7894  
*J. Shimonoseki Coll. Fish.*, 8 (2) : 63-70.  
(Studies on the growth and external characters of the cultured black bream, *Mylio macrocephalus* (Basilewsky).) Ni En

Relation of food consumption to growth in length and weight, food utilization efficiency, and mortality. Morphological comparison with specimens from the natural populations.

- Takai, T. & T. Tsutsumi** (1959) MF  
60-7895  
*J. Shimonoseki Coll. Fish.*, 8 (2) : 71-7.  
(Daily periodic movements of the four species of apodal fishes, particularly in their creeping feeding habits.) Ni En

Aquarium observations on behaviour of spp. of *Rhynchocyba*, *Anago*, *Pisoodonophis* and *Gymnothorax*, especially with regard to burial in sand and bending and knotting of body during feeding.



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- Takeuse, K. & A. Miyazawa** (1959)  
*J. Shimonoseki Coll. Fish.*, 8 (2) : 79-87.  
(Studies on the fertilization of cultured lavers—I. Particularly on their inorganic nitrogen absorption.) *Ni En*
- Field observations and aquarium experiments on N/P ratios, incl. effect of light, temperature and salinity.
- M  
60-7897
- Yokota, T. et al.** (1959)  
*Rep. Nankai reg. Fish. Res. Lab.*, (10) : 1-47.  
(On the bottom fishes resources in the Southern Pacific region of Japan.)  
*Ni En*
- Trawl studies, 1954-57; catch per unit effort and spp. composition changes; changes in fishing effort; total mortality rates; data for *Saurida*, *Muraenesox*, *Trachurus*, *Psenopsis*, *Evynnis* spp. and others. Growth, fishing and spawning seasons, maturity, size and age composition.
- M  
60-7898
- Nomura, S.** (1959)  
*Rep. Nankai reg. Fish. Res. Lab.*, (10) : 48-62.  
(On the occurrence and distribution of larval fishes on the Hyuga Nada during the period from 1956 to 1957.) *Ni En*
- Horizontal tow-nettings; special reference to *Trachurus* and *Scomber* spp. but also most other commercial fishes of the area.
- M  
60-7899
- Anraku, N. & Y. Yabuta** (1959)  
*Rep. Nankai reg. Fish. Res. Lab.*, (10) : 63-71.  
(Seasonal migration of black marlin.) *Ni En*
- Considers movements within whole area of distribution—North and South Pacific; mainly on basis of seasonal size composition and abundance changes.
- M  
60-7900
- Suda, A.** (1959)  
*Rep. Nankai reg. Fish. Res. Lab.*, (10) : 72-87.  
(Catch variations in the North Pacific albacore . . . II. Variation in the amount of recruitment.) *Ni En*
- 1948-56 data for North Pacific. Considers the analysis of compound length frequency curves into normal components; gives table of values of  $0.21715x^2/\sigma^2$  for  $x=1(1)20$  and  $\sigma=1.5(0.1)5.0(0.2)7.0(0.4)10.0$ .
- M  
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- Koto, T., I. Furukawa & K. Kodama** (1959)  
*Rep. Nankai reg. Fish. Res. Lab.*, (10) : 88-106.  
(Studies on the tuna long-line fishery in the East China Sea—III. Ecological studies on the sailfish.) *Ni En*
- Sizes, feeding, maturity, in samples Jan. 1952 to Dec. 1956; seasonal movements and changes in size composition, mixing, catch per unit effort.

- Yabe, H.** *et al.* (1959) M  
60-7902  
*Rep. Nankai reg. Fish. Res. Lab.*, (10) : 107-50.  
 (Study of the life-history of the swordfish, *Xiphias gladius* Linnaeus.)  
*Ni En*

Study of 1947-58 samples from North and South Pacific and Indian Ocean; distribution, movements, abundance, seasonal changes; larvae; ova; maturity, development, spawning, growth.

- Ueyanagi, S. & H. Yabe** (1959) M  
60-7903  
*Rep. Nankai reg. Fish. Res. Lab.*, (10) : 151-69.  
 (Larva of the black marlin (*Eumakaira nigra* Nakamura).) *Ni En*

400 specimens from West Pacific and Indian Ocean studied; described and ill. diagnosis, development, distribution, spawning area and seasons.

- Kitano, K.** (1959) M  
60-7904  
*Bull. Hokkaido reg. Fish. Res. Lab.*, (20) : 1-66.  
 Studies on the "oceanic jet stream".

Hydrodynamics of Gulf-Stream and Kuroshio current; theoretical models, tank experiments and application movements of Pacific water masses. Bibliography.

- Takeuchi, I.** (1959) M  
60-7905  
*Bull. Hokkaido reg. Fish. Res. Lab.*, (20) : 67-75.  
 (Food of king crab (*Paralithodes camtschatica*) off the west coast of Kamchatka in 1958.) *Ni En*

Stomach contents of trawl samples taken May-August; qualitative analysis, food indexes; review of literature, especially Russian. Weight of food as function of carapace width.

- Kurata, H.** (1959) M  
60-7906  
*Bull. Hokkaido reg. Fish. Res. Lab.*, (20) : 76-83.  
 (Studies on the larva and post-larva of *Paralithodes camtschatica*—I. Rearing of the larvae, with special reference to the food of the zoea.) *Ni En*

Methods for experimental purposes were studied, using gill net samples taken off Hokkaido for eggs. Feeding tests with *Skeletonema*, *Artemia*, *Chone*.

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- Ishida, T. & K. Miyaguchi** (1959)  
*Bull. Hokkaido reg. Fish. Res. Lab.*, (20): 84-103.  
(On the offshore distribution and stocks of pink salmon.) Ni En
- Materials used consisted of fishing records, biological measurement data and samples taken by Japanese mother-ships and land based fisheries as well as those taken by the Japanese, Canadian and the US research vessels in 1955-58. Distribution pattern and relative abundance of pinks in high seas were compared with those of coastal areas. Comparisons of growth and maturity of high seas pinks were made by area and by season. Some scale characters, namely the number of circuli in first year growth and the stretch of circuli in 2nd year, were analyzed to distinguish stocks.
- MF  
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- Miyaguchi, K.** (1959)  
*Bull. Hokkaido reg. Fish. Res. Lab.*, (20) : 104-8.  
(On the so-called "fry zone" appearing in the scale of pink salmon *Oncorhynchus gorbuscha* (Walbaum).) Ni En
- Samples studied from Kamchatka and Primorskaya areas for this feature so called by USSR scientists; observations also on chum salmon. Ill.
- MF  
60-7909
- Yamamoto, K., H. Kai & R. Ishida** (1959)  
*Bull. Hokkaido reg. Fish. Res. Lab.*, (20) : 109-16.  
(A preliminary report on the formation of the egg of the trout, *Oncorhynchus masou*.) Ni En
- Histological study, microphotographs.
- M  
60-7910
- Kurata, H.** (1959)  
*Bull. Hokkaido reg. Fish. Res. Lab.*, (20) ; 117-38.  
(Preliminary report on the rearing of the herring larvae.) Ni En
- Reports 1958 experiments on aquarium rearing of *Clupea pallasii*; feeding, larval mortality, taxes, activity as function of temperature, genetic viability.
- M  
60-7911
- Ishida, R., M. Ukawa & S. Arita** (1959)  
*Bull. Hokkaido reg. Fish. Res. Lab.*, (20) : 139-44.  
(On the number of spawning times of sardine *Sardinops melanosticta* (Teminc and Schlegel).) Ni En
- Histology of ovaries; concludes that spawns several times each season, with one or two week intervals.
- M  
60-7912
- Tanino, Y. et al.** (1959)  
*Bull. Hokkaido reg. Fish. Res. Lab.*, (20) : 145-64.  
(On the maturity of Alaska pollack, *Theragra chalcogramma* (Pallas).) Ni En
- Spawning season studied off Hokkaido December 1952 to March 1953; fecundity, maturing process.

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*Bull. Hokkaido reg. Fish. Res. Lab.*, (20) : 165-74.  
 (Food of some bottom fishes off west and south-east Kamchatka in 1957 and 1958.) *Ni En*

Qualitative and quantitative studies of stomach contents of spp. of *Gadus*, *Theragra*, *Limanda*, *Lepidopsetta*, *Pleuronectes*, *Eleginus* and *Hippoglossoides*.

- Sugama, K.** (1959) M  
60-7914  
*Bull. Hokkaido reg. Fish. Res. Lab.*, (20) : 175-90.  
 (Analysis of population of the saury (*Cololabis saira* Brevoort) on the basis of character of the otolith—II.) *Ni En*

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*Bull. Hokkaido reg. Fish. Res. Lab.*, (20); 1919-9.  
 (Studies on characteristic qualities of fish meat—II. On the keeping-fresh-meat characteristic of Alaska pollack (*Theragra chalcogramma*.) *Ni En*

- Miwa, K., Y. Sato & E. Kinoshita** (1959) M  
60-7916  
*Bull. Hokkaido reg. Fish. Res. Lab.*, (20) : 200-4.  
 (An investigation on iodine values of body fats of mackerel around Hokkaido.) *Ni En*

Chemical composition of *Pneumatophorus japonicus*, relation to growth and spawning; area and season comparisons.

- Pritchard, A. L.** (1959) MF  
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*Canad. Fish Cult.*, (25) : 3-6.  
 The effects on fisheries of man-made changes in fresh water in the Maritime Provinces.

Lists a large number of the changes and effects and suggests that greater knowledge is needed to devise remedies.

- Vladykov, V. D.** (1959) MF  
60-7918  
*Canad. Fish Cult.*, (25) : 7-12.  
 The effects on fisheries of man-made changes in fresh water in the province of Quebec.

Contains some notes on fisheries administration and devotes major attention to three types of human activity; paper industry, mining, St. Lawrence Seaway.

- Miller, R. B. & M. J. Paetz** (1959) F  
60-7919  
*Canad. Fish Cult.*, (25) : 13-26.  
 The effects of power, irrigation, and stock water developments on the fisheries of the South Saskatchewan River.

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- Larkin, P. A. et al.** (1959) MF  
*Canad. Fish. Cult.*, (25) : 27-59. 60-7920

The effects on fresh water fishes of man-made activities in British Columbia.

Activities discussed are: forestry practices, agricultural development, mining, hydroelectric development, pollution, development construction—roads, railways, etc.

- Halldal, P.** (1959) MF  
*Physiol. Plant.*, 12 (4) : 742-52. 60-7921

Factors affecting light response in phototactic algae.

CR 59-7881 and 60-0852. Results of investigations of the influence of environmental factors and on phototaxis in some Dinophyceae and Volvocales, with special attention on reversal from positive to negative phototaxis.

- Goodrich, H. B. & J. M. Greene** (1959) F  
*J. exp. Zool.*, 141 (1) : 15-46. 60-7922

An experimental analysis of the development of a color pattern in the fish *Brachydanio albolineatus* Blyth.

Mechanics of formation of pattern in anal fin of this tropical fish. Ill. and describes normal development and regeneration after a variety of different types of interference.

- Patric, E. F. & W. L. Webb** (1960) F  
*J. Wildlife Mgmt.*, 24 (1) : 37-44. 60-7923

An evaluation of three age determination criteria in live beavers.

Criteria examined are weight, the product of tail dimensions, and the breadth of the skull across the zygomatic arches.

- Rawson, D. S. & F. E. J. Fry** (1960) FG  
*J. Wildlife Mgmt.*, 24 (1) : 108. 60-7924  
 Richard Birnie Miller 1915-1959.

Short biography of this fisheries biologist.

- Reid, G. K.** (1960) F  
*J. Wildlife Mgmt.*, 24 (1) : 109. 60-7925  
 Fishes of the Great Lakes region.

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**DeWitt, J. W. & E. O. Salo** (1960)  
*Progr. Fish-Cult.*, 22 (1) : 3-6.

FG  
 60-7926

The Humboldt State College fish hatchery: an experiment with the complete recirculation of water.

Describes a system used primarily for salmonids which continually recirculates an entire water mass by pumping through filters to an aerating and cooling tower, thence by gravity to troughs, ponds and raceways and then to collecting sumps and back to the pumps.

**Buss, K. & R. McCreary** (1960)  
*Progr. Fish-Cult.*, 22 (1) : 7-10.

F  
 60-7927

A comparison of egg production of hatchery-reared brook, brown, and rainbow trout.

Presents information on the volume and number of eggs produced by pound of brood fish of *Salvelinus fontinalis*, *Salmo trutta* and *S. gairdnerii* at Benner Spring Research Station in Pennsylvania. Methods for calculation are given.

**Wolf, K. & R. G. Piper** (1960)  
*Progr. Fish-Cult.*, 22 (1) : 10.

MF  
 60-7928

A useful container for laboratory work with salmonid eggs and fry.

Describes a plastic unit which can be used to: simulate a shipping container or drip incubator; maintain eggs and fry in separate lots for genetic study; study effects of synthetic metabolites on eggs; chemical toxicity studies in flowing or static water; studies on diseases.

**Lewis, W. M. & M. Bender** (1960)  
*Progr. Fish-Cult.*, 22 (1) : 11-4.

F  
 60-7929

Heavy mortality of golden shiners during harvest due to a bacterium of the genus *Aeromonas*.

Describes occurrence in *Notemigonus crysoleucas* hatchery pond: symptoms, characteristics of the pathogen, sensitivity to bactericides.

**Hammer, G. L.** (1960)  
*Progr. Fish-Cult.*, 22 (1) : 14.

F  
 60-7930

Toxicity of pyridylmercuric acetate to cutthroat trout.

Describes comparative tests with PMA on *Salmo clarkii*, *S. trutta*, *S. gairdnerii* and *Salvelinus fontinalis*.

**McCaig, R. S., J. W. Mullan & C. O. Dodge** (1960)  
*Progr. Fish-Cult.*, 22 (1) : 15-23.

F  
 60-7931

Five-year report on the development of the fishery of a 25,000-acre domestic water supply reservoir in Massachusetts.

Describes fisheries history of the 25,000-acre Quabbin Reservoir, creel census, and management of its cold and warm-water stocks.

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*Progr. Fish-Cult.*, 22 (1) : 23.  
 A special mount for an outboard motor.  
 Describes a mount used on 12-foot boat for a 5½ HP motor to permit use in very shallow water.
- Phillips, E. S. & D. A. Webster** (1960) G  
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*Progr. Fish-Cult.*, 22 (1) : 24-9.  
 Improvements in a microprojector for fish scales.  
 Gives detailed plans for construction of an adaptation of the Bausch and Lomb VH micro-projector with viewing screen and adaptability for photographer. Cost about \$1,000, incl. optical parts.
- Pyle, E. A.** (1960) F  
60-7934  
*Progr. Fish-Cult.*, 22 (1) : 30-3.  
 Neutralizing chlorine in city water for use in fish-distribution tanks.  
 Describes experiments to determine: toxicity to *Salvelinus fontinalis*, *Salmo trutta*, *S. gairdnerii* and *Micropterus dolomieu* fingerlings of chlorine; their tolerance levels to sodium thiosulfate; effect of products of neutralization of chlorine and sodium thiosulfate on these fish; efficiency of neutralization.
- French, T. E. & R. F. Johnson** (1960) G  
60-7935  
*Progr. Fish-Cult.*, 22 (1) : 33.  
 A mechanical fish loader.  
 Describes loading arm with cable holding aluminium basket with trap bottom that can hold 200 pounds of fish; unit mounted on 2-wheel trailer; fish can be weighed.
- Wilber, C. G.** (1960) F  
60-7936  
*Progr. Fish-Cult.*, 22 (1) : 34-7.  
 Pharmacological studies on the melanophores in *Fundulus heteroclitus*.  
 Describes studies on their response to decamethonium, hexamethonium, and octamethyl pyrophosphoramidate—OMPA.
- Vincent, R. E.** (1960) MF  
60-7937  
*Progr. Fish-Cult.*, 22 (1) : 38-42.  
 Experimental introductions of freshwater alewives.  
 Describes experiments to find methods of transporting *Alosa pseudoharengus* as eggs or adults and to determine their survival and reproduction in a foreign body of water.

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*Progr. Fish-Cult.*, 22 (1) : 42.  
Warning device for use at fish hatcheries.
- Describes construction of a portable, self-contained alarm powered by a dry-cell battery to provide a warning of changes in water level.
- F  
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- Isom, B. G.** (1960)  
*Progr. Fish-Cult.*, 22 (1) : 43-5.  
Outbreaks of columnaris in Center Hill and Old Hickory reservoirs, Tennessee.
- Describes fish kills in 1959 of warm-water fishes—primarily centrarchids.
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- Benson, N. G.** (1960)  
*Progr. Fish-Cult.*, 22 (1) : 45.  
Fish-mortalities associated with cloudy weather.
- Describes occurrences in small ponds in Tennessee in August 1954 and correlates with temperature and sunlight.
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- Snieszko, S. F.** (1960)  
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- Re 59-7091.
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- Creel census, age and growth, population studies, stocking and management plans are presented.



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Re 59-2032.
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Comparison of estimates of circular probable error.  
Compares four methods of estimating variance of normal bivariate probability mass—frequently applied to problems of animal dispersion; gives tables to correct bias in various methods; concludes that mean radial error gives a good estimate, sample median radial error is bad.
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- Barclay, G. W.** (1958)  
New York, J. Wiley & Sons, Inc., 311 p.  
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A non-mathematical introductory text. Explains many of the more important methods of analyzing population data, incl. the newer developments, with instructions in steps in computation, and with explanations of the logic of the methods and of ways of interpreting the results.
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Early development and metamorphosis of the ten-pounder *Elops saurus* Linnaeus.  
A series of larvae—leptocephalus, early metamorphic, mid-metamorphic and late-metamorphic,—juveniles and adults, ill. and described. Changes in form are discussed, in particular the shifting of the dorsal and anal fins anteriorly during metamorphosis.
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*Årsberetn. Norg. Fisk.*, (10) : 18 p.  
Selfangsten 1958. (Sealing 1958.)  
Catch statistics and hunting conditions in Newfoundland, Denmark Strait areas and on West, North and South Ice during 1958 season.

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Statistics and conditions of Norwegian fishing fleet during 1958.

M  
60-7952

- Iversen, E. S. & C. P. Idyll (1959)**  
*Tech. Ser. Fla Bd Conserv.*, (29) : 35 p.

The tortugas shrimp fishery: the fishing fleet and its method of operation.

Background for measurement of relative quantities of *Penaeus duorarum* on this grounds, within and between seasons. Headings are: The fishing vessels—seasonal variation in sizes of vessels fishing; catch per trip by length of vessel; catch per trip by age of vessel; mesh size of trawl nets—Vessel activity—fishing ports; length of trip; seasonal variation in landings; daily variation in landings; sizes of shrimp landed; tendency of fishermen to sell to more than one dealer; other species of shrimp in the catch—Factors affecting availability of shrimp—hours of darkness; moon phases; jellyfish; algae; wind velocity and direction; regulation of fishing—Changes in catch per unit of effort—Seasonal changes; inter-year changes.

M  
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- Provenzano, A. J., Jr. (1959)**  
*Bull. Mar. Sci. Gulf Caribb.*, 9 (4) : 349-420.

The shallow-water hermit crabs of Florida.

23 spp. of pagurid crabs from the tidal and immediately subtidal waters of Florida, incl. one new sp., *Pagurus miamensis*, are described, ill., and discussed and keys are presented for their determination.

M  
60-7954

- Moore, H. B. & A. C. Frue (1959)**  
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The settlement and growth of *Balanus improvisus*, *B. eburneus* and *B. amphitrite* in the Miami area.

Data for 12 years on the settlement, survival and growth of 3 spp. of barnacles in the Miami area are analyzed. Long period, seasonal and short period fluctuations are described, and the correlations of these with temperature and river discharge are discussed.

M  
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- Meyers, S. P. & E. S. Reynolds (1959)**  
*Bull. Mar. Sci. Gulf Caribb.*, 9 (4) : 441-55.

Cellulolytic activity in lignicolous marine ascomycetes.

Issued also as: *Contr. Mar. Lab. Univ. Miami*, (245), 1959.

Cellulolytic activity, determined by the Nelson-Somogyi method, has been demonstrated in *Lulworthia floridana* Meyers, *Torpedospora radiata* Meyers, *Ceriosporopsis halima* Linder, *Lignincola laevis* Höhnk, *Peritrichospora integra* Linder, and *Arenariomyces salinus* Meyers.

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Records of *Cyamus balaenopterae* Barnard and *Neocyamus physeteris* (Pouchet), two species of whale-lice (Amphipoda), from Northeast Pacific.  
Former from *Balaenoptera acutorostrata*, latter from *Physeter macrocephalus*.
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- Mundie, J. H.** (1959)  
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The diurnal activity of the larger invertebrates at the surface of Lac La Ronge, Saskatchewan.  
Horizontal hauls made with a pair of large plankton nets at the surface to determine 24-hour emergence cycle of chironomid midges rising from different depths and to investigate the occurrence of the larger invertebrates at the surface. Many benthic animals are less static in their distribution than is commonly accepted.
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- Ali, M. A.** (1959)  
*Canad. J. Res. (Zool.)*, 37 (6) : 965-96.  
The ocular structure, retinomotor and photo-behavioral responses of juvenile Pacific salmon.  
CR 59-8747. Histological study of *Oncorhynchus nerka*, *O. kisutch*, *O. gorbuscha*, *O. keta* in freshwater.
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- Hickman, C. P., Jr.** (1959)  
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The osmoregulatory role of the thyroid gland in the starry flounder, *Platichthys stellatus*.  
Energy demands for osmoregulation, and metabolic rates in specimens acclimated to fresh- and to sea-water. Melting point technique and thyroid study with use of radioiodine. Comparative metabolic data for *Citharichthys stigmaeus* and *Parophrys vetulus*. Literature survey, comparative table of influence of salinity on O<sub>2</sub> consumption in spp. of *Tinca*, *Anguilla*, *Salmo*, *Carassius*, *Fundulus*, *Gasterosteus*, *Coregonus*, *Hippocampus*, *Pleuronectes*, *Scorpaena*, *Scyllium* and *Sargus*.
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- Myers, B. J.** (1959)  
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Lice on *Phoca hispida* Schreber.  
New record of *Echinophthirus horridus* from ringed-seal at South Baffin Islands.
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Les méthodes de pêche au thon en Italie et la pêche pélagique au filet tournant. (Tuna fishing methods in Italy and pelagic fishing with ring nets.) En

Different methods and gear used for tuna fishing in Italy are described; especially pelagic fishing by means of ring nets. Comparisons are made between the production of the tuna traps and of the pelagic fisheries, and the possibilities of future production by the above methods are discussed.



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Premiers résultats de la pêche au chalut par fonds de 400 à 700 m dans le Golfe de l'Asinara. (Preliminary results of trawling in the Gulf of Asinara, in the 400 to 700 meter depths.) En

Preliminary results of trawling carried out in the 400 to 700 m depths of the Sardinian seas, are described. The productive possibilities of the exploitation of certain trawling grounds of the meso abyssal zone of the Mediterranean are also discussed.

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Contribution à l'étude de la biologie des soles (*Solea solea*) en moyenne Adriatique. (Contribution to the study of the biology of soles, *Solea solea*, in the middle Adriatic.) En

The biometric characteristics of sole fished in the middle Adriatic have been studied. Individuality and distribution of the local population of this sp. are also discussed.

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Contribution à la connaissance de la biologie du merlu (*Merluccius merluccius* L.) en moyenne Adriatique. (Contribution to the knowledge of the biology of the hake, *Merluccius merluccius* L., of the Middle Adriatic.) En

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Tracking birds on tidal flats and beaches.

Descriptive notes on photographs of marks left by birds and the holes of some prey spp. of marine worms.

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Seal marking—1958.

151 seals were marked with numbered metal toe-rings in west Wales during 1958, most of them on Ramsey Island; of which 6 were recovered locally and 5 in other areas.

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*Bull. agric. Congo belge*, 50 (6) : 1665-90.

Aperçu sur la pêche lacustre et fluviale au Congo belge et au Ruanda-Urundi. (Review of fishing in lakes and rivers in the Belgian Congo and Ruanda-Urundi.)

TA 15 (6) h1581. Fishing practices, implements, techniques, and prevailing spp. of fish in lakes and rivers, and in ponds. Recommendations with respect to determination of potentialities, fishing and preservation techniques, a study of the periods in which fishing should be closed, etc. Annex provides statistical data of production between 1950 and 1958.

**Nguyen-Thi-Lau & C. Richard** (1959)

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*Rev. Elev.*, 12 (3) : 313-24.

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*Bull. Jap. Soc. sci. Fish.*, 26 : 75-83.  
 Studies on the "Kamaboko", fish jelly, and fish sausage products. IX. Discolouration of colouring matters (new coccin) added to fish sausage products (Part 1).

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**Saito, T., et al.** (1960)  
*Bull. Jap. Soc. sci. Fish.*, 26 : 317-20.

Studies on the organic phosphates in muscle of aquatic animals. VIII.  
Preparation of inosinic acid from squid muscle.

Study on the preparation of inosinic acid from adenylic acid of squid muscle by the action of 5'-adenylate deaminase of fish muscle.

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## VOLUME 4—MEETINGS: CONGRESSES, CONFERENCES, SYMPOSIA, COURSES, TRAINING CENTRES

60-286me to 60-307me

**CSIRO.** 23/9/60 M  
Cronulla, Australia. 1 day. 60-286me  
Commonwealth—state fisheries conference. Special crayfish meeting.

**CSIRO.** 30/11/60 M  
Melbourne, Australia. 2 days. 60-287me  
1st Meeting of the standing committee on development of pelagic fisheries  
in South-east Australia.

**Fisheries Research Board of Canada.** 3/1/61 F  
Ottawa, Canada. 60-288me  
Meeting of Canadian committee on freshwater fisheries research.

Chairman J. R. Nursall, Secretary J. Murray Speirs; Topics discussed:  
“Farm fish ponds as a technique of fishery management” and “Biological  
aspects of fish culture: Hybrids and selective breeding”.

**Association of British Zoologists.** 7/1/61 MF  
London, U.K. 1 day. 60-289me  
Meeting.

Will include papers on “The freshwater fauna of tropical Africa” and  
“The future for marine mammals”.

**WHO/Josian Macy Jr. Foundation.** 1/9/61 MF  
Washington, D.C., U.S.A. 7 days. 60-290me  
International congress on nutrition.

**Office of Ordnance Research/National Science Foundation.** G  
6/4/61 60-291me  
New York, N.Y., U.S.A. 3 days.  
Meeting.

In connection with the American Mathematical Society meeting.

**Permanent International Congress of Navigation.** 11/9/61 M  
Baltimore, Md., U.S.A. 9 days. 60-292me  
20th International congress of navigation.

**ICES.** 27/9/61 M  
Charlottenlund, Denmark. 1 day. 60-293me  
Symposium on herring.

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- |  |                |
|--|----------------|
| <b>ICSU/SCOR.</b> 21/8/61<br>Honolulu, Hawaii.<br>5th Meeting.   | M<br>60-294me  |
| <b>IPSFC.</b> 15/12/60<br>Bellingham, Wash., U.S.A. 2 days.<br>Annual Meeting.   | MF<br>60-295me |
| <b>Midwest Fish and Wildlife Conference.</b> 5/12/60<br>Toronto, Canada. 3 days.<br>Meeting.   | MF<br>60-296me |
| <b>ICSU/SCOR.</b> 29/8/60<br>Cambridge, U.K. 6 days.<br>Meeting.   | M<br>60-297me  |
| <b>IPFC, Executive Committee.</b> 5/1/61<br>Karachi, Pakistan.<br>31st Meeting.  | MF<br>60-298me |
| <b>IPFC, Executive Committee.</b> 24/1/61<br>Karachi, Pakistan.<br>32nd Meeting.   | MF<br>60-299me |
| <b>FAO.</b> 21/11/60<br>Saigon, Vietnam. 10 days.<br>5th Regional conference for Asia and the Far East.                                | MF<br>60-300me |
| <b>Foundation for Mutual Assistance in Africa<br/>South of the Sahara.</b> 2/2/61<br>Lagos, Nigeria. 10 days.<br>3rd Meeting.          | MF<br>60-301me |
| <b>Institute of Food Technologists.</b> 17/6/61<br>Miami, Fla., U.S.A. 5 days.<br>Annual meeting.                                      | MF<br>60-302me |
| <b>I-ATTC.</b> 23/2/61<br>Panama City, Rep. Panama. 1 day.<br>Meeting.   | M<br>60-303me  |
| <b>AIBS.</b> 26/1/61<br>Washington, D.C., U.S.A. 2 days.<br>Meeting of advisory committee, biological sciences communications project. | G<br>60-304me  |



MEETINGS

**USFWS (?)**. 6/12/60  
Olympia, Wash., U.S.A. 2 days.  
11th Annual fish cultural conference.

F  
60-305me

**USFWS (?)**. 19/2/61  
Williamsburg, Va., U.S.A. 4 days.  
Atlantic fisheries technological conference.

M  
60-306me

**The Royal Society of London**. 1961  
U.K.  
Grants under the Browne research fund.

M  
60-307me

Council of the Royal Society is prepared to consider applications for personal grants for up to 12 months to enable individuals to carry out research in marine biology.



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					216me	113me	058me
					067me	256me	272me
					200me	158me	201me
					147me	220me	224me
					114me	057me	
	NOVEMBER	..	..	..	214me	269me	202me
					115me	221me	170me
					267me	223me	211me
					253me	254me	195me
					251me	252me	265me
					222me	215me	118me
				275me	300me	276me	
				175me	219me	210me	
				287me			
DECEMBER	..	..	..	266me	180me	209me	
				273me	296me	305me	
				212me	181me	043me	
				225me	295me	159me	
				191me	280me	282me	
				283me	281me	278me	
				279me	284me	285me	
				277me	217me	218me	
1961	—	..	..	..	268me	307me	
	JANUARY	..	..	..	171me	288me	298me
					196me	289me	153me
					135me	299me	304me
					231me	184me	
	FEBRUARY	..	..	..	250me	271me	301me
					244me	226me	306me
					227me	213me	243me
					303me		
	MARCH	..	..	..	263me	257me	239me
					259me	237me	190me
	APRIL	..	..	..	154me	230me	258me
					291me	124me	087me
	MAY	..	..	..	255me	232me	264me
					247me	240me	241me

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1961	JUNE	..	..	..	242me 245me	270me	302me
	AUGUST	..	..	..	294me	248me	
	SEPTEMBER		..	..	290me 292me 233me	260me 229me 249me	246me 262me 293me
	NOVEMBER	..	..	..	238me	234me	
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<i>Salmo trutta</i>	7927	7930	7934	1,70 <i>Chromis</i>	8370
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## VOLUME 4—EXPLANATION OF COVERAGE AND ARRANGEMENT

9. ERRATA AND ADDENDA to "EXPLANATION OF COVERAGE AND  
ARRANGEMENT" (contd.)

4. ANNOTATIONS AND TREATMENT OF SPECIAL CASES

4.1 *Treatment of publications not seen by compilers*

*Code for Abstracting Journals*

Insert, in alphabetical order, the following:

Bibliography of Agriculture	..	..	BAgr.
Current Scientific Literature	..	..	INSDOC
International Abstracts of Biological Sciences			IABS
International Bibliography of Economics	..	..	IBE

Misspelled journal "Phychological Abstracts" should read:

Psychological Abstracts	..	..	..	PA
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# CURRENT BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

## VOLUME 4—ERRATA

60-042er to 60-046er

Original title <i>should read</i> Výživa a růst kapřího plůdka	60-042er (59-7827)
Original title <i>should read</i> Výskyt přirozené rybí potravy v pstruhových [rybnících] při intenzivním chovu plůdka pstruha duhového	60-043er (59-7824)
Original title <i>should read</i> Vliv odpadních vod z výroby syntetického kaučuku na ryby "	60-044er (59-7828)
(1958) <i>should read</i> (1959)	60-045er (60-5220)
Delete the duplicate entry 60-3295	60-046er (60-3295)



# CURRENT BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

## VOLUME 4—ADDENDA

60-326ad to 60-349ad

- Annotation:* A taxonomic description. 60-326ad  
(59-4997)
- Author:* & P. J. P. Whitehead. 60-327ad  
(59-8175)
- Annotation:* Orig. issued as: *J. oceanogr. Soc. Japan*, 15 (3): 143-9, 60-328ad  
*Ni*, En. Examination of data on capture of *Thunnus geromo*, (60-0925)  
*Parathunnus mebachi*, *Neothunnus macropterus*, *Thunnus maccoyi*,  
and *Euthynnus nigra*, and of the use of tuna-distribution as an  
indicator of seasonal and annual variation in ocean conditions.
- Annotation:* Issued also as: *Bull. Res. Coun. Israel*, 8B (2) : 43-64. 60-329ad  
(60-1950)
- Annotation:* Contains 60-8579 to 60-8598, under headings: Biological 60-330ad  
and economic aspects of fishery management; Halibut fishery (60-4544)  
management; Salmon management in Alaska; International trade  
policies and their relation to fisheries. Each section is followed  
by verbatim record of discussion.
- Annotation:* Theory of inbreeding; mathematical theory of in- 60-331ad  
heritance and statistical utilization of this theory; design of ex- (59-2160)  
periments for understanding quantitative inheritance; population  
genetics; Fisher's & Wright's contributions to statistical genetics.
- Annotation:* Description of a water sampler for bacteriological 60-332ad  
water analyses. (60-5223)
- Annotation:* Size selectivity of hooks and gill-nets; seasonal and 60-333ad  
geographic variations of landings, diet, maturity, growth, spawn- (60-5089)  
ing times and sizes, ages in catches.
- Annotation:* Studies of algal flora found in Mont Tremblant. 60-334ad  
(60-5066)
- Annotation:* Studies of algal flora found in Laurentide Provincial 60-335ad  
Parks. Laurentide Park found to afford unusual opportunities (60-5067)  
for researches, incl. that into the potential biological role of algae  
in the nutrition of larval brook trout.
- Author* (1959). 60-336ad  
(60-5134)
- Annotation:* This bulletin is a digest of some of the things known 60-337ad  
about trout, and the factors affecting them, as they pertain to (59-4809)  
conditions in Massachusetts ponds.
- Annotation:* Mortality of *Clupea harengus*, *Scomber* and alewife 60-337ad  
due to fungus *Ichthyosporidium hoferi*. (59-4809)
- Annotation:* Notes on *Caranx ruber* and *Serida dumerili*. 60-338ad  
(59-6729)

- Trout, G. C.** (1960) M  
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 Cod sampling on board a factory stern trawler.  
 Account of sampling problems caused by method of operating gear and handling catch, from experience on 'Fairtry II', Jan.-Feb. 1960 and ICNAF area; describes use of one-man measuring board with plastic writing surface.
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 Data for experiments with various mesh sizes, at Quebec, in summer 1959.
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*Gadus callarias* L.—New host for *Ichthyosporidium hoferi*.  
 Diagnosis in liver of specimen taken off W. Greenland, July 1957.
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 A sediment core from the Mindanao Trough.
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*Rep. Swed. Deep-Sea Exped.*, 6 (7) : 157-60.  
 Fragments of calcareous algae in a sediment core from the Mindanao Trough.
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 The sediments of the central Tyrrhenian Sea.
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 Examinations of core 72 and 723.



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F

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F

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MF

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M

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Lists spp. and quantities of nannoplankton and gives % occurrence of Rotatoria, Cladocera and Copepoda in plankton samples.

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 Příspěvek k hydrobiologii Břehyňského rybníka. (Contribution to the hydrology of the Břehyňsk lake.) De

Tabulated results of temperature observations and qualitative, quantitative analyses and vertical distribution of phytoplankton.

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 Catalogue of the names of fishes of commercial importance in the Mediterranean.

Consists of 250 loose sheets, each giving a scale drawing of a fish sp., scientific name and common synonyms, systematic position, maximum length, a standard common name in each of 12 languages of GFCM member countries. Mostly marine spp. Sheets for spp. found on markets of Mediterranean countries but not from the Mediterranean Sea are on blue paper. Index to scientific and common names; short bibliography. Each sheet also gives code numbers according to taxonomic code used for indexing the *Curr. Bibliogr. aquat. Sci. Fish.*

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 Conservation programs for sea life discussed at Wildlife Conference.

Gives account of address by D. L. McKernan to Northeast Wildlife Conference meeting in January 1960 at Providence, R.I.

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Announces plans for joint Federal-State action in US to control *Myriophyllum spicatum*. Briefly summarizes ecology of this invader from Eurasia.

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 O rybove ratsional'noi formy tralovoi doski. (On the choice of a rational shape for trawl-boards.)

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 Charts of sedimentary patterns; study of mechanics of deposition and transport.
- M  
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 Consideration of blood volume of *Maia* in relation to study of bionomics of trace elements.
- M  
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 Développement de *Salmacina dysteri* (Huxley). (Development of *Salmacina dysteri* (Huxley)).  
 Ill. description of embryology of this serpulid studied at Roscoff.
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60-8612
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 Les démosponges des côtes de France. 1. Les Clathriidae. (The demospongs of the coasts of France. 1. The Clathriidae.)  
 Describes and ill. various genera from North Sea and Mediterranean.
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*Cah. Biol. mar.*, 1 (1) : 89-102.

La faunule associée au *Lithophyllum incrustans* Phil des cuvettes de la région de Roscoff. (The associated microfauna on *Lithophyllum incrustans* Phil of shallow basins in the region of Roscoff.)

Inventory of spp. of this association on a calcareous alga, distribution of the association in the thallus, geographical diversity and general characters of the association.

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Génétique des populations de *Sphaeroma serratum* (F.)—1. Stabilité du polychromatisme local. (Genetics of populations of *Sphaeroma serratum* (F.)—1. Stability of local polychromatism.)

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Describes diversity of the *Syllis profera* group.

- Perring, F.** (1960) G  
60-8617  
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Mapping the distribution of flowering plants.

- Pomeroy, L. R.** (1960) F  
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SAC (1) 24. In the small region of Tsingtao there are represented at least five spp. of *Porphyra* and among them some are as yet undescribed. Vegetative characteristics, reproduction, the filamentous or conchocelis stage, and the systematic position of the new spp. are studied.

F

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**Kou, C. F.** (1958)*Acta bot. sinica*, 7 (2) : 87-96.(Studies on the genus *Chaetoceros* Ehrenberg from the fishing ground of the mackerel, *Pneumatophorus japonicus* (Houttuyn), off the Shantung coast from Chefoo to Weihai. Part 2. An ecological study.) *Ch*

SAC (1) 27. New method of unialgal culture of attached filamentous algae described. Based on principle that zoospores of this alga are phototropic.

M

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**Chu, S. P. & Y. C. Kuo** (1958)*Oceanol. Limnol. sinica*, 1 (2) : 167-84.(Studies on the genus *Chaetoceros* Ehrenberg from the fishing ground of the mackerel, *Pneumatophorus japonicus* (Houttuyn), off the Shantung coast from Chefoo to Weihai. Part 2. An ecological study.) *Ch*

SAC (1) 72. Sedimentation and net methods have been used. *Chaetoceros convolutus* has possibility as indicator for outside sea water early in fishing season. *Ch. castracanei* and *Ch. densus* both occur almost all over this fishing ground in great numbers, last through the main period of the fishing season and often have a good correlation in their distribution with hydrographical conditions.

M

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**Tseng, C. K. & C. F. Chang** (1958)*Oceanol. Limnol. sinica*, 1 (2) : 209-17.(On the geographical distribution of *Pelvetia siliquosa* Tseng et C. F. Chang.) *Ch*

SAC (1) 73.

F

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**Samoilov, I. V.** (1958)*Oceanol. Limnol. sinica*, 1 (2) : 153-66.(On the development of limnology and hydrochemistry in China.) *Ch*

SAC (1) 74. At present, hydrological studies of the rivers in China are already in big stride, but limnological and hydrochemical studies are comparatively undeveloped. Limnology serves in navigation, fisheries, water supply, irrigation, water power, salt production, and health resorts. Development must be in accordance with the need of the national economy and the 12 years science development plan. Classification of Chinese lakes and ponds and their methods of studies, with special emphasis on reservoirs is suggested. Hydrochemistry serves in water supply, navigation, fisheries, anti-contamination and mineral prospecting.

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(A new parasitic copepod, *Achtheinus impenderus* (Caligoida, pandaridae), from a shark taken at Peitaiho, Hopei Province.) *Ch*

SAC (1) 190. Gravid female specimen from *Triakis scyllium* Müller & Heule, at Peitaiho, Hopei Province, in the summer of 1956 by Yang, W. H. Closely related to *Achtheinus galeorhini* Yamaguti (1936).

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60-8627
- Shen, C. J.** (1958)  
*Acta zool. sinica*, 10 (1) : 31-4.  
(A marine argulid found in China Sea.) *Ch*

SAC (1) 198. *Argulus scutiformis* Thiele, the 1st marine sp. recorded from Chinese seas. Two female specimens were found on the body surface of *Discobatus sinensis* (Bloch & Schneider) by Chang, Y. W. at Da-lien, Liao-tung Peninsula, 10 May 1956.

- MF  
60-8628
- USFWS** (1959)  
*Market News Leaflet*, (3) : 8 p.

Legislative actions affecting commercial fisheries, 86th Congress, 1st Session.

Sets out status as of 15 Sep. 1959 of bills reported out by a committee (excl. bills introduced but on which there has been no committee action) as follows: Alaska omnibus act: S. 1541; Color additives in foods: S. 2197; Dogfish shark eradication: S. 1264; Federal boating act of 1958 amendment: H.R. 8728; Fishing vessel construction subsidies: H.R. 5421; Fishing vessel mortgage insurance fund: S. 2481; Game fish and dam reservoirs research: S. 1262; Great Lakes basin compact: S. 548; Oyster industry assistance: S. 2632; Salt-water research laboratory: S. 1576; Sea weed, free importation of: H.R. 5887.

- MF  
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- U.S. Laws, Statutes, etc.** (1959)  
Public Law 86-70.

Alaska omnibus act: H.R. 7120.

To amend certain laws of the US in light of the admission of the State of Alaska into the Union. Signed by President, 25 Jun. 1959.

- MF  
60-8630
- U.S. Laws, Statutes, etc.** (1959)  
Public Law 86-3.  
Hawaii statehood: S. 50.

Signed by President, 18 Mar. 1959.

- MF  
60-8631
- U.S. Laws, Statutes, etc.** (1959)  
Public Law 86-279.  
Insecticides effect upon fish and wildlife: S. 1575.

Signed by President, 16 Sep. 1959.

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**U.S. Laws, Statutes, etc. (1959)**

Public Law 86-207.

Interstate transportation of fish: H.R. 5854.

Approved 25 Aug. 1959. Provides a technical amendment to the Black Bass Act, as amended, to make it clear that only lawfully taken fish or eggs for breeding or stocking purposes can be shipped.

MF

60-8633

**U.S. Laws, Statutes, etc. (1959)**

Public Law 86-359.

Marine game fish research: H.R. 5004.

Signed by President, 22 Sep. 1959. Authorizes and directs the Secretary of the Interior to undertake a comprehensive continuing study of the migratory marine fish of interest to recreational fishermen incl. spp. inhabiting the offshore waters and which migrate through or spend a part of their lives in inshore waters. Study shall incl. research on migrations, identity of stocks, growth rates, mortality rates, variations in survival, environmental influences, both natural and artificial, incl. pollution, and effects of fishing on the sp., for the purpose of developing wise conservation policies and constructive management activities.

M

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**Anon. (1960)**

*Discovery*, 21 (6) : 276.

New research vessel for Woods Hole Oceanographic Institution.

Note on replacement of 'Atlantis'.

MF

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**Nowinski, W. W. (Ed.) (1960)**

Amsterdam, Elsevier Publishing Co.

Fundamental aspects of normal and malignant growth.

Contains 60-8636.

MF

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**Von Bertalanffy, L. (1960)**

*In* 60-8635 : 137-259

Principles and theory of growth.

Ci 581530, 581002, and 1956 Yoshida, Y. Reviews all aspects of growth theory, and has short section dealing with application to fish and fisheries problems.

MG

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**Lill, G. G. (1960)**

*Discovery*, 21 (2) : 62-7.

The deep hole.

Notes on plans advancing for drilling hole into mantle from a platform moored in deep ocean to study earth's structure.

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- Anon.** (1960)  
*Pol. marit. News*, 3 (17) : 14.  
Export of fish and fish products in 1959.
- Briefly reviews Polish production statistics; figures for live export of freshwater fishes.
- M  
80-8639
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Fishing news bulletin.
- Notes on catches, government and industrial activities.
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- Schärfe, J.** (1959)  
FAO, mimeo, 16 p.  
Report on one-boat midwater-trawling experiments in the North Sea in Dec. 1958 and Feb.-Mar. 1959.
- Describes experiments by FAO staff member collaborating with the German Government to develop methods of controlling depth of trawl while fishing and adjust it to actual depth of fish; conducted in N. Sea Dec. 1958 and Jan.-Feb. 1959, with high opening nylon net, hydrofoil otter boards and echosounder depth gauge; use for herring fishing by 180-800 h.p. vessels.
- MF  
60-8641
- Romanov, N. S.** (1959)  
Moskva, Akad. Nauk S.S.S.R., 167 p.  
Annotivorannyi ukazatel' opublikovannykh 1956 godu rabot po probleme "Zakonomernosti dinamiki chislennosti, povedeniia i raspredeleniia ryb, morskikh mlekopitaiushchikh, promyslovykh bespozvochnykh i vodoroslei v svezhi s usloviiami ikh sushchestvovaniia". (Annotated bibliography of 1956 publications on the problem "Observed relations of the dynamics of quantity, behaviour and distribution of fishes, marine mammals, commercial invertebrates and seaweeds with the conditions of their existence".)
- 873 references arranged by areas—Caspian; Azov and Black Seas; Baltic; Barents and White Seas and N. Atlantic; Aral Sea and Lakes Baikal and Issyk Kul; Siberian reservoirs; Far Eastern Seas; ponds—and within area by name of author. Gives author index, list of periodicals, manuals and sources of references.
- MF  
60-8642
- Soekarno, R.** (1958)  
*Berita Perik.*, 10 (9/10) : 127-31.  
Produksi dan perdagangan ikan didaerah Bandjar (Hulu Sungai) Kalimantan Selatan. (Production and marketing of fish in Bandjar, Hulu Sungai, southern Borneo.)
- Description of the gears used and the fisheries economy, with special reference to the fixation of the price, which, owing to excessive supply, does not follow the laws of demand and supply, but is dictated by the exporter in Bandjarmasin.



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- Subany, W.** (1958) MF  
60-8643  
*Berita Perik.*, 10 (9/10) : 132-7.  
Perikanan dengan rumpon dan sifat<sup>2</sup> ikan disekitarnja. (Fisheries with lures and some characteristics of the different species involved.)

Ill. description of lures as used in Java, eastern Borneo, southern Celebes and eastern Sumatra.

- Oetomo, S.** (1958) MF  
60-8644  
*Berita Perik.*, 10 (9/10) : 142-51.

Djelawat sekarang dan kemudian. (*Leptobarbus hoeveni* Blkr. now and in the future.)

Description of taxonomy, biology, feeding habits, migration, spawning, capturing methods, preservation and marketing in eastern Borneo. Since 1955 cultivation is carried out. At high waterlevel the fry from the river enters ponds and finds its way back blocked. Several kinds of vegetable food are given. Tables, map of centres of culture near Samarinda.

- Sukadi, R.** (1959) F  
60-8645  
*Berita Perik.*, 10 (11/12) : 159-64.

Rawa Tjampurdarat sekilas lintas. (A bird's eye view of the Rawa Tjampurdarat.)

Description of two shallow lakes in eastern Java, connected by a river, with a total area of 2600 ha. Survey of higher plants, fishes, gears and capturing methods, preservation and marketing. Ill.

- Maulana, M.** (1959) MF  
60-8646  
*Berita Perik.*, 10 (11/12) : 165-9.

Harga kapal, bahan alat perikanan serta harga ikan basah dan pengaruhnja terhadap motorisasi perikanan pada waktu ini. (The price of ships and gear and the price of fresh fish and their influence on the motorisation of fisheries at present.)

With statistics it is demonstrated that, in Indonesia now, prices of boats and gear have risen much more than the price of fresh fish. Consequently the Extension Service finds difficulties in propagating motorization.

- Anon.** (1959) MF  
60-8647  
*Berita Perik.*, 10 (11/12) : 171.

Produksi perikanan di Indonesia. Kutipan dari: Laporan tahun Pembukuan 1957/1958 Bank Indonesia. (Fisheries production in Indonesia, from the report of the fiscal year 1957/1958 of the Bank of Indonesia.)

Statistics show that the production of inland fisheries has increased since 1956, as contrasted with production of sea fisheries which has decreased.

**Kamar, M.** (1959)M  
60-8648*Berita Perik.*, 10 (11/12) : 173-4.

Laporan singkat tentang terdamparnya "sperm whale" diperaian pantai Kalibuntu (Kraksaan Probolinggo). (Short description of a sperm whale cast ashore near Kalibuntu, Kraksaan Probolinggo.)

Date 18 Jul. 1958; length 14.5 m; height 2 m; circumference 7 m. Male. Occurs frequently near the Moluccas.

**Tanumanggala, D.** (1959)F  
60-8649*Berita Perik.*, 10 (11/12) : 174-5.

Gotong rojong dalam lapangan perikanan darat. (Cooperative farming in inland fisheries.)

Near Tasikmalaja, west Java, cooperative fishfarming is practised in small open sewers, which are stocked with common carp.

**Atmohardjono, R.** (1959)F  
60-8650*Berita Perik.*, 10 (11/12) : 176-81.

Perkembangan pemeliharaan ikan di Indonesia. (Development of fish-culture in Indonesia.)

Annotated graphs of the acreage, yield and total production of freshwater ponds, rice fields and brackishwater ponds from 1952 through 1955. A rapid increase of the yield on Java is explained by an intensified use of domestic and agricultural sewage as manure. The corresponding decrease outside Java is not explained.

**Sjabrab, S.** (1959)F  
60-8651*Berita Perik.*, 10 (11/12) : 182-5.

Sekitar penangkapan ikan disungai bagian timur Prop./Sum. tengah. (On fish capture in the rivers of the eastern part of central Sumatra.)

The fish, captured in the rivers, is brought to the markets, trailed in bambu cages by proas during 2-7 days. If crops are too large the fish is preserved by smoking. Ill. description of gears: gill nets, cast nets, hook and line, spears with three or a single crotchet.

**American Fisheries Society** (1960)MF  
60-8652*Spec. Publ. Amer. Fish. Soc.*, (2) : 102 p.

A list of common and scientific names of fishes from the United States and Canada. Report of the Committee on Names of Fishes, presented at the Eighty-ninth Annual Meeting, Clearwater, Florida, September 16-18 1959.

2nd ed. of 1948 publication. Scientific names in systematic order with standard common names and indication of whether Atlantic, Pacific or freshwater. Alphabetical indexes to all common names and to scientific names. Enunciates principles of decisions concerning common names.

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- Purves, P. E.** (1960)  
*New Scient.*, 7 (179) : 1008-11.  
Measuring the age of whales.
- Discusses significance of ear-plug laminations, and the population dynamics and conservation of *Balaenoptera* spp. and the humpback whale.
- M  
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- Anon.** (1960)  
*New Scient.*, 7 (180) : 1051.  
Fish plan for Australia.
- Note on CSIRO research and development plans; fitting out of R.A.N. vessels for fisheries survey.
- F  
60-8655
- Michailova-Neikova, M.** (1959)  
*Ribno stopanstvo*, 5 (9) : 28-31.  
Prouchvane na mandenskoto ezero vuv vruzka s ribostopanskoto mu izpolzuvane. (Investigation on Mandrensko Lake in connection with fish management and its profit.)
- Account of hydrological conditions and notes on biological productivity.
- F  
60-8656
- Nishkov, M.** (1959)  
*Ribno stopanstvo*, 5 (9) : 20-3.  
Za uspešno razvitie na nasheto ribovudstvo. (On the successful development of our fisheries.)
- Review of the development of Bulgarian fishculture.
- F  
60-8657
- Harding, J. P.** (1960)  
*Nature, Lond.*, 186 (4722) : 345-6.  
Freshwater invertebrates.
- Re 59-8152.
- M  
60-8658
- Slevin, J. R.** (1959)\*  
*Occ. Pap. Calif. Acad. Sci.*, (25) : 150 p.  
The Galápagos Islands: a history of their exploration.
- M  
60-8659
- Matthews, L. H.** (1960)  
*Nature, Lond.*, 186 (4722) : 365-6.  
Explorations of the Galápagos Islands.
- Re 60-8658.
- F  
60-8660
- Kent, A. K.** (1960)  
*Nature, Lond.*, 186 (4722) : 395-6.  
Distribution of chromaactivating hormones in the pituitary of the minnow.
- Describes investigations on *Phoxinus phoxinus* with minnow erythrophore-dispersing and frog, *Rana temporaria*, melanophore-dispersing factors.

- M  
60-8661
- Talbot, F. H.** (1960)  
*Nature, Lond.*, 186 (4722) : 406.  
True's beaked whale from the south-east coast of South Africa.
- Reports southernmost known occurrence of *Mesoplodon mirus* at Wilderness, 170 miles from Cape Agulhas in May 1959.
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WPA 33 (8) 1522. Processes are described for testing the toxicity of substances to organisms, using small quantities of water and large numbers of organisms, and results are given of determinations of the toxicity of organic and inorganic substances to *Esch. coli*, *Scenedesmus*, and *Daphnia*.

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WPA 33 (8) 1429. Nature and requirements of a sustenance system for man in a closed environment. System incl. a photosynthetic gas exchange process for production of oxygen and food from an algal culture.

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Determination of the photosynthetic activity of some water masses in the southwest Pacific in relation to their productivity, using the carbon-14 method.

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Indicates number of posts, remuneration, etc.

M

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Resolución No. 117 unificando las actividades de todas las cooperativas pesqueras organizadas en Cuba.—12 de enero de 1960. (Decision No. 117, unifying the activities of all fisheries cooperatives organized in Cuba.—12 January 1960.)

All cooperatives shall be under the direct control and supervision of the Fisheries Department of the INRA (National Agrarian Reform Institute).

M

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Resolución por la que se establece un período de veda para la especie *Panulirus argus*, "Langosta".—25 de febrero de 1960. (Resolution establishing a closed season for the sp. *Panulirus argus*, lobster.—25 February 1960.)

Closed season to extend from 15 Mar. 1960 until further notice.

F

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**Cuba. Laws, Statutes, etc. (1960)**  
*Gac. ofic., Cuba*, (52) : 6472.

Resolución por la cual se establece un período de veda para la especie denominada rana toro "*Rana catesbeiana*". 9 de marzo de 1960. (Resolution establishing a closed season on the bullfrog *Rana catesbeiana*.—9 March 1960.)

From 1 Apr. until further notice.

MF

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Décret n° 59-1166 portant concession des droits de douane d'importation du tarif minimum en faveur de certaines marchandises originaires du Japon.—29 septembre 1959. (Decree No. 59-1166 granting minimum import tariff rates for certain products originating in Japan.—29 September 1959.)

Incl. fish, fish fats and oils, fishmeal, etc.

MF

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Decreto ministeriale 2 novembre 1959. Concessioni di temporanea importazione. (Ministerial decree relative to temporary import concession.—2 November 1959.)

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F

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Arrêté n° 650 du 8 avril 1960 portant fixation des dates d'ouverture et de fermeture de la pêche à la truite. (Order No. 650 establishing open and closed seasons for trout fishing.—8 April 1960.)

The dates shall be fixed within the period between 1-Nov. and 15 May.

M

60-8858

**Madagascar. Laws, Statutes, etc. (1960)***J. off. Rép. malgache, (96) : 739-40.*

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Relative to netting in bulk or in pieces, to fishing nets of thread, string cord or rope.

M

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Circular que modifica la lista de precios oficiales para el cobro de los impuestos de exportación de camarón fresco o refrigerado, procedente del Pacifico, camarón congelado, etc. (Lista No. 22).—15 de diciembre de 1959. (Circular amending the list of official prices for the collection of export duties on fresh or chilled Pacific shrimp, frozen shrimp, etc., list No. 22.—15 December 1959.)

Also incl. lobster.

F

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Ad 60-5835. The amendment relates to special regulations affecting fishing in Ourika.

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 Décret n° 2-60-104 du 4 avril 1960 interdisant l'emploi des filets traînants aux navires de jauge brute égale ou inférieure à quinze tonneaux. (Decree No. 2-60-104 prohibiting the use of dragnets by ships of 15 or less gross tons.—4 April 1960.)

With a view to protect the coastal bed.

M

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Amends public notice No. 326/102/59-EPIII of 15 Jan. 1959. A bonus rate of 20%-40% is provided for specified products; incl. fish, fishmeal, pearls, prawns and shrimps, prawn meal and shark fins.

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 Decreto supremo No. 01 prohibiendo la pesca del camarón en la vertiente occidental hasta el 31-3-60. 8 de enero de 1960. (Supreme decree No. 01, prohibiting the taking of shrimp on the western slopes until 31 March 1960.—8 January 1960.)

Also prohibits trade in shrimp, serving thereof in hotels and restaurants, the use of shrimp for bait, etc.

M

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Resolución suprema No. 31 por la que se establece que las fábricas de harina de pescado no utilizarán peces que integran la alimentación popular.—12 de febrero de 1960. (Supreme resolution No. 31: fishmeal plants may not utilize fish species which are included in the common diet.—12 February 1960.)

With a view to ensure a better distribution of products incl. in the common diet. The resolution, in force for 4 months, covers fish known as "bonito", "machete", "caballa" and "lorna".

MF

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Resolución por la que se disponen los períodos hábiles para la pesca del salmón y de la trucha durante el año 1960.—30 de enero de 1960. (Decision establishing open seasons for salmon and trout fishing during 1960.—30 January 1960.)

Salmon: 6 Mar. to 18 Jul.; trout: 16 Mar. to 15 Aug.

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Orden por la que se establece la veda de la sardina en la región Cantábrica y noroeste.—13 de febrero 1960. (Order establishing a closed season on sardines in the Cantabrian and northwest region.—13 February 1960.)

From 15 Feb. to 15 Apr.

F

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## VOLUME 4—MEETINGS : CONGRESSES, CONFERENCES, SYMPOSIA, COURSES, TRAINING CENTRES

60-308me to 60-343me

- Royal Society of London.** 10/11/60 M  
60-308me  
London, U.K. 2 days.  
Meeting on oceanography.  
See 61-03288.
- IAEA.** 13/9/60 G  
60-309me  
Vienna, Austria. 1 day.  
Session of the board of governors meeting.
- British Association for the Advancement of Science.** 1/9/60 MF  
60-310me  
Cardiff, U.K.  
Meeting.
- CAB.** 25/7/60 MF  
60-311me  
(?) 4 days.  
Review conference.
- Challenger Society.** 25/1/61 M  
60-312me  
London, U.K.  $\frac{1}{2}$  day.  
209th Scientific meeting.  
Discussion on bathyscaphe and other underwater vehicles as instruments  
in oceanographic research, led by J. B. Stubbs.
- GFCM.** 7/2/61 MF  
60-313me  
Rome, Italy. 2 days.  
Meeting of the executive committee.
- FAO.** 20/3/61 MF  
60-314me  
Rome, Italy. 10 days.  
International meeting on fish meal.
- IAEA.** Jan./61 G  
60-315me  
Vienna, Austria.  
Symposium on the detection and use of tritium in the physical and bio-  
logical sciences.
- IAEA, Panel on Radioactive Waste Disposal into  
Fresh Water.** 8/5/61 F  
60-316me  
Vienna, Austria. 5 days.  
2nd Meeting.

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- IAEA, Panel on Radioactive Waste Disposal into Fresh Water.** 9/10/61  
Vienna, Austria. 5 days.  
3rd Meeting. F  
60-317me
- ICES.** 2/10/61  
Copenhagen, Denmark. 10 days.  
49th Statutory meeting. M  
60-318me
- ICES.** 8/10/61  
Copenhagen, Denmark.  
Symposium on zooplankton production. M  
60-319m  
In connection with 60-318me.
- INPFC.** 6/11/61  
Tokyo, Japan.  
8th Annual meeting. M  
60-320me
- Pacific Fishery Biologists.** Last week/3/61  
Harrison Hot Springs, B.C.  
Annual meeting. M  
60-321me.
- Permanent International Committee on Canned Foods.** 15/5/61  
Berlin, W. Germany. 4 days.  
4th World congress. MF  
60-322me
- Society of Exploration Geophysicists.** 5/11/61  
Denver, Colo., U.S.A. 10 days.  
31st International meeting. M  
60-323me
- British Association of Fish Meal Manufacturers.** 20/10/61  
Madrid, Spain. 2 days.  
International conference. MF  
60-324me
- Baltic and International Maritime Conference.** 15/5/61  
Rome, Italy. 5 days.  
Congress. M  
60-325me
- CCTA/CSA.** 2nd half/3/61  
Fort-Lamy, Republic of Tchad. F  
60-326me  
4th Symposium on freshwater fisheries and hydrobiology of river basins subject to heavy flooding.

Draft agenda items are: 1. The physico-chemical medium in connection with the biology of fishes and fishing; 2. Aquatic and semi-aquatic vegetation; 3. Aquatic fauna other than fish; 4. Fish; 5. Fishing; 6. Organization of water-courses and pisciculture; 7. Commercialization of fish; 8. International co-operation.

MEETINGS

**CCTA.** 2/2/61  
Lagos, Nigeria. 10 days.  
16th Session.

F  
60-327me

Amendment to 60-271me.

**FAO.** 4/11/61  
Rome, Italy. 22 days.  
11th Session of the conference.

MF  
60-328me

**FAO.** 30/10/61  
Rome, Italy.  
Technical committees preceding the 11th conference.

MF  
60-329me

**OEEC/EPA.** 7/3/61  
Paris, France. 2 days.

F  
60-330me

1st International meeting on scientific research in water pollution—  
Technical aspects.

Agenda covers exchange of research programs between the various institutes;  
the documentation they issue; possibilities for co-operation on scientific  
topics.

**ICES.** 27/9/61  
Charlottenlund, Denmark. 6 days.  
Symposium on herring.

M  
60-331me

Amendment to 60-293me.

**N.Y. Academy of Sciences/Committee on Mathematical Biology,  
of University of Chicago.** 8/5/61  
New York, N.Y., U.S.A. 3 days.  
Symposium on mathematical theories of biological phenomena.

G  
60-332me

Will include discussion of paper by G. Sacher on " Theory of mortality "

**ISO.** 18/4/61  
Paris, France. 4 days.

FG  
60-333me

1st Meeting of sub-committee ISO/TC 34/SC 1 " Means of reproduction "  
of committee ISO/TC 34 " Primary agricultural products "

Agenda includes discussion of terminology of this subject in relation to  
freshwater fishes, especially spawners and eggs of cultured salmonids and  
cyprinids.

**FAO.** 5/7/61  
Rome, Italy. 7 days.

MF  
60-334me

Meeting of committee of experts on organization of surveys for radio-  
activity in food and agriculture.

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- GATT.** 13/2/61 MF  
60-335me  
Geneva, Switzerland. 13 days.  
Meeting of Committee II on expansion of international trade and Council of representatives.
- IAEA.** 27/3/61 MF  
60-336me  
Vienna, Austria. 4 days.  
Meeting of panel to review agency's manual on low level waste disposal techniques.
- IAEA.** 17/4/61 MF  
60-337me  
Vienna, Austria. 5 days.  
Meeting of panel on the evaluation and standardization of analytical methods for monitoring waste disposal sites.
- Shrimp Conservation Commission.** Apr./61 M  
60-338me  
? 2nd Meeting.
- IAEA.** 5/5/61 MF  
60-339me  
Vienna, Austria. 2 days.  
Meeting of scientific advisory committee.
- Ohio Commercial Fishermen's Association.** 9/1/61 F  
60-340me  
? 2 days.  
Meeting.
- INPFC, U.S. Section.** 20/1/61 M  
60-341me  
Seattle, Wash., U.S.A. 1 day.  
Meeting.
- American Mathematical Society.** 6/4/61 G  
60-342me  
New York, N.Y., U.S.A. 3 days.  
Meeting of the society and symposium on mathematical problems in biological sciences.
- American Fisheries Advisory Committee.** 3/5/61 MF  
60-343me  
Hawaii. 3 days.  
Meeting

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1955 Emery, K. O. & M. Sears	NE 60-8569
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## VOLUME 4 — EXPLANATION OF COVERAGE AND ARRANGEMENT

9. ERRATA AND ADDENDA to "EXPLANATION OF COVERAGE AND  
ARRANGEMENT" (contd.)

5. INDEXES

5.1 *Author*

In the last line of first paragraph replace:

"title of periodical or of the monograph or book."

by  
"title of entry. This means that references to several publica-  
tions by the same author do not appear in numerical order, even if  
published in the same year. Finding a reference if the author,  
year of publication, and title are known is however thereby facili-  
tated because, for example, the entry for a reference entitled  
'Zoological bases . . . ' will appear at or near the end of the list of  
numbers for that author and year, and so on."

Delete the last paragraph and replace it with the following new  
paragraph:

" Films, filmstrips and patents are listed before the cross references  
to second and third joint authors, the first two being entered under  
the alphabetic order of title, and are followed by a list of Meeting  
numbers, arranged according to alphabetic order of sponsors'  
names."





# CURRENT BIBLIOGRAPHY FOR AQUATIC SCIENCES AND FISHERIES

## VOLUME 4—ADDENDA

60-350ad to 60-431ad

*Annotation:* BA 34A (3) 6388. Attack by *Mesocyclops edax* is described upon fry of *Ambloplites rupestris*. 60-350ad  
(59-9024)

*Annotation:* BA 34A (3) 6413. Can sometimes be identified by chitinous fragments or by protective cases from fragments of nymphs. (60-351ad  
(59-9563)

*Annotation:* BA 35E (16) 46068. Describes *Branchinecta cornigera* from temporary ponds in eastern Washington. 60-352ad  
(59-2114)

*Annotation:* BA 35E (16) 46072. Notes on new family Ridgewayiidae established for bottom-living genus *Ridgewayia*. Describes *R. gracilis*, *R. shoemakeri* & *R. sp.* from Florida. 60-353ad  
(585811)

*Annotation:* Issued also as: *Rep. Smithson. Instn.*, 1958: 399-407, 1959. 60-354ad  
(59-7425)

*Annotation:* BA 35E (4) 11809. Reviews the classification of the genus *Daphnia*. 60-355ad  
(59-1630)

*Reference:* 1958 (17) : 20 p. 60-356ad  
(59-8177)

*Annotation:* *C. tetraleucus*, *C. claripennis* & *T. balteatus*. Discusses effect of the intensity of moonlight on nightly catches. BA 35E (4) 11854.

*Reference:* 1958 (16) : 12 p. 60-357ad  
(59-8179)

*Annotation:* BA 35E (4) 11853. Deals with catches of *C. edulis* in a mercury vapor trap at Jinja.

*Reference:* 1958 (9) : 1-14. 60-358ad  
(59-6810)

*Annotation:* BA 35E (4) 11904. Animal resembles in many respects the specimens previously described from Norwegian waters, but as the systematic status of the N. Atlantic sp. is uncertain, no attempt is made to give it a specific name. Gives measurements of animal and descriptions of the various parts accompanied with photos and schematic figures.

*Annotation:* BA 35E (4) 11921. Describes and briefly distinguishes *Antigonia combatia* from other spp. of the genus. 60-359ad  
(60-5430)

*Annotation:* BA 35E (13) 36518. Reports that *Scombrox saurus*, of rare occurrence in the Dutch coastal waters, were cast ashore on the beach, where over 150 specimens were counted, several of them still alive when cast ashore. 60-360ad  
(59-5059)

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- Annotation:* BA 35E (13) 36509. Specimen evidence now suggests that what have been termed 3 separate spp. of haliotids from Australia may be only geographical races or a single sp. Issued also as: *Rep. Amer. malac. Un.*, 1959 : 46. 60-361ad (60-4575)
- Annotation:* Cultivation of the microbenthic food—mostly diatoms, myxophyceae, bacteria, protozoa, worms, mollusc larvae and small Crustacea—of *Chanos*. Issued also as: *Philipp. J. Fish.*, 5 (2) : 99-102, 1959. 60-362ad (59-9638)
- Annotation:* Issued also as: *Philipp. J. Fish.*, 5 (2) : 91-8, 1959. 60-363ad (59-9659)
- Annotation:* Prevention of early mortality by feeding with assimilable protein—skim milk and corn meal; lab-lab. Issued also as: *Philipp. J. Fish.*, 5 (2) : 103-12, 1959. 60-364ad (59-7014)
- Annotation:* Issued also as: *Philipp. J. Fish.*, 5 (2) 113-24, 1959. 60-365ad (59-9639)
- Annotation:* Describes experiments to increase production of lab-lab. Incl. review of literature on the subject. Issued also as: *Philipp. J. Fish.*, 5 (2) : 125-33, 1959. 60-366ad (59-9640)
- Reference:* Washington, 51 p. 60-367ad (59-3118)
- Annotation:* References to documents, mostly non-technical, published just prior to the beginning of the IGY and concerning the programs of work; arranged by disciplines, with sections also dealing with historical background and organisation.
- Reference:* 11 (2) : 85-99. 60-368ad (59-9857)
- Annotation:* Calculations of daily, monthly and annual mean sea level.
- Annotation:* Lists the spp. of shrimps of Tortugas and the sp. composition of catches. 60-369ad (60-5433)
- Annotation:* Discusses the occurrence of the sp. and the related ones: *L. viridis*, *L. sanguineus* and *L. pseudolacteus*. 60-370ad (59-3213)
- Annotation:* Defines geographic and bathymetric limits and describes infra-littoral and circa-littoral stages. 60-371ad (59-3208)
- Annotation:* Issued also as: *Rec. Trav. Sta. marit. Endoume*, 22 (13) : 17-21, 1957. 60-372ad (570483)
- Annotation:* Observations on various biocoenoses. 60-373ad (59-3427)
- Annotation:* Observations of ecological equivalences between the Atlantic and Mediterranean coasts. 60-374ad (60-5326)
- Annotation:* Taxonomic description. 60-375ad (59-2680)



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- Annotation:* Records of spp. of Asteridea, Ophiuridea and Echinidea. 60-376ad  
(59-3205)
- Annotation:* Issued also In 61-01543 : 854-75, 1959. 60-377ad  
(60-7622)
- Annotation:* BA 35E (20) 57330. Examination of 3 finds showing that a eurythermic sp. can occur just as well in over-heated astastic ponds as in cold cave water. The rare sp., *Paracyclops poppei* Rehberg, has been found in a locality in the vicinity of Znaim. 60-378ad  
(59-6167)
- Reference:* 420 p. 60-379ad  
(60-7276)
- Title:* Ozeanologie, Bd. 1. Einführung in die Ozeanologie; Ozeanographie. (Oceanology. Vol. 1. Introduction to oceanology; oceanography.)
- Annotation:* Issued also In 61-01545 : 1324-65, 1959. 60-380ad  
(60-5490)
- Title:* Ob izmerenii temperatury poverkhnostnogo sloia vody v otkrytom more. (On the measurement of temperature of the upper layer of water in the open sea.) 60-381ad  
(59-7795)
- Title:* Kriticheskii analiz i otsenka formul L. F. Titova dlia rascheta elementov morskikh vetrovykh voln glubokogo moria. (Critical analysis and evaluation of the formulae of L. F. Titov for calculating properties of waves generated by wind on a deep sea.) 60-382ad  
(59-7791)
- Title:* Dreifovye techeniia v melkovodnom more pod deistviem peremennogo vo vremeni vetra. (Drift currents in the sea under the action of a wind varying with time.) 60-383ad  
(59-7779)
- Annotation:* Analysis of medium tow-net samples in English Channel. Comparisons of 4 spp. of *Acartia*; abundance also of *Balanus*, *Calanus*, *Pseudocalanus*, *Temora* and *Centropages*. Issued also as: *Coll. Repr. Narragansett mar. Lab.*, 1 (14), 1958. 60-384ad  
(59-2916)
- Reference:* London, Pitman & Sons Ltd., 707 p. 60-385ad  
(60-0746)
- Annotation:* Issued also as: *Oceanogr. Met.*, 10 Item 189; 37 p., 1960. 60-386ad  
(59-3517)
- Annotation:* Studies feasibility of injecting particles of distinctive material under scales or skin of hatchery fish by means of compressed air and permanence of such materials. Incl. notes on chemicals used for experiments. 60-387ad  
(60-5233)
- Annotation:* Account of observations on representatives of *Piricauda*, *Stachybotrys*, *Alternaria*, *Culcitalna*, *Humicola* and *Helicoma*. 60-388ad  
(60-5210)
- Annotation:* Lists spp. in alphabetical order of generic names, with notes on location and data of capture. 60-389ad  
(60-3262)

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- Annotation:* Co 59-1503. Studies efficiency of L. arginine-HCl, glycine, urea, and diammonium citrate as nitrogen supplement compounds in *Oncorhynchus tshawytscha* diets. 60-390ad (60-6416)
- Annotation:* Records of synchronous and proterogynous hermaphroditism on several spp. 60-391ad (60-4268)
- Author:* Jenkins, R. M. & R. E. Elkin (1957) 60-392ad (59-5158)
- Annotation:* This report consolidates all available data, published and unpublished, on the age and growth of *Roccus chrysops* in Oklahoma in order to provide fishery workers with standards of comparison for use in future growth-rate and population studies.
- Annotation:* Discusses the role of commercial fishing in fishery management, history of commercial fishing in Oklahoma; describes Lake Texoma's—Denison Reservoir—commercial fishery and some experimental fishing, and recommends future action. Issued also as: *Rep. Okla. Fish. Res. Lab.*, (63) : 32 p., 1957. 60-393ad (59-8749)
- Annotation:* Orig. issued as: *Tohoku J. agric. Res.*, 10 (3) : 313-9, 1959. Experimental study of *Ostrea edulis* and 3 spp. of *Crassostrea*, and races from several localities, using ring test and absorption test. 60-394ad (60-0884)
- Annotation:* Ill. descriptions and morphometry of spp. of *Bathypterois*, *Chlorophthalmus* and *Bathytyphlops*. 60-395ad (60-3263)
- Annotation:* Pond culture of *Pimephales promelas*, which is used as bait in crappie fishing. 60-396ad (60-5231)
- Annotation:* Notes on *Seriola zonata* and *Lagocephalus laevigatus*. Issued also as: *Contr. biol. Lab. U.S. Fish Wildl. Serv.*, (29). 60-397ad (59-4512)
- Annotation:* Describes, ill., relationships, morphometry of *O. costaricensis* n. sp. 60-398ad (60-3254)
- Annotation:* Problems of sub-specific variation and distribution in Gulf of Mexico. 60-399ad (60-3255)
- Annotation:* Tabulated oceanographic data. 60-400ad (60-6597)
- Annotation:* Issued also as: *France pêche*, 5 (39) : 42-8, 1960. 60-401ad (60-7720)
- Title:* O mehanizmu plivanja kod hrskavičavih riba *Scyllium stellare* i *Scyllium canicula*. (The mechanism of swimming in elasmobranchs, studied on specimens of *Scyllium stellare* and *Scyllium canicula*.) En 60-402ad (60-4425)
- Title:* On the species of *Codium*: *C. tormentosum* (Huds.) Stackh. and *C. vermilara* (Olivi) delle Chiaje in the Adriatic. Hr 60-403ad (60-4427)
- Title:* Terminska hidrografska opažanja kod Rovinja. 2. Nastavak u god 1955-1957. (Hydrographic observations off Rovinj during 1955-1957.) Fr 60-404ad (60-4428)

ADDENDA

- Title:* Doprinos poznavanju brizojskih asocijacija 1. *Hippodiplosia foliacea* Solander 1786, kao asocijacijski centar. (Contribution to knowledge of Bryozoan associations—1. *Hippodiplosia foliacea* Solander 1786 as a centre of association.) Fr. 60-405ad (60-4429)
- Reference:* Cape Town, 63 p. 60-406ad (59-2573)
- Annotation:* Not a bibliography but an alphabetical subject and spp. index to bulletins, memoranda, and progress reports of the Institute.
- Annotation:* Records occurrence of *Carcharodon carcharias*, *Paralichthys oblongus*, *Zenopsis ocellata*, *Decapterus macarellus*, *Stenotomus versicolor*, *Cyclopterus lumpus*, *Echeneis naucrates*, and *Alutera schoepfii*. 60-407ad (60-3738)
- Annotation:* Ill. manual on identification, significance and control of algae in water supply lakes. Key to algae of importance, color plates; chapters covering taste and odor, filter clogging, polluted water, and clean water algae, with procedures for enumeration, and control methods. 60-408ad (60-5232)
- Annotation:* LZ 4 (2) : 329. Ill. scales growth in *Cyprinus carpio morpha hungaricus*. 60-409ad (59-5066)
- Annotation:* Tabulates Geomagnetic Electrokinetograph readings in Florida Straits, collected on cruises undertaken during period 25 June 1956 to 7 May 1957. 60-410ad (59-8499)
- Annotation:* Summarizes scope of services, research in ichthyology and invertebrates, history of the collections, accessions of marine fish and invertebrates, and teaching programme of the Laboratory. Lists publications by the staff. 60-411ad (59-2578)
- Annotation:* Issued also as: *Industr. conserv.*, 25 (246) : 332, 1959. 60-412ad (59-9807)
- Annotation:* Results of experiments designed to determine the effects of synthetic amionic detergents, settled sewage and sewage effluent on the oxygen consumption and aeration of flowing saline water in experimental channels. 60-413ad (60-5234)
- Annotation:* Issued also as: *Mar. Repr. Mar. Lab., Aberdeen*, (123). 60-414ad (60-6255)
- Annotation:* Issued also as: *Mar. Repr. Mar. Lab., Aberdeen*, (124). 60-415ad (60-6257)
- Annotation:* Issued also as: *Mar. Repr. Mar. Lab., Aberdeen*, (125). 60-416ad (60-6258)
- Annotation:* Lists spp. of *Gonodactylus*, *Lysiosquilla*, *Odontodactylus*, *Pseudosquilla* & *Squilla*. 60-417ad (60-5436)

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- Annotation:* 43 pages of unannotated and untranslated references, in order of authors' names. 60-418ad (60-5443)
- Annotation:* WPA 34 (1) 67. Ill. description of sampler suitable for fine-grained bottom deposits from lakes and shallow seas at depths up to 300 ft. 60-419ad (60-4595)
- Annotation:* Electrically heated calorimeter used to determine over approximately ranges of temperature and salinity occurring in nature. Issued also as: *Coll. Repr. nat. Inst. Oceanogr.*, (271). 60-420ad (60-0704)
- Annotation:* A general discussion, with examples of punch cards. 60-421ad (60-5095)
- Annotation:* Describes the streams, lists spp. taken in samples and their relative abundances, using rotenone, and a popping bug. Confirms occurrence of *Semotilus atromaculatus*. 60-422ad (60-5118)
- Annotation:* Describes two new spp. of *Otophidiium* and one of *Parophidion*, with ill. 60-423ad (60-4900)
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Study on *Clupea harengus membras*, *Clupea harengus*, *Perca fluviatilis*, *Acerina cernua*, *Rutilus rutilus*, *Alburnus alburnus*, *Leuciscus waleckii*, *Hemiculter leucisculus*, *Gnathopogon chankaensis*. Condition factor estimated and compared with that of the same sized individuals of the same spp. caught at the same place by trawl or seine. Selective action affects qualitative indices of the runs of spp. which are mostly caught by gill-net tools, such as herring, *Oncorhynchus* during the sea period of life. Due account should be paid to this in fishery regulations.
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Reports laboratory experiments, to provide information on cultural conditions which lead to production of extracellular nitrite by representative marine phytoplankton. These experiments led to compare *in situ* seasonal and geographic distributions of nitrite and nitrate with estimates of the standing crops of phytoplankton in various Atlantic waters. Areas studied incl. the Atlantic continental shelf off New York, the Sargasso Sea, and the tropical Atlantic Ocean. The shelf observations represent a part of studies of plankton ecology off coast of New York. Comparable observations for Sargasso Sea were provided by Dr. D. W. Menzel of Bermuda Biological Station and data for tropical Atlantic were observed by the senior author from the R/V 'Atlantis' in 1952.

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Fish schooling: a possible factor in reducing predation.

Mathematical model and trial parameter values indicate that the frequency of detection of prey by predator is inverse function of number of grouped prey. Quantity of fish that a predator can consume on any single encounter with a school of prey has some average limit, and once school size exceeds this quantity, further increases in school size reduce the frequency of predator-prey encounters without necessarily changing the quantity of prey consumed on the occasion of each encounter, which in turn may reduce the rate of consumption of a prey sp. by a predator. No field data considered in detail, but brief reference to British Columbia pilchards, skipjack, *Euthynnus* and *Decapterus*, California sardine.

**Longhurst, A. R.** (1960) M  
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Mesh selection factors in the trawl fishery off tropical West Africa.

Ci 580224, 59-5574, 59-7663, 60-2009 and 60-9374. Covered cod-end—cotton and nylon—experiments off Sierra Leone. Results for 10 spp.: *Drepane*, *Ilisha*, *Pristipoma*, *Galeoides*, *Pseudotolithus*, *Pentanemus*, *Tachysurus*, *Cynoglossus*, and *Larimus*. Confirms results given in 60-2009. Experimental anomalies caused by debris in cod-end, breaking of meshes by large fish, and stunning of small ones by Scyphomedusae.

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Sound production by the satinfin shiner, *Notropis analostanus*, and related fishes.

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Die Forschungsfahrten von F.F.S. 'Anton Dohrn' und V.T.S. 'Gauss' im nördlichen Nordatlantischen Ozean im Rahmen des Polarfront-Programms des Internationalen Geophysikalischen Jahres 1958. (The research cruises to the northern North Atlantic Ocean performed by 'Anton Dohrn' and 'Gauss' within the scope of the Polarfront-Programme of the IGY 1958.)

Report dealing with the two-part cruises of the German research ships 'Anton Dohrn' and 'Gauss'. Tasks, list of the participants, of observations made, of stations. Two maps showing the positions of the stations. The report is the introduction to a special publication in the same periodical.

M

**Mertins, H. O.** (1959) 60-9482  
*Dtsch. hydrogr. Z., Ergänzungsh. Reihe B, (3) : 21-5.*

Über die Wetterverhältnisse während der Forschungsfahrten von F. F. S. 'Anton Dohrn' und V.F.S. 'Gauss' im Internationalen Geophysikalischen Jahr 1958. (On the meteorological conditions dominating during the research cruises of F.R.S. 'Anton Dohrn' and S.E.S. 'Gauss' carried out under the programme of the International Geophysical Year 1958.)

Meteorological conditions during the research cruises in the northern North Atlantic Ocean.

M

**Weidemann, H.** (1959) 60-9483  
*Dtsch. hydrogr. Z., Ergänzungsh. Reihe B, (3) : 59-65.*

Strommessungen vom fahrenden Schiff auf F.F.S. 'Anton Dohrn' und V.F.S. 'Gauss' während der Fahrten im Internationalen Geophysikalischen Jahr 1958. (Current measurements from the ship underway on board the F.R.S. 'Anton Dohrn' and S.R.S. 'Gauss' on their cruises during the International Geophysical Year 1958.)

A method is discussed which allows to measure surface currents from the ship underway with the aid of towed electrodes. Results of long time observations from a fixed station located at about 120 nautical miles south of Iceland.

M

**Beck, B., K. Kalle & E. Rogalla** (1959) 60-9484  
*Dtsch. hydrogr. Z., Ergänzungsh. Reihe B, (3) : 66-8.*

Die Schichtung im Sauerstoffgehalt im jahreszeitlichen Wechsel zwischen Kap Farvel und der Flämischen Kappe. (Stratification of the contents in oxygen in the sea region between Cape Farewell and the Flemish Cape and its variations during the annual march of the seasons.)

Report on investigations of the German research ships 'Anton Dohrn' and 'Gauss' during the IGY 1958.

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- Duursma, E. K.** (1959)  
*Dtsch. hydrogr. Z., Ergänzungsh. Reihe B, (3) : 69-72.*  
Über gelöste organische Substanz auf einem Meridionalschnitt durch den nördlichen nordatlantischen Ozean im April 1958. (Dissolved organic matter on a meridional section in the North Atlantic Ocean.)
- Report on investigations made on board of the German research ships 'Anton Dohrn' and 'Gauss' during the IGY 1958. Description of the principles of the techniques used when measuring dissolved organic carbon and nitrogen. Discussion of some results.
- M  
60-9486
- Krey, J., D. Hantschmann & St. Wellershaus** (1959)  
*Dtsch. hydrogr. Z., Ergänzungsh. Reihe B, (3) : 73-80.*  
Der Seston Gehalt entlang eines Schnittes von Kap Farvel bis zur Flämischen Kappe im April und September 1958. (The contents in seston along a section running from the Cape Farewell to the Flemish Cape in April and September 1958.)
- Investigations during the cruises of 'Anton Dohrn' and 'Gauss', performed under the programme of the IGY 1958. Determination of the content of seston, albumine, chlorophyll-a and of the assimilation potential. Discussion of first results.
- M  
60-9487
- Joseph, J.** (1959)  
*Dtsch. hydrogr. Z., Ergänzungsh. Reihe B, (3) : 48-54.*  
Über die vertikalen Temperatur- und Trübungsregistrierungen in einer 500 m mächtigen Deckschicht des nördlichen nordatlantischen Ozeans. (On the vertical temperature- and turbidity-measurements in a surface layer of 500 m in depth in the northern North Atlantic Ocean.)
- Researches of S.R.S. 'Gauss' carried out under the programme of the IGY 1958. Continuous temperature- and turbidity-measurement at 243 stations. Description of the measuring method. Discussion of the results by several examples.
- M  
60-9488
- Krauss, W.** (1959)  
*Dtsch. hydrogr. Z., Ergänzungsh. Reihe B, (3) : 55-8.*  
Über meteorologisch bedingte interne Wellen auf einer Dauerstation südwestlich Islands. (On long-time observations of internal waves, caused by meteorological conditions, at a fixed station southwest of Iceland.)
- Observations over 36 consecutive hours at a fixed station of F.R.S. 'Anton Dohrn' carried out under the programme of the IGY 1958.
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60-9489
- Koslowski, G.** (1959)  
*Dtsch. hydrogr. Z., Ergänzungsh. Reihe B, (3) : 34-9.*  
Über die Verteilung der Oberflächentemperatur im nördlichen nordatlantischen Ozean im Spätwinter und Spätsommer 1958. (On the distribution of the surface temperatures in the northern North Atlantic Ocean in March/April and August/September 1958.)
- Surface temperatures based on measurements made on board of the German research vessels 'Anton Dohrn' and 'Gauss'. Temperature maps are reduced to the 1 Apr. and 1 Sep. 1958.

**Gillbricht, M.** (1959)M  
60-9490*Dtsch. hydrogr. Z.*, Ergänzungsh. Reihe B, (3) : 90-9.

Das Phytoplankton im nördlichen nordatlantischen Ozean im Spätwinter und Spätsommer 1958. (The phytoplankton in the northern North Atlantic Ocean in March/April and August/September 1958.)

Investigations made on board of the German research ship 'Anton Dohrn', carried out under the programme of IGY 1958. Counting of the phytoplankton in small quantities of water, in order that the great number of data required might be procured within the shortest time possible. As a first result, the distribution of plankton in the surface layer is represented by a section run across the Irminger Sea.

**Gillbricht, M.** (1959)M  
60-9491*Dtsch. hydrogr. Z.*, Ergänzungsh. Reihe B, (3) : 87-9.

Die gelöste organische Substanz in der Irmingersee im Spätwinter und Spätsommer 1958. (Dissolved organic matter in the Irminger Sea in March/April and August/September 1958.)

Investigations made on board of the research ship 'Anton Dohrn' under the programme of the IGY 1958. With the aid of a very simple oxidation method—permanganate—a great number of water samples was investigated on their contents in oxidizable matter. An estimate is given of the mean life time of the dissolved organic matter.

**Höhnk, W.** (1959)M  
60-9492*Dtsch. hydrogr. Z.*, Ergänzungsh. Reihe B, (3) : 81-6.

Ein Beitrag zur organischen Mykologie. (A contribution to organic mycology.)

Studies carried out under the programme of IGY 1958. Material from two cruises of 'Anton Dohrn' to the shelf area—surrounding Greenland, Iceland and Ireland—and the North Atlantic Ocean. Bottom samples from depths ranging from 30 to 3,245 m. Description of the method. Discussion of first results.

**Schaefer, H.** (1959)M  
60-9493*Dtsch. hydrogr. Z.*, Ergänzungsh. Reihe B, (3) : 103-7.

Über die Variabilität des Grundmusters freier Aminosäuren in der Rumpfmuskulatur des Rotbarsches *Sebastes marinus* L. (On the variability of the basic pattern of free amino acids in the skeletal musculature of redfish, *Sebastes marinus* L.)

Material from several trawl stations between Iceland and Greenland in Mar./Apr. and Aug./Sep. 1958 of the research ship 'Anton Dohrn' under the programme of the IGY. Paper chromatographic analysis.



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*Dtsch. hydrogr. Z., Ergänzungsh. Reihe B.*  
Untersuchungen der Bodenfauna auf den Schelfgebieten vor Südostgrönland und vor S.W. Island im Spätwinter und Spätsommer 1958. (Investigation of the bottom fauna in the shelf regions of southeastern Greenland and S.W. of Iceland in March/April and August/September 1958.)
- 60 bottom samples taken with the van Veen bottom sampler at 49 stations during the two 'Anton Dohrn' cruises in the IGY 1958. The additional catches of invertebrates from 23 hauls were examined with regard to the various spp. and the quantity of the animals selected.
- M  
60-9495
- Aurich, H. J.** (1959)  
*Dtsch. hydrogr. Z., Ergänzungsh. Reihe B, (3) : 93-8.*  
Versuch einer biologischen Gliederung des nördlichen nordatlantischen Ozeans auf Grund der Verteilung des Grossplanktons während der deutschen Forschungsfahrten im Internationalen Geophysikalischen Jahr 1958. (Attempt to set up a biological subdivision of the northern North Atlantic Ocean, based on the distribution of the macro-plankton observed during the German research cruises in the International Geophysical Year 1958.)
- Results based on investigations of zoo-plankton.
- M  
60-9496
- Kornmann, P.** (1959)  
*Helgoländ. wiss. Meeresunters., 6 (3) : 229-38.*  
Die heterogene Gattung *Gomontia*. I. Der sporangiale Anteil, *Codiolum polyrhizum*. (The heterogenous genus *Gomontia*. I. The sporangial part, *Codiolum polyrhizum*.)
- The life-cycle of *Codiolum polyrhizum* has been investigated by cultivating this organism. Notes on the reproduction of this alga, which is to place into a new to establish family of the Ulotrichales.
- F  
60-9497
- Quartier, A. A.** (1959)  
*Schweiz. Z. Hydrol., 21 (1) : 7-18.*  
Étude préliminaire des courants du lac de Neuchâtel. (Preliminary study on the currents of the Lake of Neuchâtel.)
- Currents checked by means of floating fish-nets. Currents depend greatly on the direction and force of the wind; next to this temperature conditions influence the movements of the water.
- F  
60-9498
- Züllig, H.** (1959)  
*Schweiz. Z. Hydrol., 21 (1) : 109-11.*  
Eine neue Schöpfflasche mit automatischer Boden-Auslösevorrichtung. (A new water-sampler with automatic bottom release.) En
- Device similar to the Friedinger-water sampler, enabling to take undisturbed and clear samples close to the ground. Volume 2 liters.

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**Roy, H. & W. Bauer** (1959)  
*Dtsch. FischZtg.*, 6 (7) : 230-2.

MF  
60-9499

Phenolhaltige Abwässer in den Küstengebieten der Deutschen Demokratischen Republik. (Waste-waters containing phenol in the coastal district of the German Democratic Republic.)

Chemical analysis of a bay of the Baltic coast.

**Schlieper, C., R. Kowalski & P. Erman** (1958)  
*Kieler Meeresforsch.*, 14 (1) : 3-10.

M  
60-9500

Beitrag zur ökologisch-zell-physiologischen Charakterisierung des borealen Lamellibranchier *Modiolus modiolus* L. (Contribution to the ecologic-cellular-physiological description of the boreal mussel *Modiolus modiolus* L.)

Notes on ecological habits, osmotic and temperature resistance, intensity of metabolism of isolated gills.

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## VOLUME 4—MEETINGS: CONGRESSES, CONFERENCES, SYMPOSIA, COURSES, TRAINING CENTRES

60-344me to 60-361me

**CSIRO.** 26/9/60 M  
Cronulla, N.S.W., Australia. 5 days. 60-344me  
Fisheries staff conference.

[**Nordic College for Marine Biology.**] 19/5/60 M  
Kristineberg Zoological Station at Fiskebäckskil, Sweden. 2 days. 60-345me  
6th Meeting.

**International Scientific Film Association.** 27/5/60 M  
Roscoff Biological Association, France. 2 days. 60-346me  
Colloquium of the research section.

**CNRS.** 19/9/60 M  
Laboratoire Maritime de Dinard, France. 7 days. 60-347me  
International colloquium.

**CCTA/CSA.** 4/5/61 F  
Fort Lamy, Tchad Republic. 7 days. 60-348me  
4th Symposium on hydrobiology and inland fisheries: River basins subject  
to heavy seasonal floods.

Amendment to 60-326me. Agenda covers all aspects of limnology and  
aquatic biology, fishing, fishculture, management of watercourses, fish  
processing, preservation and distribution; international cooperation in research  
and industry.

**North American Wildlife Conference.** 5/3/61 MF  
Washington, D.C., U.S.A. 4 days. 60-349me  
Meeting.

**American Fisheries Society, Northeast Division.** 11/6/61 MF  
Halifax, N.S., Canada. 3 days. 60-350me  
Annual meeting.

**University of Washington.** 19/6-26/8/61 M  
Friday Harbor, Wash., U.S.A. 60-351me  
Summer courses in fisheries biology, oceanographic meteorology, marine  
invertebrate zoology and algology.

NSF funds available for graduate support.

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- Pretoria University.** 23/1/61 G  
 Pretoria, Union of S. Africa. 5 days. 60-352me  
 Refresher course and conference on chemistry and physics.
- U.N.** 21/8/61 G  
 Rome, Italy. 11 days. 60-353me  
 Conference on new sources of energy.
- IMCO.** Apr. 61 M  
 London, U.K. 60-354me  
 5th Session of the council.
- Texas Shrimp Association.** 27/1/61 M  
 Houston, Texas, U.S.A. 2 days. 60-355me  
 11th Annual meeting.
- US/ICA.** ?/2/61 M  
 Pakistan. 60-356me  
 Seminar on fisheries.  
 Tentative proposal by ICA food and agriculture officers of Near East and South West Asia, provided USOM approves and specialists recommend after survey.
- Eastern Pacific Oceanic Conference.** 27/9/61 M  
 Lake Arrowhead, Calif., U.S.A. 3 days. 60-357me  
 Meeting.
- FAO/ECE.** 9/10/61 MF  
 Geneva, Switzerland. 5 days. 60-358me  
 Conference on food consumption surveys.
- GLFC.** 19/6/61 F  
 Ann Arbor, Mich., U.S.A. 60-359me  
 Meeting.
- International Association for Analog Computation.** 4/9/61 G  
 Belgrade, Yugoslavia. 6 days. 60-360me  
 3rd International conference on "Analogue computation".
- Oyster Institute of North America/National Shellfisheries Association.** 30/7/61 MF  
 Baltimore, Md., U.S.A. 5 days. 60-361me  
 Meeting.

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## VOLUME 4—EXPLANATION OF COVERAGE AND ARRANGEMENT

9. ERRATA AND ADDENDA to "EXPLANATION OF COVERAGE AND ARRANGEMENT" (contd.)

4. ANNOTATIONS AND TREATMENT OF SPECIAL CASES

4.3 *Treatment of translations*

Enter under Para. 4.31 the new paragraph (c):

"(c) Translations into languages using a Cyrillic alphabet present some difficulties if the system of transliteration *into* that alphabet is not known to the compilers, nor indicated on the document, and if it differs from that given in Sub-section 3.5. In this case, an author's name may not be recognizable when translated back into Roman alphabet. Nevertheless, the system given in Sub-section 3.5 is strictly adhered to for this purpose, so that the user may derive from himself the Cyrillic version as it appears on the document. In the annotation of the translation, the cited entry of the original (which will appear in the Citation Index) is followed by the name of the author, where this is known, with its correct spelling."



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*Annotation:* DA 20 (5) : 1511. (60-2272)
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- Reference:* Thesis, Univ. of Southern California, USA, 212 p. 60-049er  
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## VOLUME 4—ADDENDA Er60-432ad to 60-472ad

- Annotation:* Published erratum: Er60-432ad  
*Nature, Lond.*, 188 (4745) : 106. (60-986)
- Annotation:* Incl. reference to Societies concerned with aquatic 60-433ad  
sciences and fisheries. Gives for each: name, address, history and (59-4980)  
purpose, officers, publications, meetings.
- Reference:* 158-69. 60-434ad  
*Annotation:* Interpretation of recordings in Algerian & Northeast (59-9858)  
Atlantic waters.
- Reference:* 170-6. 60-435ad  
*Annotation:* Describes the principles, construction and experiments (59-9834)  
of model.
- Reference:* : 7-12. 60-436ad  
*Annotation:* Observations made in the Mediterranean at 35° and (59-9856)  
40° latitude north and 15° and 20° longitude east.
- Annotation:* Issued also as: *Ann. Mag. nat. Hist.*, 13 (1) : 497-514. 60-437ad  
(60-5822)
- Reference:* : 348 p. 60-438ad  
(59-0319)
- Annotation:* WPA 34 (2) 236. The results are given of investiga- 60-439ad  
tions in lake Millstätter, Austria, in 1958, with special reference to (60-5224)  
plankton distribution and the condition of the bottom deposits.
- Annotation:* Notes on taxonomy and distribution in British Isles. 60-440ad  
(59-5449)
- Annotation:* A limited review of biological control of pond weeds 60-441ad  
by carp, grass carp, tilapia, golden carp, goldfish, tawes, nilem, (60-5229)  
gourami, sepat siam and milkfish.
- Annotation:* Amphipods found feeding at an open sore on *Gadus* 60-442ad  
*morhua* caught on George's Bank. (59-8698)
- Annotation:* Fluctuations correlated with known changes in stream 60-443ad  
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- Reference:* *Proc. Conf. stheast. Ass. Game Commrs.*, (12) : 176-8. 60-444ad  
(60-5215)
- Annotation:* Presents data on feeds used, survival notes, produc-  
tion, conversion factors.
- Annotation:* Ill. description, taxonomy and morphology of *Aulopus* 60-445ad  
*nanae* sp. nov. (60-3261)
- Annotation:* Issued also as: *Torry Mem.* (19). 60-446ad  
(60-4292)

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- Annotation:* Describes two field studies of re-aeration. While showing the difficulties attendant on experiments designed to measure the rate of re-aeration in a natural watercourse, these studies indicate that, in a stream where the discharge is not so great that disturbing the oxygen equilibrium by the addition of sodium sulphite is impracticable, the rate of absorption of atmospheric oxygen can probably be found with sufficient accuracy for calculations to be made of the effects of re-aeration on the balance of oxygen. 60-447ad  
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- Annotation:* Ill. descriptions of *Ophiodon nocomis* and *O. selenops*. 60-448ad  
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- Annotation:* Taxonomic list of spp. identified. 60-449ad  
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- Annotation:* Discusses disease control, food conversion, feeds and feeding, fertilization, time of stocking and returns per acre. 60-450ad  
(60-5230)
- Annotation:* For advanced students of geography, civil engineers, and others interested in the experimental techniques and results of coastal survey. 60-451ad  
(60-2876)
- Annotation:* Issued also as: *Contr. Fish. Res. Inst., Seattle* (57). 60-452ad  
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- Annotation:* Issued also as: *Contr. Fish. Res. Inst., Seattle* (56). 60-453ad  
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- Annotation:* Present models contain sensors for air temperature, water temperature, barometric pressure, wind direction, and wind velocity, but the system is sufficiently versatile to allow a variety of other sensors and control equipments to be installed. 60-458ad  
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- Annotation:* Reports on the food composition of young carp according to investigations carried out in several Czechoslovakian ponds. LZ 4 (5) : 1040. 60-459ad  
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- Annotation:* Utilization of plankton and bottom fauna by rainbow trout only is very scarce; therefore is mixed breeding suggested. LZ 4 (5) : 1041. 60-460ad  
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- Annotation:* LZ 4 (5) : 1044. Describes toxic effect of residuals to fish and proposes dilution of sewage. 60-461ad  
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- Annotation:* LZ 4 (5) : 1045. Spp. description of *Ergasilus boettgeri* found on the gills of *Mollienisia petenensis* Günther. 60-462ad  
(60-3735)
- Title:* How to make fish mounts and other fish trophies. 60-463ad  
(60-9917)

## ADDENDA

- Annotation:* Published erratum: *Trans. Amer. Fish. Soc.*, 88 (4) : 358. Er60-464ad  
(59-9397)
- Annotation:* Published erratum: *Trans. Amer. Fish. Soc.*, 88 (4) : 358. Er60-465ad  
(59-7089)
- Title:* Otlichiiia v biologii razmnozheniia i razvitiia ostatochnoi ili karlikovoi i prokhodnoi nerki (*Oncorhynchus nerka* Walbaum). (Differences in the biology of reproduction and development of residual or dwarf forms and migratory forms of sockeye salmon, *Oncorhynchus nerka* Walbaum.) 60-466ad  
(60-7497)
- Annotation:* Ab 1954 Kinney, E.C., Jr. (Thesis, Ohio State Univ., USA). 60-467ad  
(60-4299)
- Annotation:* Ab 1953 Wood, K. G. (Thesis, Ohio State Univ., USA). 60-468ad  
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- Annotation:* Ab 1956 Cornell, R. G. (Thesis, Virginia Polytechnic Inst., USA). 60-469ad  
(60-4304)
- Annotation:* Ab 1955 McLane, W. M. (Thesis, The Univ. of Florida, USA). 60-470ad  
(60-2296)
- Annotation:* Issued also as: *Proc. Pacif. Sci. Congr.*, 9 (16) : 139-40. Description of a method for co-precipitation of fission products from sea water. 60-471ad  
(60-6032)
- Annotation:* Discusses use of a system to produce stereo pairs of photographs used in studies of *Oncorhynchus*. 60-472ad  
(60-5236)



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 Stomach contents of American mergansers, *Mergus merganser* Linnaeus, caught in gill nets set in Lake Carl Blackwell, Oklahoma.
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- BA 35E (6) 14872. Examination of 21 channel catfish taken in gill nets indicated that 33 per cent had eaten at least one cotton rat.
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 (The intertidal zonation of marine algae along the coasts of Toyama Bay.)  
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- BA 35E (6) 14886. Recognizes two belts which are named after the dominant sp., *Enteromorpha compressa* belt and *Scytosiphon lomentarius* belt. Community shows distinctive characteristic of inland sea. In the eastern part of the bay, it shows some characteristics of the open sea, and in the western part, the marine algae are discoloured whitish. Return current of the sea and inflow of rivers are most significant for those facts.
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 The red tide of 1958 at Ensenada, Baja California, Mexico.
- BA 35E (6) 14898. Death of large numbers of various spp. of gastropods and pelecypods is attributed to the depletion of O<sub>2</sub> in the H<sub>2</sub>O due to increase in temperature and fouling of the water; organism responsible found to be *Gonyaulax polyedra*. Lists spp. affected and graphs illustrate temperature clines in various areas, salinity, and density of organisms at several stations.
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- BA 35E (6) 17494. Discusses status of genera *Oxysomatium* Railliet & Henry, 1913, and *Aplectana* Railliet & Henry 1916; presents redescription of four nematode parasites of *Bufo marinus marinus* (L.) not previously recorded.

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- de Freitas, J. F. T.** (1958)  
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Estudos sobre Oxyascarididae (Travassos, 1920) (Nematoda, Subuluroidea).  
(Studies on Oxyascarididae.)
- BA 35E (6) 17497. Describes general morphology of the Oxyascarididae, followed by systematic treatment of the family and spp. contained, incl. *Oxyascaris necopinus* from the intestine of *Leptodactylus sibilatrix* and two other spp.; and *Pteroxyascaris caudacutus* from the intestine of ? *Hyla nasica*, both from Brazil.
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Enkele bijzondere garnalen en krabben van de Nederlands kust. (Some curious prawns and crabs from the Dutch coast.)
- BA 35E (6) 17502. Reports records of *Athanas nitescens*, *Pirimela denticulata*, and *Eurynome aspera* found adventively on objects drifted ashore and *Processa parva* and *Ebalia tumefacta* are autochthonous elements of the Dutch fauna.
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Parasitic copepods from fishes of Japan with descriptions of 26 new species and remarks on two known species.
- BA 35E (6) 17504. Gives descriptions of the spp. parasitic mostly on either gills or mouth cavity, or on both.
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On two species of *Argulus* (Branchiura, Crustacea) from Japanese fishes.
- BA 35E (6) 17505. Describes new sp. *Argulus kusafugu*, on the body surface of *Spheroides nipholes*, with remarks on *Argulus scutiformis* on the pectoral fins of *Spheroides rubripes*.
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*Vestn. S-kh.-Nauki*, 1957 (5) : 95.  
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- BA 35A (3) 6216. Account of conference 19-22 Mar. in Moscow. Reports were heard concerning the status and the means of further development of pond fishing on the collective farms of the USSR, methods of increasing productivity of pond fishing, the questions of feeding of fish, of pedigree work in pond economies, of trout breeding in collective farm reservoirs, on the means of combating fish diseases, on veterinary service, and other questions.
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- Siewing, R.** (1958)  
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*Ingolfiella ruffoi* n. sp., eine neue Ingolfiellide aus dem Grundwasser der Peruanischen Küste. (*Ingolfiella ruffoi* n. sp., a new ingolfiellid from the underground water of the Peruvian coast.)
- Discusses morphology taxonomic characters, location and distribution.
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Opisthobranchia aus dem Schill von Helgoland. (Opisthobranchs from the shell-zone of Heligoland.)
- Reports on anatomy and morphology of: *Philinoglossa helgolandica*, *Philinoglossa remanei* n. sp., *Embletonia pulchra*.

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 Über Verfahren der Fischkennzeichnung in Wielenbach. (On the methods of marking fishes in Wielenbach.)
- Particular interest has been paid to the questions whether injuries, decreased growth or loss of tags are correlated to the tagging-methods, such as trimming of the fins, cross breeding to obtain certain patterns of scales, wire-loops, attaching of the tag to the fin-rays. Experiments carried out with *Cyprinus carpio*, *Tinca vulgaris* and *Salmo irideus*.
- Schon, K.** (1959) F  
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 Die Verschmutzung von Saar und Mosel durch die Montan-Industrie des saarländisch-lothringischen Industriereviere. (The pollution of the rivers Saar and Moselle by the mining-industry of the Saarlandic-Lothringian industrial region.)
- The paper opens with the physiography of the Saar-Moselle district. The heavily polluted Saar discharges into the Moselle, spoiling the quality of this river in the district of Treves and 40 km down river. The pollution is composed of suspended dirt, saprogenic domestic sewages, and waste water of the coke works and iron works.
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*Fischwirt*, 9 (1) : 18-25.  
 Kann die Bauchwassersucht des Karpfens spontan auftreten? (Do ascites occur spontaneously in carp?)
- Though the carp, *Cyprinus carpio*, transferred to two disinfected ponds were free of disease, during summer ascites broke out. This suggests to discuss the spontaneous outbreak of ascites.
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 Unterwasserforschung im Roten Meer. (Underwater research in the Red Sea.)
- Report on an expedition on board research vessel 'Xarifa' to the Red Sea with the purpose of underwater investigations of marine life.
- Ankel, E.** (1958) M  
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*Natur u. Volk*, 88 (4) : 101-10.  
 Begegnung mit *Limulus*. (Meeting with *Limulus*.)
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Proofs that *Puntius zelleri* from Sumatra, Java and Borneo is merely the juvenile form of *P. lateristriga*. Reports also on the geographic variation in the hatching of this sp.

M

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**Klausewitz, W.** (1957)*Z. Aquarien-u. TerrarVer.*, 10 (12) : 319-23.Feuerfische der Gattungen *Dendrochirus* und *Pterois*. (Lionfishes and dwarf pterois of the genera *Dendrochirus* and *Pterois*.)

A key to the genera *Pterois* and *Dendrochirus* of the family Scorpaenidae, occurring in Ceylon and Java.

M

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**Klausewitz, W.** (1958)*Z. Aquarien-u. TerrarVer.*, 10 (2) : 48-51.Der Strahlenfeuerfisch, *Pterois radiata*, eine interessante Neueinführung. (The radiated lionfish, *Pterois radiata*, a new interesting import.)

Describes colouration and colour-change of *Pterois radiata* from the Malayan archipelago.

M

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Fische aus dem Roten Meer. I. Knorpelfische (Elasmobranchi). (Fishes from the Red Sea. A. Cartilaginous fishes, Elasmobranchi.)

Material collected during the expedition of the R.V. 'Xarifa' to the Red Sea. Notes on the eidonomy, colouration of the body, ecology and taxonomy of the following spp.: Carcharhinidae: *Carcharhinus menisorrhah* (Müller & Henle), *C. melanopterus* (Quoy & Gaimard); Triakidae: *Triaenodon obesus* (Rüpell); Dasyatidae: *Taeniura lymma* (Forskål); Torpedinidae: *Torpedo panthera* (Olfers).

F

60-9528

**Klausewitz, W.** (1959)*Senckenbergiana*, 40 (1/2) : 51-3.*Botia sidhimunki*, eine neue Schmerle aus Thailand (Pisces, Cobitidae). (*Botia sidhimunki*, a new loach from Thailand, Pisces, Cobitidae.)

Gives taxonomic characters, drawings and photo of this new sp. Short notes on variation, colouration in living specimens and ecology.

F

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**Klausewitz, W.** (1957)*Z. Aquarien-u. TerrarVer.*, 10 (8) : 201-3.Die Lohachata-Schmerle (*Botia lohachata*), eine interessante Neueinführung aus Pakistan. (The Lohachata loach, *Botia lohachata*, an interesting import from Pakistan.)

Taxonomic characters of *Botia lohachata* and remarks on its biology.

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Ein neuer Pantopode aus Foraminiferensand. (A new pantopod living in the foraminifer sand.)  
A newly described pantopod, *Anoplodactylus arescus* n. sp. from the Red Sea.
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- Marcus, E.** (1959)  
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*Onchidium verruculatum* Cuvier 1830.  
Observation of this gastropod in the Algae shallows near Ghardaqa, Red Sea.
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- Viets, K.** (1959)  
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Describes *Pontarachna punctulum*, Philippi 1840 and *Litarachna denhami*, Lohmann 1909 observed near Ghardaqa, Red Sea.
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- Hess, F.** (1959)  
*Gewässer u. Abwässer*, 23 : 7-88.  
Probleme des Hochwasserschutzes am Niederrhein. (Problems of flood protection at the Lower Rhine.)  
Deals with floods, flood protection, factors influencing the flowing off of the floods, degrees of security of the embankments, actions on the profiles of the embankments, construction inside and outside of coalmining districts, packing of embankments to be built in the future and their economy.
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- Hempel, G.** (1959)  
*Helgoländ. wiss. Meeresunters.*, 6 (3) : 241-59.  
Zum Wachstum der Otolithen bei Jungheringen. (On the growth of otoliths in juvenile herring.)  
The growth of otoliths, in particular length, size of central area and formation of rings has been investigated in larval and juvenile herrings, *Clupea harengus*, beginning with a bodylength of 25 mm and continued during the first year of life.
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- Gillbricht, M.** (1959)  
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Fluchtentafeln zur Bestimmung des Salzgehalts mit Hilfe des Seewasserärometers. (Nomographs to determine the salinity by means of the sea-water areometer.)  
The nomographs enable to determine the salinity to 0.1 per 1,000, when  $\alpha_t$  and  $t_0$  are given by the areometer.

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Entwicklung und gegenwärtiger Stand der Limnologie in Italien. (Development and present position of the limnology in Italy.)

A survey of the papers prepared at limnological stations in Italy. List of journals where these papers have been published.

MF

60-9537

**Steleanu, A. (1959)**

*Forsch. Fortschr. dtsh. Wiss.*, 33 (1) : 10-

Die Entwicklung der hydrobiologischen Forschung von Aristoteles bis Ehrenberg. (The development of hydrobiological research between Aristotle and Ehrenberg.)

Popular description of the hydrobiology of both marine and freshwater. 17 bibliographical data.

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**Wiehr, H. (1958)**

*Allg. FischwirtschaftZtg.*, 10 (30) : 11-2.

Die kleine Hochsee- und Küstenfischerei. (The cutter deep-sea fisheries and inshore fisheries.)

Survey of the results and development of the German cutter deep-sea fisheries and inshore fisheries during 1957 in the German Sea and the Baltic. Notes on *Ammodytes lanceolatus*, *A. tobianus*, *Gadus morhua*, *Salmo salar*, *Crangon crangon*.

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**Meyer, A. (1958)**

*Allg. FischwirtschaftZtg.*, 10 (30) : 9-10.

Die Entwicklung der deutschen Salzfischfischerei. (The development of the German salted fish fisheries.)

Since 1953 German trawlers treat *Gadus morhua*, caught at fishing grounds near Greenland, mechanically and preserve it with salt. The development of this new trend of fisheries during 1953 until 1957 is reviewed.

M

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**Lundbeck, J. (1958)**

*Allg. FischwirtschaftZtg.*, 10 (30) : 7-9.

"Um den Schutz der Nutzfischbestände." (On the protection of commercial fish stocks.)

Discussion of the difficulties set against the installation of protecting measures in commercial fisheries.

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**Orghidan, T. (1959)**

*Arch. Hydrobiol.*, 55 (3) : 392-414.

Ein neuer Lebensraum des unterirdischen Wassers: der hyporheische Biotop. (A new living space of the underground water: the hyporheic biotope.)

Transl. of origi. Ro. Deals with investigation in Roumanian rivers by drainages of the river-bed, definition of the new biotope; description of the life conditions of the biotope and its fauna.

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 Wassermilben (Hydrachnellae) aus dem indo-australischen Faunengebiet.  
 (The freshwater mites, Hydrachnellae, of the Indo-Australian faunal region.)  
 Supplementary list of the freshwater mites of the Malayan subregion,  
 Malakka, Sumatra, Bali, Borneo, Philippines. 26 spp. registered during  
 1935-58. Description of 13 spp. incl. 1 new one: *Eylais patris* n. sp.
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 Zur Metamorphose und Ökologie der Tendipediden Gattung *Paracladopelma*.  
 (On the metamorphosis and ecology of the genus *Paracladopelma* of the  
 Tendipedidae.)  
 Ill. description of the metamorphosis of 6 spp., notes on the systematics of  
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 Artsppezifische Entwicklungsgänge in der Gattung *Ectocarpus*. (Specific  
 courses of development in the genus *Ectocarpus*.)  
 Description of cultures of *Ectocarpus divergensis* n. sp. for the study of  
 development and reproduction. Discussion of the various possibilities of  
 development of the hitherto investigated spp. of *Ectocarpus*.
- Nauwerck, A.** (1959) F  
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 Zur Bestimmung der Filtrierrate limnischer Planktontiere. (On the  
 determination of the filtering rate of the plankton freshwater in animals.)  
 First result of investigations concerning the selectionship between primary  
 production and primary consumption in lake Erken, Sweden. Description  
 of a new method to determinate the filtering rate of phytofore zooplankton.  
 Experiments with copepod *Eudiaptomus graciloides*, phyllopod *Daphnia*  
*longispina* v. *hyalina*. Notes on the filtering rates of *Bosmina*, *Ceriodaphnia*  
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- Krause, H. R.** (1959) F  
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*Arch. Hydrobiol.*, 25 (1) : 67-82.  
 Beiträge zur Kenntnis des Chitinabbaues im toten Zooplankton. (Con-  
 tributions to the knowledge of chitin in dead zooplankton.)  
 Experiments on the disintegration of chitin of freshwater Crustacea-plankton  
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 anaerobic conditions. Colorimetric determination of D-glucosamine.
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 Description of a freshwater rotator.

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Temperatur-Regelung durch gesteuerte Kühlung. (Temperature regulation by controlled cooling.)

Regulation of temperatures in aquaria experiments with high demands in constancy.

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*Allg. FischwirtschaftZtg.*, 11(39/40) : 6-14.

Die künftige Fangflotte mit Fabrikmutterschiff und Zubringertrawlern. (The fishing fleet of the future with factory mainvessel and feeder-trawlers.)

Co 60-0386. Qualifications of the future fishing fleet with base-ship and feeder-trawlers: factory mainvessel of the fleet and flotilla-trawlers, reconstructions and new constructions respectively. Schematic use of a trawler-flotilla.

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*Arch. Hydrobiol.*, 25 (1) : 1-43.

Die Vertikalwanderungen des Crustaceen-planktons der Seen des südlichen Schwarzwaldes. (The vertical migrations of the planktonic Crustacea in lakes of the southern Black Forest.)

Particularly concerned with Phyllopoda: *Daphnia longispina*, *Bosmina coregoni*, *B. longirostris* of *Cypica*, *Ceriodaphnia quadrangula*, *Diaphanosoma brachyurum*, and with Copepoda: *Eudiaptomus gracilis*, *Mixodiaptomus laciniatus*, *Cyclops* of *tatricus*. Notes on the depths of the maximal distribution of the various plankton organisms. Laboratory experiments to analyse the causes of the vertical migration.

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*Arch. Hydrobiol.*, 25 (1) : 44-64.

Drei neue Chironomiden-Arten (Dipt.) und ihre Bedeutung für das Konvergenz-problem bei Imagines und Puppen. (Three new species of chironomids, Diptera, and their meaning to the problem of convergence in imagines and pupae.)

Deals with *Procladius fimbriatus*, *Chaetocladius abnobaenus*, *Eukiefferiella saaneusis*.

- Ritzhaupt, H.** (1957) M  
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*Dtsch. FischZtg.*, 4 (8) : 225-31.

Zur Frage der Beziehungen von Wassertemperatur zum Fischvorkommen. (Concerning the question of interrelationships between water temperature and occurrence of fish.)

Popular discussion on the to-date results of research in this field.

**Berner, M.** (1957)M  
60-9553*Dtsch. Fischztg.*, 4 (9) : 258-61.

Lassen sich die Fänge in der Ostsee steigern? (Are the catches of cod in the Baltic to be raised?)

Popular consideration on yield and intensity of fishery. Statistics on landings of *Gadus morhua* of the Baltic in Sassnitz, German Democratic Republic.**Steffens, W.** (1957)F  
60-9554*Dtsch. FischZtg.*, 4 (9) : 265-72.

Gewinnung und Injektion von Karpfenhypophysen. (Extraction and injection of carp pituitary.)

Deals with injection of pituitary extract in spawning carp, *Cyprinus carpio*; detailed working directions; discussion of promises of success.**Albrecht, M.-L. & F. W. Tesch** (1959)F  
60-9555*Z. Fisch.*, 8 (1/3) : 111-64.

Fischereibiologische Untersuchungen an Flussgewässern. II. Die Ilm. (Investigations on the fisheries biology of running waters. 2. The River Ilm.)

Notes on physiographic conditions, chemistry and degree of pollution and fish-stock, emphasizing the density of abundance of *Salmo trutta fario* and *Salmo irideus*. Growth rates and weights of *Gobio fluviatilis*, *Phoxinus laevis*, *Leuciscus cephalus*, *Tinca tinca*.**Lieder, U.** (1959)F  
60-9556*Z. Fisch.*, 8 (1/3) : 67-86.

Über Jahresmarken und Störungszonen in den Schuppen der Teichcypriniden. (On annual marks and disturbing zones in the scales of pond cyprinids.)

Describes annual marks and disturbing zones of *Cyprinus carpio*, *Carassius carassius* and *Carassius auratus*. The reabsorption of the outer surface of the scale is discussed regarding to its importance to the formation of marks.**Bauer, O. N.** (1958)F  
60-9557*Z. Fisch.*, 7 (7/8) : 575-81.Biologie und Bekämpfung von *Ichthyophthirius multifiliis* Fouquet. (Life history and control of *Ichthyophthirius multifiliis* Fouquet.)Orig. Ru. Particularly concerned with parasites on the fry of *Cyprinus carpio* dependence of the reproduction on the temperature; possibility of control of zoospores; problems of immunity of infected fishes; effect of environmental factors; instructions for control in pond piscicultures.



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(*Henneguya creplini* Curley 1894 found in the pike.)  
Report on the occurrence of the myxosporid *Henneguya creplini* Curley 1894 in *Esox lucius* from the Greifswalder Bodden, estuary of the River Oder, German coast of the Baltic.
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Über das Lebensalter unserer grossen Tellerschnecke und die Bedeutung der sogenannten Jahresringe für die Bestimmung derselben. (On the longevity of our large pond-snail and the meaning of the so-called annual rings for the age determination of this species.)  
Age determination of the freshwater snail *Planorbis corneus*.
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- Bartsch, A.** (1959)  
*Z. Fisch.*, 8 (1/3) : 165-70.  
Fehlleistungen der Regeneration als Ursache von Scherenmissbildungen beim amerikanischen Flusskrebs. (Failures in the regeneration as a cause of malformations of the pincers of the American crayfish.)  
Describes regeneration of pincers in the American crayfish, *Cambarus affinis*, from central Germany.
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*Z. Fisch.*, 8 (1/3) : 221-30.  
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Ill. description of experiments in aquaria to estimate the oxygen absorption of water covered with a layer of oil; reaction of *Tubifex*, oligochaet, in water spoiled with oil.
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- Schwarz, S.** (1959)  
*Z. Fisch.*, 8 (1/3) : 171-98.  
Variationsstatistische Untersuchungen an märkischen Schleien im Vergleich zu ostpreussischen Populationen. (Comparison of tenches from the March of Brandenburg with tench populations from eastern Russia by means of statistical analysis.)  
Morphometric study of *Tinca tinca*; age determination based on scales; recalculation of the growth rate, weight ratios of the various year classes.
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Zur Frage der Belastbarkeit von Fließgewässern. (The pollution capacity of running waters.)  
Ill. experiments in a square tank with circulating water and adjustable speed of current; various kinds of waste waters tested using different concentrations; test-animals: one to two-year-old *Salmo irideus*.

**Wundsch, H. H.** (1958)

*Z. Fisch.*, 7 (7/8) : 555-62.

Die Stellung der fischereibiologischen Abwasseranalyse im Abwasserproblem. (The significance of pollution analysis in fisheries biology in the whole problem of water pollution.)

Lecture held on the occasion of the Meeting of the Chemists in Eisenach, German Democratic Republic.

F  
60-9564

**Woynarovich, E.** (1958)

*Z. Fisch.*, 7 (7/8) : 549-53.

Ein Gerät zur quantitativen Prüfung des Mageninhaltes von Raubfischen. (A device for quantitative investigation of stomach contents in predatory fishes.)

Description and design of pump to obtain the stomach contents of predatory fishes.

F  
60-9565

**Balon, E.** (1959)

*Z. Fisch.*, 8 (1/3) : 1-28.

Die Entwicklung des akklimatisierten *Lepomis gibbosus* Linné 1748 während der embryonalen Periode in den Donauseitenwässern. (The development of the acclimatized *Lepomis gibbosus* Linné 1748 during its embryonic phase in the tributaries of the River Donau.) En

Describes spawning behaviour and development during the five embryonic stages; behaviour, growth and morphology of the prelarvae up to 110 hours after hatching.

F  
60-9566

**Engelbrecht, H.** (1958)

*Z. Fisch.*, 7 (7/8) : 481-511.

Untersuchungen über den Parasitenbefall der Nutzfische im Greifswalder Bodden und Kleinen Haff. (Investigations on the occurrence of parasites in commercial fishes in the Greifswalder Bodden and the Kleine Haff.)

Lists 734 fishes from the outer estuary of the River Oder, a brackish water zone. Lists also parasites and their effect on the stock of commercial fishes. The following spp. have been investigated: *Anguilla anguilla*, *Perca fluviatilis*, *Lucioperca sandra*, *Esox lucius*, *Rutilus rutilus*, *Blicca björkna*, *Tinca vulgaris*, *Abramis brama*, *Pleuronectes flesus*, *P. platessa*, *Rhombus maximus*, *Aspius rapax*, *Clupea harengus*, *Lota vulgaris*, *Belone acus*.

MF  
60-9567

**Luling, K. H.** (1958)

*Z. Fisch.*, 7 (7/8) : 517-48.

Über die Geschlechter und sekundären Geschlechtsmerkmale bei *Nephrops norvegicus* Linnaeus (Decapoda reptantia, Nephropsidae). (On the sexes and the secondary sex characters in *Nephrops norvegicus* Linnaeus—Decapoda reptantia, Nephropsidae.)

Reports on sex-ratation, length and weight of *Nephrops norvegicus* from the southern Kattegat and the north-east coast of England; morphometric measurements, sex characters, physiology of copulation.

M  
60-9568

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**Schiemenz, F.** (1959) F  
60-9569  
*Z. Fisch.*, 8 (1/3) : 199-220.

Das Schwimmen der Fische in Fischtreppen und die günstigste Gestalt der Durchlässe und Becken in den Fischtreppen. (Swimming of fishes in fish-ladders and the most favourable shape of the passages and basins in the fish-ladders.)

Describes experiments with *Idus melanotus* using various types and principles of fish-ladders, reactions of the fishes to currents of different strength and turbulence.

**Schäperclaus, W.** (1958) F  
60-9570  
*Z. Fisch.*, 7 (7/8) : 599-628.

Bewährung des Chloronitrins in der teichwirtschaftlichen Praxis und neue Versuche über die Anwendbarkeit weiterer Breitspektrum-Antibiotica bei der Bekämpfung der infektiösen Bauchwassersucht des Karpfens. (Probation of chloronitrine in the practice of pond culture and new tests on the applicability of some other antibiotics of wide range in the control of the contagious ascites in carp.)

States the results of the application of chloronitrine in the ascites of *Cyprinus carpio*; laboratory and field tests of other antibiotics on toxicity and their suitability in the control of ascites.

**Müller, W.** (1958) F  
60-9571  
*Z. Fisch.*, 7 (7/8) : 583-98.

Teichdüngungsversuche mit Kalk, Phosphat und ihrer Kombination in Königswartha (Lausitz) 1957. (Experiments on fertilizing ponds with lime, phosphate and combinations of both in Königswartha, Lausitz, Germany.)

Describes experimental fertilization of ponds stocked with 1- and 2-summer-old *Cyprinus carpio*; chemical analysis of the water, development of zoo- and phytoplankton; tests on the growths rate by means of the analysis of variation.

**Szabó, Z.** (1958) F  
60-9572  
*Z. Fisch.*, 7 (7/8) : 631-6.

Beiträge zur Vermehrungsbiologie der Nase (*Chondrostoma nasus* L.). (Contributions to the biology of reproduction of *Chondrostoma nasus* L.)

Reports on sex-ratio of mature *Chondrostoma nasus*, alteration of sex-ratio with age, sexual dimorphism, weight of gonads, development and maturation of the eggs, counts of eggs.

F

**Albersmeyer, W. & L. von Erichsen (1959)**

60-9573

*Z. Fisch.*, 8 (1/3) : 29-66.

Untersuchungen zur Wirkung von Teerbestandteilen in Abwässern. 1.-7. Mitteilung. (Investigations on the effect of tar components in waste waters. 1.-7. Contribution.)

Deals with: (1) General information on pollution with particular reference to the phenols and their effect upon fishes. (2) Toxic effect upon fishes, 1800 test-fishes: *Carassius auratus*, *Tinca vulgaris*, *Rutilus rutilus*, *Salmo irideus*—embryos. (3) Effects on the flavour of fishes caused by phenols. (4) Influence on the flavour of fishes by phenols containing pollutions. Experiments used *Tinca vulgaris* and *Carassius vulgaris*. (5) Damage done to the gonads of fishes and their products by phenols. For experiments used *Carassius vulgaris*—eggs and sperms; *Tinca vulgaris*—eggs and sperms; *Gasterosteus pungitius*—sperms. (6) The toxicity of phenols (I) m-cresole (III) and 1,4,5 xylene (IX) upon certain food animals. Ascertainment of the thresholds of reactions in larvae of: *Sayonia plumicornis*, *Culex pipiens*, *Culex pipiens*: pupa, *Pionocypris violua*, *Cyclops strenuus*, *Daphnia pulex*. (7) Effect of phenols upon various micro-organisms.

M

**Bartz, F. (1958)**

60-9574

*Handb. Seefisch. Nordeurop.*, 10 (9).

Die wirtschaftliche Bedeutung der Seefischerei Nordeuropas. (The economic importance of the sea fisheries of northern Europe.)

Deals with geographical bases of the sea and deep sea fisheries of northern and western Europe and their historical development. Describes *Clupea harengus*, *Sardina pilchardus*, *Scomber scombrus*, *Thunnus thynnus*, *Gadus morhua*; in particular the fisheries of Norway. Statistical survey of landings, arranged by countries, spp., fishing grounds during the last decades; European whaling. Survey on the number of fishermen, yields per capita of population and per fishermen; fishing fleets. Utilization of caught sea animals in the North European fisheries countries. Fish consumption and its importance to fisheries economy. International trade of fish and fish products. Economic importance of fisheries in Iceland and Faroe Islands, Norway, Denmark, Sweden, U.K., German Federal Republic, Netherlands, Poland, U.S.S.R., German Democratic Republic.

F

**Priesel-Dichtl, G. (1959)**

60-9575

*Arch. Hydrobiol.*, 55 (3) : 281-370.

Die Grundwasserfauna im Salzburger Becken und im anschliessenden Alpenvorland. (The ground water fauna of the basin of Salzburg and of the adjacent foreland of the Alps.)

List of spp., distribution and ecology of these spp. Influences of environmental factors on the fauna of the underground water, influence of the ice age, zoogeographical interrelationships are shown.

F

**Sebestyen, O. (1959)**

60-9576

*Arch. Hydrobiol.*, 55 (3) : 371-91.

Studie über das organische Sediment im Erosionslitoral des Balatonsees. (Study on the organic sediment in the littoral erosion zone of Balaton Lake.)

Analysis of the flat beaches exposed to the surf, east shore of the Tihany Peninsula in Lake Balaton, Hungary. Definition of the term "flying detritus". Notes on the origin of this kind of sedimentation and its fauna.

REFERENCES

**Schwoerbel, J.** (1959) MF  
60-9577  
*Arch. Hydrobiol.*, Suppl., 25 (1) : 102-25.

Neue Hydracarinienliteratur (Hydrachnellae und Polohalacaridae Acari) aus den Jahren 1954 und 1955). (New literature on hydracarinids, Hydrachnellae and Polohalacaridae, of the years 1954 and 1955.)

Ninety-one papers on hydracarinids are listed and part of them reported in detail.

**Roy, E.** (1957) F  
60-9578  
*Dtsch. FischZtg.*, 4 (8) : 238-40.

Die Ergebnisse meiner Fischmarkierungsversuche. (The results of my experiments in tagging fishes.)

Reports on experiments in tagging by burning brands and injections of stains, done in particular with *Cyprinus carpio*.

**Rümmler, H.** (1957) M  
60-9579  
*Dtsch. FischZtg.*, 4 (8) : 234-8.

Der Einfluss der Fasergutqualität auf Garndurchmesser, Haltbarkeit und Anschaffungskosten der Netz-Fanggeräte. (The influence of the fibre quality on the diameter of yarns, durability and prime costs of net catching devices.)

Discussion of Russian papers of 1956 by B. G. & G. W. Sokolow. Russian title: The drift nets of the North Atlantic herring fisheries.

**Predel, G.** (1957) M  
60-9580  
*Dtsch. FischZtg.*, 4 (8) : 231-3.

Die wirbellosen Fischereiobjekte des Meeres und ihre Bedeutung für die Fischerei. (The marine invertebrates subject to fisheries and their importance to fishery.)

Popular discussion on world yields in invertebrates.

**Anwand, K.** (1959) F  
60-9581  
*Dtsch. FischZtg.*, 6 (5) : 152-7.

Beitrag zur zeitlichen Futtermittelverteilung in der Karpfenteichwirtschaft. (Contribution to the temporal distribution of food in carp pond management.)

Example for calculation of amount of food in pond pisciculture of *Cyprinus carpio*. Distribution of food during summer months in seven ponds in the German Democratic Republic. Dependence of feeding on temperature.

**Tesch, F. W.** (1959) F  
60-9582  
*Dtsch. FischZtg.*, 6 (3) : 66-9.

Satzzander mit Flossen- und Skelettmissbildungen. (Juvenile pike-perches with malformation of fins and skeleton.)

Figures and description of malformations in *Lucioperca sandra*.

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- Müller, H.** (1959) F  
60-9583  
*Dtsch. FischZtg.*, 6 (3) : 69-73.  
 Hechtbesatz in Binnengewässern. (Pike stocking in inland waters.)  
 Notes on suitability of waters for *Esox lucius*.
- Gollub, H.** (1959) F  
60-9584  
*Dtsch. FischZtg.*, 6 (3) : 86-9.  
 Über die im Bezirk Schwerin durchgeführten Aalförderungsmaßnahmen.  
 (On the eel-fostering measures carried out in the Schwerin district.)  
 Describes water conduct and currents in eel catching; yields of three months of juvenile *Anguilla vulgaris* depending on moon phases.
- Barthelmes, D.** (1959) F  
60-9585  
*Dtsch. FischZtg.*, 6 (3) : 83-5.  
 Das Gewicht des Darminhaltes stark gefütterter 2-3 sömmliger Karpfen.  
 The weight of the intestine contents of well-fed two to three-years-old carps.)  
 Investigations carried out in 20 specimen of *Cyprinus carpio*.
- Mirtschink, M.** (1959) F  
60-9586  
*Dtsch. FischZtg.*, 6 (3) : 91-3.  
 Einige Betrachtungen über die Probefänge in Karpfenteichen. (Some observations on test hauls in carp ponds.)  
 Comparison of results of test hauls with yields and findings of the main hauls in carp ponds.
- Michler, G.** (1959) F  
60-9587  
*Dtsch. FischZtg.*, 6 (5) : 148-52.  
 Über die Einsatzstück-Gewichte der  $K_2$  in Abwachsteichen. (On the weights per piece at the moment of stocking with two summer old carp in growth ponds.)  
 Comparison of growth rates of *Cyprinus carpio* which had different weight when stocked in ponds.
- Tesch, F. W.** (1959) F  
60-9588  
*Dtsch. FischZtg.*, 6 (5) : 131-9.  
 Kritische Betrachtungen zum Mindestmass der Nutzfische. (Critical review on the minimum size of commercial fishes.)  
 Discusses reasons for the establishment of a minimum size, magnitude of the spawn-fish stock and amount of rising generation; length frequencies of stocks of *Scardinius erythrophthalmus*, *Perca fluviatilis* and *Salmo trutta fario* in central German waters.

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- Müller, H.** (1959) F  
60-9589  
*Dtsch. FischZtg.*, 6 (7) : 200-2.  
 Schleienwirtschaft in Seen. (Tench management in lakes.)  
 Stocks and weights of tench, *Tinca vulgaris*, of several lakes in the German Democratic Republic.
- Merla, G.** (1959) F  
60-9590  
*Dtsch. FischZtg.*, 6 (4) : 116-20.  
 Karpfen-Brandmarkierung und sekundäre Schuppenbildung. (Carp marked by burning and secondary development of scales.)
- Birkhoff, C.** (1959) M  
60-9591  
*Dtsch. FischZtg.*, 9 (1) : 1-13.  
 Das Problem der Fangübergabe auf See ist gelöst. (The problem of delivering catch at the open sea is solved.)  
 Discusses methods of delivering catch from one vessel to another.
- Berner, M. & T. Mattheis** (1959) M  
60-9592  
*Dtsch. FischZtg.*, 6 (7) : 224-9.  
 Geschwürdorsch in den Fängen der Sassnitzer Kutterflotte. (Cod with abscess in the catches of the cutter fleet of Sassnitz.)  
 Map on the location of *Gadus morhua* bearing abscesses. Frequency in the catches and landings and possible causes discussed.
- Amlacher, E.** (1959) F  
60-9593  
*Dtsch. FischZtg.*, 6 (7) : 219-24.  
 Zusammenhang und Wechselwirkung der Bauchwassersuchtsformen und ihre Symptomkomplexe beim Karpfen. (Connections and interactions of the forms of ascites and their symptom complexes in carp.)  
 Recent conception of the symptoms of the contagious ascites in *Cyprinus carpio*.
- Steffens, W.** (1959) F  
60-9594  
*Dtsch. FischZtg.*, 6 (7) : 207-9.  
 Wachstum und Körperform ungarischer Wildkarpfen in deutschen Teichen. (Growth and body shape of Hungarian wild carp in German ponds.)  
 Comparative investigations on the growth rate of German and Hungarian *Cyprinus carpio*.
- Mera, G.** (1959) F  
60-9595  
*Dtsch. FischZtg.*, 6 (2) : 58-61.  
 Ein Beitrag zur Kenntnis der Anfälligkeit von Spiegel- und Nacktkarpfen gegenüber der infektiösen Bauchwassersucht. (Contribution to the knowledge concerning the susceptibility of mirror-carp and leather-carp to contagious ascites.)  
 Comparison between scarcely-and non-scaled *Cyprinus carpio* based on observations in a central German pond culture.

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- Nagy, L. & E. Siro** (1959) F  
60-9596  
*Dtsch. FischZtg.*, 6 (2) : 40-6.  
 Über die Fischerei Ungarns. (The fishery in Hungary.)

Describes areas and yield of Hungarian pond culture.

- Tesch, F. W.** (1959) F  
60-9597  
*Dtsch. FischZtg.*, 6 (4) : 106-9.

Lässt sich Langsamwüchsigkeit durch intensive Befischung beheben? (Is the low growth increment to be met with by intensive management?)

Popular discussion on the possibility to meet with low growth increment in *Perca fluviatilis*, *Leuciscus erythrophthalmus*, *Abramis brama*. Suggestions for the management of lakes in Germany.

- Berner, M.** (1959) M  
60-9598  
*Dtsch. FischZtg.*, 6 (4) : 97-100.

Die Ostseedorschertträge 1958 und die Fangaussichten 1959. (The yields of Baltic cod in 1958 and an outlook for the catches in 1959.)

Confronts landings in Sassnitz, German Democratic Republic.

- Knaack, J.** (1959) F  
60-9599  
*Dtsch. FischZtg.*, 6 (6) : 164-8.

Über die im Bezirk Potsdam (westliches Brandenburg) auftretenden Fischarten. (The species of fishes in the district of Potsdam, western Brandenburg.)

List of 34 spp. of fish in a province of the German Democratic Republic.

- Johannesson, J. K.** (1959) F  
60-9600  
*N.Z.J.Sci.*, 2 : 499-505.

Studies of the action of monobromamine on *Escherichia coli*.

WPA 33 (10) 1759. Investigates the action of monobromamine and free bromine on this sp.

- Meitert, T. et al.** (1958) MF  
60-9601  
*Arch. roum. Path. exp. Microbiol.*, 17 : 513-22.

Investigations on the possible role of water of the Black Sea and of Lake Tekirghiol in the transmission of certain intestinal infections.

WPA 33 (10) 1762. Factors affecting the viability of bacteria and risk of infection from small numbers of pathogenic bacteria in untreated sewage are discussed.



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- Knöpp, H.** (1959) F  
60-9602  
*Dtsch. Gewasserkundl. Mitt.*, 3 : 65-70.  
 (The influence of plankton on the oxygen demand of river water.) *De*  
 WPA 33 (10) 1765. Discusses importance of respiration of phytoplankton in the oxygen demand of river water and describes investigations in field and in laboratory to decide the error introduced by disregarding this demand and possibility of determining a correcting factor.
- Jónasson, P. M. & H. Mathieson** (1959) F  
60-9603  
*Oikos*, 10 : 137-67.  
 Measurements of primary production in two Danish eutrophic lakes, Esrøm Sø and Furesø.  
 WPA 33 (10) 1766. Gives results in tables and graphs.
- Willén, T.** (1959) F  
60-9604  
*Oikos*, 10 : 241-74.  
 The phytoplankton of Görvälän, a bay of Lake Mälaren.  
 WPA 33 (10) 1767. Gives results of detailed study of qualitative and quantitative composition of phytoplankton.
- Forsberg, C.** (1959) F  
60-9605  
*Oikos*, 10 : 233-40.  
 Quantitative sampling of sub-aquatic vegetation.  
 WPA 33 (10) 1768. Ill. description is given of a new sampler which takes the vegetation from below and which is particularly suitable for sampling luxuriant sub-aquatic meadows on soft bottoms.
- Patrick, R.** (1959) F  
60-9606  
*Wat. & Sewage Wks*, 106 : 531-5.  
 Aquatic life in a new stream.  
 WPA 33 (10) 1770. Gives account of results of six months' observation of invasion of a new stream by aquatic life, and its establishment.
- Mechanik, F. J.** (1957) F  
60-9607  
*Ryb. Khoz.*, 33 (7) : 74-5.  
 (The effect of oxygen concentration in water on the growth and nitrogen exchange of rainbow trout fry.) *Ru*  
 WPA 33 (10) 1771.
- Barkley, R. A. & T. G. Thompson** (1960) M  
60-9608  
*Analyt. Chem.*, 32 : 154-8.  
 Determination of chemically combined iodine in sea water by amperometric and catalytic methods.  
 WPA 33 (10) 1776. Some results obtained by the two methods for the distribution of iodine in the northeast Pacific are tabulated.

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**Friedrich (1958)**

*Ber. Abwassertech. Ver.*, (9) : 287-9.

Biological problems in water control.

WPA 33 (10) 1906. Surveys briefly the effects of inorganic and organic matter in waste waters on the biology of streams, and emphasizes the necessity for extended research.

**Buliček, J. (1959)**

*Wasserwirtschaft, Stuttgart*, 49 : 25.

Artificial aeration of water in the Moldau impounding reservoirs and in Czech rivers.

WPA 33 (10) 1910. Discusses known methods of artificial aeration and proposes experiments with various aeration systems, including paddles, Kessener brushes, and sprays. Discusses briefly a proposal to add oxygenating chemicals to water.

**Davis, H. C. (1960)**

*Biol. Bull., Woods Hole*, 118 : 48-54.

Effects of turbidity-producing materials in sea water on eggs and larvae of the clam *Venus (Mercenaria) mercenaria*.

WPA 33 (10) 1942.

**Todd, M.-E. & P. A. Dehnel (1960)**

*Biol. Bull. Woods Hole*, 118 : 150-72.

Effect of temperature and salinity on heat tolerance in two grapsoid crabs, *Hemigrapsus nudus* and *Hemigrapsus oregonensis*.

WPA 33 (10) 1943. Experiments on the effect of acclimatization to various combinations of temperature and salinity on the tolerance to heat of 2 spp.

**Pejler, B. (1957)**

*Zool. Bidr. Uppsala*, 32 : 1-66.

Variation and evolution in planktonic Rotatoria.

IABS 15 (2) 4289.

**Hutton, K. E. (1958)**

*J. cell. comp. Physiol.*, 52 : 319-28.

Blood chemistry of terrestrial and aquatic snakes.

IABS 15 (2) 4281. Blood constituents of spp. of terrestrial snakes compared with those of 2 aquatic spp., *Agkistrodon piscivorus* and *Natrix sipedon pictiventris*.

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*Biol. Bull. Woods Hole*, 115 : 172-9.  
Swimbladder of the toadfish *Opsanus tau* L.
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60-9616  
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Swimbladder volume, buoyancy, and behaviour in the pinfish, *Lagodon rhomboides*.
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(Behaviour of *Tinca vulgaris* (Pisc.) in airocution (physical shocks and vestibular chronaxie).)
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Pressure-temperature-inhibitor relations in the luminescence of *Chaetopterus variopedatus* and its luminescent secretion.
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A comparison of the activity of normal and atypical pigment cells from swordtails, platyfish and their hybrids against certain melanin precursors.
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- IABS 15 (2) 4259.
- Stolk, A.** (1959) F  
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 Ad 60-7752. Prohibits the taking of fish by the methods of fishing set forth in the three schedules thereto, for the periods stated. Revokes proclamation of 2 Mar. 1960 on same subject.
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Ad 60-5801. The amendments relate to payment of fees to members of the Fish Board, places for inspection of fish, rent of troughs, etc.

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Tabulates in the text the new rates of the tax applicable to imports of fish meals, fish powders, etc.

**Chile. Laws, Statutes, etc. (1959)** MF  
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Decreto No. 927. Crea Comisión asesora que indica para los fines que señala.—15 de Diciembre de 1959. (Decree No. 927, creating an advisory commission for the purpose stated.)

The Commission shall study and coordinate all matters relative to the issuance of installation permits and to grants of land for the operation of fisheries industries.

**Chile. Laws, Statutes, etc. (1959)** MF  
60-9768  
*Diario ofic., Chile*, (24,549) : 155.

Decreto No. 926. Crea el Consejo Nacional de Investigaciones Hidrobiológicas.—15 de Diciembre de 1959. (Decree No. 926, creating the National Hydrobiological Research Council.—15 December 1959.)

The Council shall coordinate the activities of the various bodies carrying out research on the sea and inland waters, etc.

**Chile. Laws, Statutes, etc. (1960)** M  
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*Diario ofic., Chile*, (24,611) : 728-32.

Decreto con fuerza de ley No. 256 aprobando exenciones tributarias a los productos que se exportan.—30 de Marzo de 1960. (Decree-Act No. 256, approving tax exemption on exported products.—30 March 1960.)

Applies ad-valorem export taxes on crustacean and lobsters, fresh shell-fish, fresh fish, fish oil, fish meal, shellfish meal and fish preserves.

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Valid until 31 Dec. 1973; covers fish, fishing activities, fish meal, other fish products and fishing equipment.

**Chile. Laws, Statutes, etc. (1960)** MF  
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*Diario ofic., Chile, (24,613) : 837-8.*

Decreto con fuerza de ley No. 301 estableciendo funciones y estructura de la Dirección de Agricultura y Pesca.—31 de Marzo de 1960. (Decree-Act No. 301, establishing the functions and organization of the Directorate of Agriculture and Fisheries.—31 March 1960.)

Ad 60-8850. The said Directorate shall encourage the establishment of production and distribution co-operatives, carry out research in biology, oceanography and limnology with a view to ensuring conservation and propagation of fish, encourage the setting up of a national fisheries chart and the improvement of fisheries installations and fishing vessels, etc.

**Cuba. Laws, Statutes, etc. (1960)** M  
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*Gac. ofic., Cuba, (60) : 7488.*

Resolución del Instituto Nacional de la Pesca por la cual se fija la veda de los camarones der mar.—14 de marzo de 1960. (Order of the National Fisheries Institute fixing the closed season on sea shrimp.—14 March 1960.)

From 1 Apr. to 30 Apr. 1960.

**Cuba. Laws, Statutes, etc. (1960)** M  
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Resolución del Instituto Nacional de la Pesca declarando un período de veda sobre las colonias de esponjas.—11 de abril de 1960. (Order of the National Fisheries Institute fixing the closed season on sponges.—11 April 1960.)

From 25 Apr. to 25 Jul. 1960.

**Guatemala. Laws, Statutes, etc. (1959)** M  
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*Guatemaltecco, (65) : 1010-6.*

Acuerdo elevando en un 20% los aforos que se mencionan.—21 de noviembre de 1959. (Order increasing by 20% the customs duties mentioned.—21 November 1959.)

Affects various fish and fish products.

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*Guatemaltecco*, (43) : 652-3.

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Reglamento para el control del aprovechamiento de los recursos pesqueros de la laguna "Lemoa".—15 de febrero de 1960. (Regulations for the control of the resources in fish of the Lemoa lagoon.—15 February 1960.)

Licences; fishing methods authorized; closed seasons, etc.

M

**Guatemala. Laws, Statutes, etc. (1960)**  
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60-9776

Decreto No. 1339 por el cual se reforman los aforos, demominaciones, clasificaciones y notas de la Tarifa de Importación del Arancel de Aduanas contenida en el Decreto No. 1269.—26 de febrero de 1960. (Legislative Decree No. 1339, modifying duties, titles, classifications and notes of the Import Customs Duty Tariff contained in Legislative Decree No. 1269.—26 February 1960.)

In respect of various fish and fish products.

M

**India. Laws, Statutes, etc. (1959)**  
*Gaz. India*, 1 (156) : 1272.

60-9777

Order No. 18/59 relating to Import Trade Control—Open General Licence No. LX issued under the Imports (Control) Order, 1955.—31 December 1959.

Permission to import from Pakistan, on or before 31 March, 1960, any goods specified in the annexed Schedule, inter alia: fish, not otherwise specified; and fish, salted, wet.

M

**India. Laws, Statutes, etc. (1959)**  
*Kerala Gaz.*, 5 (7) : 243-7.

60-9778

G.O. Ms. No. 1212. Rules for the grant of loans to the Fishermen Producer Cooperative Societies for financing share capital of fishermen members.—31 December 1959.

Loans will be issued only to bonafide fishermen Co-operative Societies engaged in active fishing and promoting the fishing industry.

M

**Iraq. Laws, Statutes, etc. (1959)**  
*Wkly Gaz. Rep. Iraq*, (8) : 284-7.

60-9779

Notification No. 106. Law No. 135 of 1959, ratifying the Trade Agreement between the Iraqi Republic and the People's Republic of Albania.—22 August 1959.

Imports include canned fish.

M

**Ireland. Laws, Statutes, etc. (1959)**  
*Act* (28) : 1-7.

60-9780

Sea Fisheries (Amendment) Act, 1959: an Act to amend the Sea Fisheries Act, 1952-6.—11 August 1959.

Increase of limit on advances to the Board Iascaigh Mhara; amendment of period of office of members of the Board; amendment of restriction on licensing of vessels for sea-fishing.

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*Mém. Grand-Duché Luxemb.*, (23) : 523.  
Arrêté grand-ducal du 28 mars 1960 prorogeant d'une nouvelle année l'arrêté grand-ducal du 29 mai 1953 concernant la longueur minima de bonne prise des truites. (Grand Ducal Order extending for a further year the Grand Ducal Order of 29 May 1953 relative to the minimum length permitted in the catching of trout.—28 March 1960.)
- The permitted length reduced from 25 to 22 cm under the earlier Order is to be maintained throughout the fisheries year 1960.
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*J. off. Rep. malgache*, (100) : 871.  
Décision No. 75-DR/FOR fixant la date de fermeture de la pêche à la truite pour l'année 1960.—11 mai 1960. (Decision No. 75-DR/FOR fixing the closing date for the 1960 trout fishing season.—11 May 1960.)
- Closing date: 15 May 1960.
- M  
60-9785
- Mexico. Laws, Statutes, etc.** (1960)  
*Diario ofic.*, (15) : 2-3.  
Circular que modifica los precios oficiales para el cobro de los impuestos de exportación de buches o tripas de animales de cualquier especie, excepto los de pescado, vacíos, peces vivos, para alimentación y otros artículos (Lista número 2).—16 de febrero de 1960. (Circular amending official prices for the recovery of export taxes on emptied or internal organs or tripes of animals of all species except fish; fish, live, for human consumption; and other articles (List No. 2).—16 February 1960.)
- Also includes miscellaneous seafood, live.

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**Mexico. Laws, Statutes, etc. (1960)**

M  
60-9786

*Diario ofic.*, (22) : 12-3.

Decreto que dispone que las embarcaciones de matrícula nacional, sólo podrán desarrollar actividades de pesca en el mar territorial mexicano o en alta mar, excepto cuando se acredite, ante el órgano competente, que las autoridades de un país extranjero ha otorgado autorización para realizar esas actividades en su jurisdicción.—22 de febrero de 1960. (Decree providing that ships of Mexican registry may carry out fishing activities in Mexican territorial waters or on the high seas only unless it has been shown to the satisfaction of the competent authority that the public officials of a foreign country have granted authorization to carry out such activities within the area under their jurisdiction.—22 February 1960.)

Art. 2 establishes prevention, control and inspection zones within Mexican territorial waters up to a distance of 9 nautical miles from the coast.

**Morocco. Laws, Statutes, etc. (1960)**

M  
60-9787

*Bull. off. Emp. chérif.*, (2486) : 1200, 17.

Arrêté ministériel du 7 juin 1960 réglementant la pêche des clovisses et palourdes dans les eaux littorales du quartier maritime de Tanger. (Ministerial Order regulating cockle and clam fishing in the coastal waters of the seaside district of Tangiers.—7 June 1960.) *Es*

Prohibits fishing in the specified zone from 15 Jun. to 1 Sep. each year.

**Morocco. Laws, Statutes, etc. (1960)**

M  
60-9788

*Bull. off. Emp. chérif.*, (2488) : 1279-80.

Dahir No. 1-60-104 du 25 juin 1960 modifiant et complétant le dahir No. 1-59-148 du 31 décembre 1959 instituant un régime de sécurité sociale. (Dahir No. 1-60-104 amending and supplementing Dahir No. 1-59-148 of 31 December 1959, establishing a social security system.—25 June 1960.)

Relates, inter alia, to sea fishermen working on a share basis under the social security system.

**Norway. Laws, Statutes, etc. (1959)**

M  
60-9789

*Norsk. Lovtid.*, (41) : 1189-90.

Kongelig resolusjon om endring i reglementet for fangst av bardehval og spermhval. (Royal Resolution amending Regulations governing whale and sperm-whale fisheries.—13 November 1959.)

The amendment to Article 5 of the Regulations of 23 September 1949 refers to the ban on whale fisheries of the above character south of 40° S except between 28 Dec. to 7 Apr. inclusive. Exceptions are specified in the case of other types of whales. The amended Act defines the so-called "blue whale unit" and restricts the number of ordinary whales that may be caught by Norwegian whaling vessels attached to factory ships south of 40° S in the open season to the equivalent of 5800 blue whale units.

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*Peruano*, (5713) : 2-3.  
Decreto Supremo No. 6 esaprobando el Reglamento para la Industria de la Pesca.—15 de abril de 1960. (Supreme Decree No. 6 approving Regulations for the Fishing Industry.—15 April 1960.)
- Chapter headings: I—General; II—Fishermen; III—Fishing boats; IV—Owners of fishing boats; V—Relations between owners and fishermen; VI—Fishermen's risks and provision therefor.
- F  
60-9791
- Philippines. Laws, Statutes, etc. (1959)**  
*Off. Gaz., Philippines*, (2) : 251-2.  
Administrative Order No. 7, series of 1957 (revised) by the Bureau of Plant Industry, promulgating regulations governing the importation, bringing or introduction into the Philippines of living animals, such as insects, birds, crustaceans, bats, molluscs, reptiles, mammals, and other animals not falling within the scope of the term "domestic animals" as provided and defined in Section 4 of Act No. 3639 in order to protect the agricultural industries of the country.—20 November 1959.
- Pursuant to the Agricultural Pest Quarantine Act.
- MF  
60-9792
- Portugal. Laws, Statutes, etc. (1960)**  
*Bol. ofic., Cabo Verde*, (10) : 163-4.  
Decreto No. 42.810: Insere disposições de carácter aduaneiro destinadas a favorecer as indústrias de pesca de Angola e suas derivadas.—20 de Janeiro de 1960. (Decree No. 42.810 introducing customs provisions favouring the Angola fisheries and fisheries products industries.—20 January 1960.)
- Provides for the reversion of certain taxes to assistance funds in favour of Angola fisheries and fisheries products industries.
- F  
60-9793
- Spain. Laws, Statutes, etc. (1960)**  
*Bol. ofic. Estado, Spain*, (142) : 8102-3.  
Decreto No. 1028/1960 por el que se convalida y regula la exacción de las tasas denominadas "Permisos de caza y pesca en los cotos dependientes de la Dirección General de Montes, Caza y Pesca Fluvial".—2 de junio de 1960. (Decree No. 1028/1960, validating and regulating collection of taxes known as "Hunting and Fishing Permits in areas under the control of the General Directorate of Forests, Hunting and River Fishing".—2 June 1960.)
- M  
60-9794
- Tunisia. Laws, Statutes, etc. (1960)**  
*J. off. tunis*, (29) : 820.  
Arrêté ministériel du 16 juin 1960, relatif à l'importation en franchise des droits de douane, des produits de la pêche tunisienne. (Joint ministerial order relative to the duty-free import of products of Tunisian fisheries.—16 June 1960.)
- All fish caught by fishing boats possessing a permit issued in Tunisia are considered to be Tunisian products, whether or not caught in Tunisian territorial waters.

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60-9795

**Tunisia. Laws, Statutes, etc. (1960)**

*J. off. tunis*, (30) : 856.

Arrêté du Secrétaire d'Etat aux Finances et au Commerce du 20 juin 1960, relatif au dégrèvement accordé sur les droits et taxes frappant les carburants utilisés par les bateaux de pêche. (Order of the Secretary of State for Finance and Trade, relative to reductions in charges and taxes on fuel used by fishing boats.—20 June 1960.)

Increase in rate of reductions for boats fishing under light.

MF  
60-9796

**Union of South Africa. Laws, Statutes, etc. (1960)**

*Govt Gaz. S. Afr.*, (6442) : 23-4.

G.N. No. 680 relative to amendment of the regulations made under the Food, Drugs and Disinfectants Act No. 13 of 1929.—13 May 1960.

Amends the regulations made under section forty-two of the said Act and published under G.N. No. 575 of 28 Mar. 1930, as amended from time to time, by substituting new regulations specifying quantity, etc., of preservatives which may be used in the articles listed, including, *inter alia*, fresh, smoked and dried fish, fish paste, roe and spawn.

F  
60-9797

**U.K. Laws, Statutes, etc. (1959)**

*Statut. Instr. U.K.* (1871).

The Somerset River Board area (Freshwater fisheries) Order, 1959.—14 November 1959.

Applies to fishing for freshwater fish throughout the Somerset River Board area the same requirements as to the obtaining of licences as apply to fishing for salmon and trout.

MF  
60-9798

**U.K. Laws, Statutes, etc. (1959)**

*Statut. Instr. U.K.*, (2336).

The Lancashire River Board (Fisheries) Order, 1959.—19 November 1959.

Modifies section 61 of the Salmon and Freshwater Fisheries Act, 1923, so that in certain estuaries a licence for a lave net may be used only by the person to whom it has been granted.

MF  
60-9799

**North Borneo. Laws, Statutes, etc. (1960)**

*Govt. Gaz.*, 2nd Suppl. (S13) : 309-10.

Pioneer Industries (Relief from income tax) Order, 1960, pursuant to the Pioneer Industries (Relief from income tax) Ordinance, 1956 (Ordinance No. 30 of 1956). No. 2.103 [No. 1.303/38].—18 May 1960.

The freezing, preparation and canning of fish, i.e. frozen fish (including prawns), canned fish (including prawns) and fish meal, shall be a pioneer industry.



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**U.S. Laws, Statutes, etc. (1959)** M  
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*Treaties & oth. int. Acts. U.S.A.*, Series 4404.

Amendments to the schedule to the International Whaling Convention signed at Washington on 2 December 1946. Adopted at the eleventh meeting of the International Whaling Commission, London, 22 June-1 July 1959.

Entered into force Oct. 4 1959 and Jan. 3 1960.

**U.S. Laws, Statutes, etc. (1959)** F  
60-9801  
*Public Laws, U.S.A.*, 86-205, 86th Congress, H.R. 2398.

An act to provide for the establishment of a fish hatchery in the north-western part of the State of Pennsylvania.—25 August 1959.

The Secretary of the Interior is authorized to establish, construct, equip, operate, and maintain said hatchery.

**Uruguay. Laws, Statutes, etc. (1960)** M  
60-9802  
*Diario ofic.*, (15902) : 73A-4A.

Resolución autorizando solicitar a la Junta de Asistencia Técnica de las Naciones Unidas, recursos para la financiación del plan para el desarrollo de la industria pesquera en el Atlántico sur.—15 de marzo de 1960. (Order authorizing a request to the Technical Assistance Board of the United Nations for resources for financing the plan for development of the fishing industry in the South Atlantic.—15 March 1960.)

As a result of a technical meeting held in September 1959 among Argentina, Brazil and Uruguay.

**Venezuela. Laws, Statutes, etc. (1960)** MF  
60-9803  
*Gac. ofic., Rep. Venezuela*, (26,198) : 194.056.

Decreto No. 227 por el cual se crea una Comisión que funcionará en el Ministerio de Agricultura y Cría compuesta por ocho miembros y con la finalidad en él expresada.—19 de febrero de 1960. (Decree No. 227 establishing a Commission operating within the Ministry of Agriculture and Animal Husbandry, for the purpose stated therein.—19 February 1960.)

To study legislation in force as regards fisheries, in order to prepare a draft bill revising and bringing up to date the legal provisions in this respect, and establishing the necessary regulations for the planning of these activities.

**Yugoslavia. Laws, Statutes, etc. (1959)** M  
60-9804  
*Sluzb. List, Yugosl.*, (50) : 1165.

Naredbu o izmjeni Naredbe o koeficijentima za obračunavanje razlike u cijenama pri izvozu određenih proizvoda i usluga. (Ordinance of the Committee for Foreign Trade, amending the Ordinance S.L. No. 21/1957 relative to the coefficients for the calculation of import and export price differentials for certain products and services.—5 November 1959.)

Refers to fish-meals.

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*Comm. Fish. Rev.*, 22 (5) : 15. 60-9806  
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*Comm. Fish. Rev.*, 22 (5) : 15-6. 60-9807  
 California—Crab distribution and abundance studies continued.
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*Comm. Fish. Rev.*, 22 (5) : 17-8. 60-9808  
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*Comm. Fish. Rev.*, 22 (5) : 24-5. 60-9810  
 Lampara seine tests on fish continued off west coast of Florida.
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*Comm. Fish. Rev.*, 22 (5) : 25-6. 60-9811  
 Michigan—Regulation of commercial fisheries now responsibility of Conservation Commission.
- Anon.** (1960) M  
*Comm. Fish. Rev.*, 22 (5) : 26-7. 60-9812  
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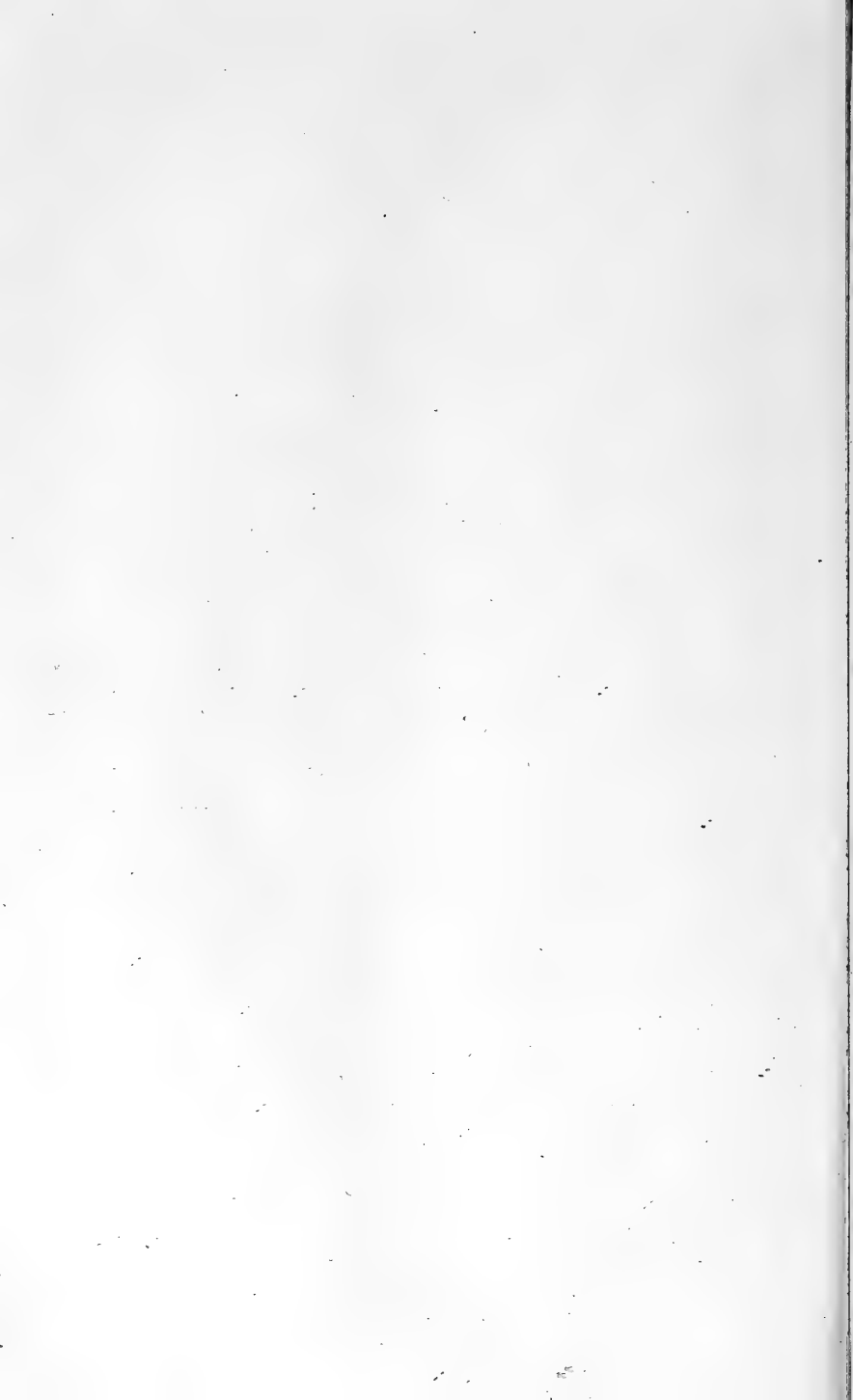
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Chin, E. & D. M. Allen (1959)	0633	Clark, H. F. <i>et al.</i> (1959)	5046
Chin, K. H. (1959)	1088	Clark, J. R. (1959)	0917
Chinarina, A. D. (1958)	5799	Clark, R. B. & M. E. Clark (1959)	0652
Chinarina, A. D. (1959)	7995	Clarke, D. B. & R. A. Bryson (1959)	0199
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Chingchang, B. (1959)	0760	Clarke, G. L. & L. R. Breslau (1959)	3412
Chipman, W. A. (1959)	3625	Clarke, G. L. & C. J. Hubbard (1959)	0201
Chirkina, A. I. (1957)	5559	Clarke, R. (1960)	8696
Chistiakov, G. E. (1958)	4677	Claudatus, J., P. Gutierrez & D. Lefemine (1959)	1599
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Clisby, K. H., P. B. Sears, & F. Foreman (1959)	0805	Congo Belge & Ruanda-Urundi. Direction de l'Agriculture, des Forêts et de l'Élevage (1958)	3653
Cloney, R. A. (1959)	8150	Connell, J. H. (1959)	0068
Cloud, P. E., Jr. (1960)	7601	Connell, J. H. (1960)	6316
Cloudsley-Thompson, J. L. (1959)	5978	Connell, J. J. (1958)	4269
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Coates, D. R. (1959)	1648	Consultants Bureau, Inc. (Transl.) (1959)	5153 6804 6805 6806 6807
Cobley, L. S. (1959)	1711	Conti, A. (1957)	5161
Cochrane, V. W. (1958)	6644	Continuing Working Party on Fishery Statistics in the North Atlantic Area. First Meeting, Bergen Norway, 25-26 May 1960 (1960)	8693 8695 8694
Cocking, A. W. (1957)	2703	Contois, D. E. (1959)	2270
Codreanu, R., M. Codreanu & R. B. Pike (1960)	9398	Conway, E. (1960)	9252
Cognetti, G. (1960)	8616	Cooke, W. B. & A. F. Bartsch (1959)	9455
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Liu, F.-H. & C. G. Chen (1959)	0715	Löve, A. (1959)	6137
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Liubishchev, A. A. (1959)	4390	Love, R. M. (1959)	1260
Livingstone, D. A. (1959)	8743	Love, R. M. (1960)	4908
Llewellyn, J. (1959)	2510	Love, R. M., J. A. Lovern & N. R. Jones (1959)	4296
Lloyd, M. (1959)	0150	Love, T. D. & M. H. Thompson (1959)	2822
Lloyd, R. (1960)	4408	Lovegrove, T. (1960)	9369
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Lochhead, J. H. (1960)	3845	Lowe, R. H. (1958)	5486
Lochhead, J. H. & R. Resner (1959)	0098	Lowenstam, H. A. (1959)	0796
Lochridge, W. (1958)	6046	Lowenstein, O. (1959)	0648
Lockie, J. D. (1959)	2536	Lowenstein, O. & J. Wersäll (1959)	4046
Lockwood, A. P. M. (1959)	6425 6423 6424	Lowman, F. G. (1959)	3622
Logie, R. R. (1958)	3000	Lozano Cabo, F. (1959)	8043 8060 8042
Logvinovich, D. N. (1958)	4386	Lozinskaia, A. M. (1959)	4378 6836
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Lokken, H. E. (1959)	8587	Lubianov, I. P. (1957)	3089
Lomakina, N. B. (1958)	4351 4065	Lubianov, I. P. (1958)	7049
Lombard, G. L. (1959)	9903 9904	Lubyanov, I. P. (1958)	9670
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Longhurst, A. R. (1959)	2009	Lucas, C. E. & R. S. Wimpenny (1959)	3487
Longhurst, A. R. (1960)	9373	Lucky, Z. (1958)	4181 4180
Longinov, V. V. (1958)	5722 5723	Lüling, K. H. (1958)	9568
Longman, I. M. (1959)	7347	Luferov, V. P. (1957)	5570
Lønning, S. (1959)	2641	Lufkin, D. H. (1959)	7654
Lonsdale, J. E. (1959)	0413	Lufty, R. G. (1957)	2721 4333 4334
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Lundberg, O. R. (1958)	4724	Mailian, R. A. (1957)	3016
Lunetskias, A. M. (1957)	4731	Main, A. R., M. J. Littlejohn & A. K. Lee (1959)	0567
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Luxemburg. Laws, Statutes, etc. (1959)	5832 5831	Maistrenko, Iu. G. (1957)	4732
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L'vovich, M. I. (1957)	7173	Makarevich, T. N. & N. M. Mytarev (1957)	2414
Lyman, J. (1958)	6111	Makarova, I. V. (1957)	3091 3092
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MacGinitie, N. (1959)	2921	Malcolm, D. G. (1960)	7731
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Mason, J. (1950)	3519 2817 2818	Mauritius. Laws, Statutes, etc. (1959)	1371 1372
Mason, P. (1957)	2706	Maximov, I. V. (1959)	1127
Massmann, W. H. (1960)	9963	Maximov, I. V. (1960)	9025 9024
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Mathieu (1958)	9701	Mayne, J. W. (1957)	5417
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Mathisen, O. A. (1959)	9859	Mayorova, A. A. & K. S. Tkacheva (1959)	8106 8105
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Matthews, L. H. (1960)	8659	McCraw, B. M. (1958)	4169
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McMichael, D. F. (1959)	0358	Menard, H. W. & C. J. Shipek (1958)	6676
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Saidova, Kh. M. (1957)	5577	Sapozhnikov, D. G. (1959)	2033
Saidova, Kh. M. (1959)	7674	Sapozhnikov, V. I. (1957)	3345
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Saila, S. B. (1959)	4600	Sardone, L. T. (1958)	5860
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Saito, I. (1959)	0477	Sarkar, H. L. & N. K. Kaushik (1958)	1514
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ISO/TC 8 (1960)	216me	Kaiser Foundation Research	
IUBS, Section of Embryology		Institute (1960)	206me
(1960)	166me	Laboratory of Aviation &	
IUCN (1960)	145me	Naval Medicine, Stockholm	
IUCN, Executive Board		(1960)	178me
(1960)	161me	“Laboratory Practice”	
IUGG (1960)	016me	(1960)	151me
IWC (1960)	042me	Linnean Society of London	
IWC (1961)	245me	(1960)	122me
Institut Océanographique,		London University (1960)	031me
Musée de Monaco (1960)	276me	Long Island Biological Asso-	
Institute of Food Technolo-		ciation (1960)	274me
gists (1960)	014me	Malacological Society of	
Institute of Food Technolo-		London (1960)	051me
gists (1961)	302me	Marine Biological Association	
International Association for		of U.K. (1961)	257me 258me
Analog Computation		Midwest Fish & Wildlife Con-	
(1961)	360me	ference (1960)	296me
International Association of		National Fisheries Institute	
Fish Meal Manufacturers		(1960)	103me
(1960)	156me	National Fisheries Institute	
International Association of		(1961)	124me
Game, Fish & Conservation		National Fisheries Institute,	
Commissioners (1960)	112me	Industrial Products Divi-	
		sion (1960)	253me

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National Science Foundation (1960)	137me	PCIFC (1961)	255me
National Shrimp Congress (1960)	254me	PIOA (1960)	214me
National Wildlife Federation (1960)	084me	PSA (1961)	248me
N.Y. Academy of Sciences/AAAS (1960)	217me	Pacific Coast Oyster Growers Association (1960)	199me
N.Y. Academy of Sciences/Amer. Inst. biol. Sci., Off. Nav. Res., N.Y. Zool. Soc. Department Marine Biochemistry & Ecology, New York Aquarium (1960)	085me	Pacific Fishery Biologists (1961)	321me
N.Y. Academy of Sciences/Committee on Mathematical Biology of University of Chicago (1961)	332me	Pacific Marine Fisheries Commission (1960)	219me
[Nordic College for Marine Biology] (1960)	345me	Pacific Tuna Conference (1960)	195me
Norsk Varemese A/S (1960)	172me	Pacific Tuna Conference (1961)	249me
North American Wildlife Conference (1960)	098me	Permanent International Committee on Canned Foods (1961)	322me
North American Wildlife Conference (1961)	349me	Permanent International Congress of Navigation (1961)	292me
North Pacific Fur Seal Commission (1961)	184me	Polytechnical University of Gdansk (1960)	215me
North Pacific Fur Seal Commission, Scientific Committee (1961)	135me	Pretoria University (1961)	352me
OAS/FAO (1960)	261me	Robert A. Taft Sanitary Engineering Centre (1960)	088me
OEEC (1960)	096me	Royal Institution of Naval Architects (1960)	050me 005me
OEEC/EPA (1961)	330me	Royal Society of London (1960)	308me
OEEC/EPA, Committee for Applied Research (1960)	119me	Royal Society of London (1961)	307me
Office of Naval Research (1960)	087me	Sanitary Engineering Centre (1960)	013me
Office of Ordnance Research/National Science Foundation (1961)	291me	School for Biological Engineers (1960)	182me
Ohio Commercial Fishermen's Association (1961)	340me	Scottish Field Studies Association (1960)	036me 037me 038me
Operations Research Society of America (1961)	247me	Scottish Marine Biological Association (1961)	259me 260me
Outboard Marine Corporation/Outboard Marine International S.A. (1960)	125me	Shrimp Association of the Americas (1960)	133me 251me
Oyster Institute of North America/National Shellfisheries Association (1960)	110me	Shrimp Conservation Commission (1961)	338me
Oyster Institute of North America/National Shellfisheries Association (1961)	361me	Society of American Bacteriologists (1960)	129me
PCIFC (1960)	041me	Society of Chemical Industry (1960)	059me
		Society of Exploration Geophysicists (1961)	323me
		Society for General Systems Research (1960)	218me
		Society of Naval Architects & Marine Engineers (1960)	275me
		Society of Systematic Zoology (1960)	279me
		Southeastern Fisheries Association (1960)	131me 252me



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Texas Shrimp Association (1961)	355me	Wildlife Management Institute (1960)	083me
Thunderbird Enterprises Ltd. (1960)	224me	Sponsor unknown (1960)	117me
UN (1960)	040me	Sponsor unknown, convenor Dr. P. Ilbery (1960)	086me
UN (1961)	353me	University of British Columbia, Institute of Fisheries (1960)	200me
UNESCO (1960)	044me 127me 136me 012me 146me 158me 265me 159me	University of Washington (1961)	351me
UNESCO, International Advisory Committee on Research in Natural Sciences (1960)	141me		
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USPHS, Taft Sanitary Engineering Center (1960)	163me 221me 222me		
USPHS, Taft Sanitary Engineering Center (1961)	226me 227me		
USPHS, Taft Sanitary Engineering Center/Division of Water Supply & Pollution Control (1960)	194me		
U.K. Atomic Energy Authority Isotope School (1960)	089me		
U.K. Field Studies Council (1960)	068me 069me 070me 060me 071me 061me 072me 056me 073me 062me 074me 075me 063me 064me 081me 080me 077me 076me 078me 065me 082me 066me 067me 058me 079me 057me		
U.K. Institute of Biology (1960)	152me		
WHO/Czechoslovakian Government (1960)	220me		
WHO/Josian Macy Jr. Foundation (1961)	290me		
WHO, Regional Committee for Europe (1960)	185me		
WMO (1960)	091me 046me		
WMO, Commission for Climatology (1960)	266me		
WMO, Regional Association for Europe (RA vi) (1960)	162me		
WPFC (1960)	269me		
Water Pollution Control Federation (1960)	207me		
		Aasen, O. (1960)	6253
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		Allison, L. J. (1959)	1934
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		Almodóvar, L. R. (1960)	9986
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Anthony, J. (1959)	0005	Bayoumi, A. R. (1959)	7404
Anthony, J. (1960)	9399	Beaudette, P. T. (1959)	2902
Antonini, E. (1960)	9235 9236	Beeman, E. R. (1960)	7598
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Appleby, J. C. (1959)	1934	Beliaev, G. M. (1960)	7612
Arai, K.-I. (1959)	1993	Beliaev, L. D. (1957)	3018
Arita, S. (1959)	7911	Belianina, T. N. (1959)	9248
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Aruga, Y. (1958)	6942	Belskaia, T. N. (1959)	0888
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Auclair, W. (1959)	4555	Bender, M. (1960)	7929
Audouin, J. (1959)	9900	Bennett, E. L. (1960)	7397
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Austin, K. H. (1959)	2477	Benson, A. A. (1959)	0348
Auwand, K. (1958)	5862	Benson, B. B. (1959)	1185
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Barnöla, F. V. (1960)	4020	Black, M. K. (1959)	5303
Barnoud, R. (1958)	9177	Blacker, R. W. (1959)	3660
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Barraquer, J. (1959)	9622	Blanc, M. (1959)	9073
Barrett, J. H. (1957)	4332	Blumentals, A. (1959)	0197
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Barsanova, N. G. (1960)	7612	Boden, B. P. (1959)	0649
Barton, L. (1959)	8538	Böhlke, J. E. (1959)	5205 9408
Bartsch, A. F. (1959)	9455	Boettiger, E. G. (1959)	0528
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Bass, F. G. (1958)	6785	Bogdanova, E. A. (1957)	4872
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Bassot, J.-M. (1959)	2243	Bogolepova, I. I. (1957)	3194
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Bone, Q. (1959)	2911	Burrows, R. E. (1959)	1540
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Bovaird, J. (1959)	2912	Calvin, M. (1959)	1680
Bovaird, J. (1960)	9420	Calvin, M. (1960)	7397
Bowen, V. T. (1958)	3600	Camougis, G. (1959)	0867
Braddock, Z. I. (1959)	1758	Campana-Rouget, Y. (1959)	1967
Bramlette, M. N. (1959)	0813	Campbell, B. (1959)	3450
Branch, N. (1959)	6967	Campbell, B. (1960)	3456
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Bravo Hollis, M. (1959)	9505	Campbell, N. J. (1959)	0811
Brawn, V. M. (1959)	3533	Candillon, M. (1958)	3582
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Brenes, R. R. (1957)	4971	Carter, D. B. (1958)	6026
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Breslay, L. R. (1959)	3412	Causey, L. V. (1959)	1657
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Brighton, K. W. (1959)	4274 4275	Cerniglia, W. J. (1959)	7647
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Brock, V. E. (1960)	4208	Chace, F. A., Jr. (1960)	3819
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Broecker, W. S. (1959)	1000	Chakraborty, S. K. (1959)	3785
Brown, A. C. (1960)	9221	Chalupa, J. (1958)	1481
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Bruce, A. M. (1959)	9442	Chang, C. F. (1958)	8624
Brudastova, M. (1958)	7080	Chang, J. S. (1958)	9618
Bryan, A. H. (1959)	8278	Chang, T. J. (1958)	8621
Bryson, R. A. (1959)	0199	Chapman, D. G. (1959)	6926
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Evgenov, N. I. (1957)	7123	Fujino, S. (1960)	7742
Ewing, G. C. (1959)	1072	Fujita, T. (1960)	8394
Ewing, M. (1959)	0764	Fujitani, Y. (1960)	9086
	0766 0938	Fukushima, Y. (1960)	7509
Ewing, M. (1960)	8600	Fumoto, T. (1959)	9113
Eymann, H. (1959)	9314	Furukawa, I. (1959)	7901 9148
Eyster, H. C. (1958)	9755	Futi, H. (1960)	9645
Fagerlund, U. H. M. (1960)	3946	Gabe, M. (1960)	8451
Falls, J. B. (1959)	5050	Gallison, G. D. (1958)	6649
Fang, S.-C. (1959)	0591	Galtsoff, E. (1959)	8116
Faure, L. (1960)	7720	Gameson, A. L. H. (1959)	5234
Favard, P. (1959)	2243	Gamulin-Brida, H. (1959)	8073
Fazl-i-Rubbi, S. (1958)	5305	Gamutilov, A. E. (1958)	4384
Fedorov, S. S. (1959)	6869	Gard, R. (1959)	2923
Fedorov, V. D. (1960)	9243	Garnham, P. C. C. (1960)	2895
Feinberg, J. G. (1959)	2003	Garofalo, M. (1960)	3862
Fellig, J. (1959)	0343	Gehring, J. W. (1959)	9974
Ferguson, F. F. (1957)	9355	Gemp, K. P. (1957)	5635
Fergusson, G. J. (1958)	3603	Gentile, A. C. (1959)	0345
Fichera, P. (1959)	2197	Gerard, R. D. (1959)	8701
Fichter, G. S. (1959)	9288	Gerasimov, V. V. (1957)	3213
Fields, P. E. (1957)	2969	Gest, H. (1959)	3240
Filatova, Z. A. (1958)	4751	Gheleg, T. (1960)	7364
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	2460	Greene, J. M. (1959)	7922
Gieszl, L. (1959)	3954	Greenough, M. F. (1959)	1609
Gilpin-Brown, J. B. (1959)	0844	Greze, I. I. (1958)	5625
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Ginzburg, M. (1957)	5610	Grigoriant, A. N. (1957)	7015
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Girdler, R. W. (1959)	0765	Gruender, A. (1959)	6359
Giuditta, A. (1958)	9637	Grundfest, H. (1959)	6364
Giuffre, R. (1960)	9236	Gürtürk, N. (1959)	3709
Giukhovskii, B. Kh. (1957)	7537	Guillard, R. R. L. (1959)	7373
Glazov, A. N. (1959)	5153	Guillard, R. R. L. (1960)	4907 6249
Goddard, C. K. (1959)	2170	Gunter, G. (1958)	3258
Godet, R. (1960)	2882	Gunter, G. (1959)	8242
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Goggins, P. L. (1958)	3738	Gusev, A. V. (1958)	5703
Goin, C. J. (1959)	4518	Gutierrez, P. (1959)	1599
Goiny, H. (1958)	4164	Gutkovskaya, A. I. (1959)	9070
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Gold, K. (1959)	1203	Habe, T. (1959)	1034
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Goldbitt, S. A. (1957)	5655	Hafer, R. E. (1959)	2202
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Gole, C. V. (1959)	1055	Halver, J. E. (1959)	6416
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Gomes, A. L. (1959)	4584	Hamada, E. (1960)	8393
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Goreau, N. I. (1960)	5185	Haneda, Y. (1960)	9757
Gorgy, S. (1959)	3751	Hansen, P. M. (1959)	1984
Goriachev, A. V. (1958)	6828	Hansen, V. Kr. (1959)	0367
Goriachev, A. V. (1959)	6829	Hanson, W. C. (1958)	3598
Goring, D. A. I. (1958)	5900	Hantschmann, D. (1959)	9486
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Goryacheva, M. S. (1960)	7811	Harada, K. (1959)	0799
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Holland, H. D. (1959)	1654	Ishida, R. (1959)	7909
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Holt, S. J. (1959)	2868	Ishii, S. (1958)	1435
Honaka, J. (1959)	8519	Ishii, S. (1959)	0605
Honda, K. (1958)	8554	Ishikawa, M. (1959)	8535
Honma, M. (1959)	9151	Ishikawa, Y. (1959)	9114
Hood, D. W. (1958)	2042	Ishiwatari, R. (1960)	8943
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	1205 1206 6090	Ito, K. (1959)	9116
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Jensen, D. (1960)	9214	Kawai, M. (1960)	8392
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Johnson, C. (1959)	8343		3494 4436
Johnson, F. H. (1958)	9618	Keir, R. S. (1960)	9981
Johnson, F. H. (1959)	0870	Kelly, G. F. (1960)	7831
Johnson, H. C. (1960)	6538	Kelson, K. R. (1959)	2905
Johnson, J. H. (1959)	8265	Kemmerikh, A. O. (1959)	5292
Johnson, M. M. (1959)	6436	Kempf, T. (1958)	3799
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Jones, A. C. (1959)	1784	Ketchum, B. H. (1959)	7372
Jones, G. E. (1959)	0198	Kewalramani, H. G. (1959)	3782
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Jones, J. W. (1959)	5437	Khan, N. A. (1958)	5305
Jones, N. R. (1959)	4296	Khodakov, V. D. (1957)	5617
Jonsgård, Å. (1959)	8247	Kholod, A. P. (1957)	4867
Jordan, G. F. (1959)	1081	Khoreva, I. M. (1957)	2432
Joseph, J. (1959)	9481	Khristianov, V. K. (1959)	2663
Jovet, P. (1959)	3977	Khristianova, L. A. (1959)	7652
Julian, F. J. (1960)	4016	Khuzin, R. Sh. (1960)	8438
Juliano, R. O. (1959)	0203	Kihara, M. (1960)	7737
		Kiichi, M. (1958)	6768 6769
Kabanova, Iu. G. (1958)	9245	Kikuchi, R. (1960)	8832
Kagami, H. (1960)	9289	Kikuchi, Y. (1959)	0494
Kai, H. (1959)	7909	Kinoshita, E. (1959)	7916
Kakimoto, D. (1959)	1198	Kireeva, M. S. (1957)	5635
Kakimoto, D. (1960)	8387	Kirkness, K. (1957)	6601
Kakinuma, Y. (1960)	8799	Kiser, R. T. (1959)	5307
Kalantarov, K. D. (1958)	4343	Kishimoto, A. (1960)	7733
Kaler, V. L. (1960)	7459	Kitahara, K. (1960)	7744
Kalle, K. (1959)	9484	Kitahara, M. (1959)	8820
Kamat, N. D. (1959)	0226	Kitou, M. (1958)	1693
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Kaminarskaia, A. K. (1959)	1259	Klontz, G. W. (1960)	6345
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Kanamori, M. (1959)	0444	Kobayashi, K. (1959)	0611-0624
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Kanazawa, A. (1960)	8387	Kobulashvili, Sh. (1957)	5649
Kanopkaite, S. I. (1958)	4101	Kochi, M. (1960)	7506
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Kaplin, P. A. (1960)	8924	Koeper, A. (1959)	1682
Karapetkova, M. S. (1957)	5540	Kohn, M. (1960)	4022
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Kowalski, R. (1958)	9500	Larkin, P. A. (1959)	1604 7884
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Kritzler, H. (1960)	9758	Leech, R. (1959)	9873
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	8857	8858	8903	9336	Newfoundland	6200	7787	7790	7791
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157 Federation of Rhodesia and Nyasaland	0224	0723	1359	2466		4009	4450	4452	4454
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	6204	6669	8887	8896	Nova Scotia	1311	1382	3665	5036
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	3474	3663	3667	3752		8592	8593	8594	8629
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	4484	5674	6469	7264		5165	5166	5167	5280
	7626	7810	7882	7883		5386	5385	5398	5401
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	0896	1721	1722	1725	574	Hungary	1637	5108	5310 5507
	1964	2065	3241	3243			6714	8132	9065 9576
	6595						9594	9596	9690
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Germany	2233	2235	2253	2767	610	AUSTRALIA	0358	0559	0563 to
	2995	3799	4336	4939			0567	0723	1160 1299
	4953	4970	5300	5319			1450	1503	1988 2215
	5338	5342	5816	5997			2292	2757	2758 2759
	5998	6154	6332	6877			3429	3446	3448 3450
	7766	7793	7852	7853			3452	3453	3456 3457
	7964	8007	8008	8009			3642	4231	4530 4994
	8022	8207	8208	8209			4998	5027	5736 5579
	8262	8671	9338	9448			5860	5974	6475 6568
	9517	9518	9519	9533			6569	6570	6713 6721
	9538	9539	9550	9551			7691	7696	to 7699
	9555	9574	9610	9742			7702	8200	8201 8202
	9824						8261	8445	8654 9152
562 Switzerland	1361	4520	5951	5997			9219	9239	9241 9300
	9480	9497					9421	9702	9860 9914
563 Austria	2015	2065	2217	2242				9915	086me 286me
	2266	2954	4372	4587				287me	344me
	5224	5803	6714	8699					
	9435								
571 German Democratic									
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	5812	5813	5815	6295			7759	7983	8847 9249
	7825	9499	9553	9558			9512	9765	
	9559	9560	9562	9564	614	Victoria	6105	6240	
	9566	9567	9571	9574	615	New S. Wales			1300 1986
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	4569	4967	4955	5023			8808	8845	8846 9706
	5170	5171	5692	5695	618	Macquarie I.	0323	4355	4357 5016
	6221	6294	6486	7128	620	NEW GUINEA TRUST			
	7130	7448	7678	7679		TERRITORY	4994	5378	6215 6355
	7680	7683	7684	7685			7267		
		7687	7688	8638	621	N.E. New Guinea	5378	6215	6355
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	8713	8810	9103	9227				2336	2376	2377	2379
	9752							2381	2382	2383	2389
636	Tokelau Is.		6615	9105				to	2393	2395	2400
637	Auckland I.			9716				2403	2404	2418	2420
641	Fr. Oceania		9679	9983				2425	to	2428	2431
	Society Is.		4208	6933				2432	3004	3009	3010
660	USA(Hawaii)	0262	0709	1050	2435			3017	to	3023	3026
		2439	2629	2731	2732			3027	3029	3030	3035
		3273	4173	6542	8182			3036	3037	3039	3044
		8183	8630	8812	8814			3047	3048	3051	3055
		8815	8816	9470				3058	to	3061	3065
670	PACIFIC IS. STRATEGIC TRUST							3068	3069	3070	3074
	TERRITORY		2780	9907				3083	3086	3088	3089
671	Marianas Is.			2077				3090	3096	3099	3102
673	Caroline Is.		4131	6218				3106	3108	3109	3111
674	Marshall Is.	3622	3878	7665	8023			3112	3115	3117	3123
		8664	9464	9982				3124	3125	3129	3134
681	Br. Solomon Is.		3295	6357				3137	3140	to	3144
682	New Caledonia	0860	2628	2629				3146	3154	3157	3161
		3983	3984	5278				3164	3167	to	3171
683	New Hebrides	0708	6615	9108				3181	3193	3195	3201
684	Fiji Is.	3707	5278	6615				3204	3209	3213	3214
	Tonga Is.			3591				3215	3218	3219	3221
685	Samoa(U.S.)		1827	5278				3228	3229	3323	3331
687	Gilbert & Ellice Is.			7464				3335	3336	3339	3341
				9107				3354	3380	3384	3388
688	Nauru I.			3699				3389	3392	3393	3399
700	USSR	0034	0062	0136	0268			3396	3399	3496	3500
		0559	0663	0721	0820			3922	4061	4062	4066
		0871	1161	1233	1401			4065	to	4071	4100
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		2301	2307	2328	2363			4620	4621	4628	4629
		2366	2397	2402	2411			4643	4645	4657	4661
		2452	2754	2841	3134			4665	4668	4677	4681
		3159	3186	3196	3221			4697	4698	4699	4701
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		4760	4816	4829	4862			4755	4758	4759	4761
		4863	4864	4989	5519			4762	4767	4769	4771
		5520	5592	5637	5639			4777	4780	4781	4783
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		5771	6590	6591	6610			4851	4852	4866	4871
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		7029	7075	7114	7172			4880	4883	4885	4889
		7230	7239	7256	7532			4889	4893	4896	4899
		7661	7812	7872	7992			5292	5322	5349	5371
		7994	7998	8229	8230			5372	5478	5502	5503
		8258	8476	8479	8769			5505	5507	5522	5523
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31 Estonian SSR	2414	5775	5790			4714	4715	5291 5487
32 Latvian SSR	2104	2414	3084 3224			5488	6112	6117 6121
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40 BYELORUSSIAN SSR		3130	3138			7518	7520	to 7525
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51 Ukrainian SSR	3025	3056	3199			0169	0354	0790 0808
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4662	4667	4669	4672			3545	3601	3603 4014
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51 Georgian SSR		3103	4616			0502	0724	0762 0771
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	1209	1290	1703	1714	ANE.	Atlantic, N.E.	0136	0220
	1747	2034	2076	2152			0657	0701
	2244	to	2247	2251			1233	1629
	2254	2678	2889	2926			2007	2061
	3411	3517	3546	4028			2670	2674
	4104	4294	4928	4929			2910	3206
	5028	5384	5650	5778			3241	2411
	5997	5925	5926	5928			3524	3527
	5929	5930	5933	6173			3550	3657
	6254	6348	6552	6598			4921	4930
	6601	6720	6869	6870			4934	4935
	6872	6955	7031	7032			6248	6598
	7044	7094	7234	7346			7238	7475
	7796	to	7804	7809			8441	8464
	7830	7832	7847	7904			9194	9478
	8022	8328	8410	8495			to	9495
	8599	8763	8764	8768			212me	318me
	8978	8992	9000	9035	ANE.01	White Sea	0155	2348
	9356	9477	9579	9902			3071	3101
	008me	009me	105me				4104	4740
	241me	242me	239me				5506	5580
	255me						7516	7995
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	0206	0258	0259	0706	ANE.02	Barents Sea	0635	0835
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	1081	1128	1175	1232			2957	2962
	1369	1399	1687	1737			3188	3203
	1813	1982	2128	2142			3226	3382
	2179	2255	2440	2482			3658	to
	2742	2824	2986	3246			4740	4749
	3263	3286	3475	3479			4755	4758
	3487	3490	3491	3550			4769	4771
	3562	3662	3664	3665			5716	5747
	3667	3668	3669	4927			5761	5779
	4811	5038	to	5042			5791	6193
	5271	5410	5430	5673			7183	7193
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	6452	6553	6556	6561			8233	8237
	6564	7270	7785	7788	ANE.03	Greenland Sea		0961
	to	7794	7805	to			2962	7783
	7808	7810	to	7829	ANE.04	North Sea	0058	0117
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	8406	8415	8688	8689			2480	2948
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	8774	9015	9344	9359			3531	3535
	9367	9676	9812	9814			4934	4935
ANW.02	Davis Strait	0811	4230	6109			4948	4987
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ANW.04	G. of St. Lawrence	5043	8688				7286	7666
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ANE.08	English Channel	0863	2495			6273	6278	6298	6889
		2499	3903	4601	4945	6954	8034	8047	8097
		4946	4948	6189	6625	8294	8296	8328	8464
		6631	8616	033me		8604	8983	8986	8994
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	6494	6715	8339	8687		1944	2323	2365	2386
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0841	0877	0892	0911	7121	7122	7129	71
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0987	0993	1003	1009	7150	7164	7170	72
1033	1143	1150	1224	7237	7299	7414	70
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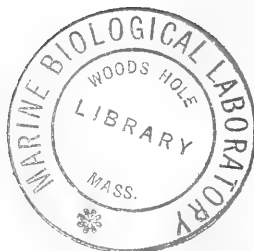
	2114	2115	2116	2118			8245	8256	8257	8892
	to	2121	2302	2306			8968	8998	9106	9144
	2375	3045	3057	3185			9150	9151		
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	4653	4685	4694	4696			0792	0819	0892	0935
	4698	4699	4751	4792			0956	0991	1010	1023
	4828	4838	4859	4914			1139	1154	1155	1180
	5548	5574	6383	6413			1447	1454	1468	1506
	6727	6758	6768	6775			1666	1876	2010	2167
	6777	7116	7117	7118			2352	2998	3410	3413
	7122	7129	7134	7135			3546	3548	3695	3745
	7140	7141	7143	7144			5323	5538	6156	6483
	7147	7149	7150	7237			6659	6668	6804	7163
	7491	7499	7576	8754			7519	7596	7652	7705
	8782	8817	9247	9413			7902	7903	8014	8143
	9685						8156	8269	8709	8890
02	Sea of Okhotsk		0038	0839			8914	9017	9036	9052
		1737	2073	2116	2306		9067	9142	9145	9295
		2321	2370	3045	3185		9387	9475	9858	9923
		3349					9924	214me		
		3350	3351	3398	3507	ISW.01	Red Sea	0169	0750	0765
		4387	4610	4627	4653			1916	1937	to 1940
		4685	4694	4717	4718			1952	3546	6156 7398
		4737	4751	4767	4777			to	7405	8709 9398
		4780	4792	4818	5574			9522	9527	9530 9531
		5577	5730	6034	6036			9532		
		6108	6116	6383	6758	ISW.02	G. of Aden	0778	6156	8709
		6768	6775	6777	6828	ISW.03	Persian G.	6156	6168	6650
		7116	7117	7118	7122			8709		
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4	G. of Alaska		1058	2744				8814	8828	8968 9127
5	Georgia Strait			7528				9128	9141	9143 9148
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		0828	0833	2138	2157			303me		
		2927	3546	5028	5508	ISEW.01	G. of Thailand			6470
		6659	7899	7902	8244					

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		6470	8623	8624			0311	0591
		9203	9247				0935	0945
ISEW.04	E. China Sea	0038	1048	1057			0978	1003
		1408	2073	2106			1028	1150
		4387	5574	7901			1233	1777
		8624	8627	9140			3342	3437
		9650					to	4351
ISEW.05	Yellow Sea	0038	0923	1048			4360	4361
		1057	2450	4149			4368	5028
		4719	9832				5607	5781
ISEW.07	Philippine Sea			1057			6659	6850
ISEW.08	Sulu Sea	8416	to	8419			7058	7435
ISEW.18	Coral Sea	1005	1151	1187			7518	7523
		1746	5766	6265			7841	8245
		7979	9521				8249	8255
ISE	Pacific, S.E.	0057	0777	1862			8432	8434
		1907	2210	2433			8446	8984
		6676	6697	7600			9864	9913
		8938	8980	8993				
		9345	9352	118me	PSE.01	Great Australian Bight		9239
		303me	321me	357me	PSE.02	Tasman Sea	1005	1746
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		6676	8662				7700	7979
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		2151	2627	6676	PSEW.01	Scotia Sea		0766
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		5290					9022	8984
PN	ARCTIC OCEAN		0136	0311	PSEW.04	Ross Sea	2147	6233
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		1233	1955	2319	L.11	EAST AFRICAN LAKES		0024
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	8576	9182	9383				5052	5186	6417	6428
<i>Petromyzon</i>		0253	2267	2807			6606	7724	7871	8713
	2972	4793	4881	5218			9381			
	5425	6235	6858	7879	1,10	<i>Aetobatus</i>				9347
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	<i>Heterodontus</i>		0138	6510		<i>Mobula</i>				7404
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	HEXANCHIDAE			6516			5942	6606	7724	
	<i>Hexanchus</i>		2154	6516			8713	8733	9381	
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	ORECTOLOBIDAE			0103		1,12	CHIMAERIDAE			7220
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	<i>Carcharhinus</i>	1425	9347	9527			<i>Protopterus</i>	0013	0099	0162
	<i>Galeocerdo</i>		8815	9957				0173	2882	6367
	<i>Galeorhinus</i>			9362				6962	9698	9699
	<i>Halaclurus</i>			9157		1,15	COELACANTHOIDEI			9399
	<i>Hypoprion</i>			9961			<i>Latimeria</i>	0605	6606	8839
	<i>Mustelus</i>	1425	1748	8876	9631	1,17	<i>Acipenser</i>		0173	0175
	<i>Pristiurus</i>			6398				0240	1332	1607
	SCYLIORHINIDAE	0103	0662					2105	3020	3026
	SCYLIORHINOIDEI	0162	0177					3853	4098	7214
	7158							9897		
	<i>Scyliorhinus</i>	2154	2170	4006	4085		ACIPENSERIDAE	0162	1628	
		6398	6528	7724				1962	3136	3164
	<i>Scyllium</i>	0526	4089	4425	7959			3207	3219	3220
		8628	9381	9867				3223	4101	4198
	<i>Sphyrna</i>	2012	9196	9347	9688			4812	4868	4989
	<i>Triaenodon</i>			9527				5554	5559	5562
	<i>Triakis</i>			8626				6609	7072	7079
1,09	<i>Centrophorus</i>			7693				7228	7365	7562
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	2300	5159	5172	6202		<i>Scaphirhynchus</i>			4211	9897
	6215	6515	7158	7573		1,18	<i>Amia</i>			2888
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	4642	4650	4833	6273	<i>Elops</i>				7949
	7440	7937	8352	9675	<i>Engraulis, gen.</i>				0716
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	0646	2296	2824	4927		6508	7433	7442	7458
	5026	6445	9668	9676		9925	9926		
<i>Caspialosa</i>	3003	3032	3210	4635	<i>Engraulis japonica</i>			1623	2109
	4833	7019						2117	2118
<i>Chatoessus</i>				9688				9153	9371
<i>Clupanodon</i>	0716	1874	1922	9848	<i>Engraulis mordax</i>				6508
<i>Clupea, gen.</i>				1872	<i>Engraulis ringens</i>			6197	6508
<i>Clupea harengus</i>			0290	0322		8130			7395
	0459	0460	0469	0501	<i>Engraulis sp.</i>	0173	1898	6473	6508
	0507	0538	0664	0712	<b>ENGRAULIDAE</b>			6508	9958
	0724	0863	1232	1548	<i>Ethmalosa</i>			2027	8126
	1688	1960	1985	2061	<i>Ethmidium</i>				8865
	2082	2481	2508	2607	<i>Etrumeus</i>				2109
	2662	2678	2995	3206	<i>Gadusia</i>				0173
	3213	3217	3440	3522	<i>Harengula</i>			1891	8812
	3525	to	3528	3576	<i>Hilsa</i>	0173	1751	2256	9944
	3855	4228	4239	4294	<i>Ilisha</i>				9373
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	4987	5112	5180	5267	<i>Sardina</i>	0180	0280	0632	1861
	5268	5595	5602	5604		1866	1867	1868	1869
	5622	5628	5778	5790		1870	1872	1873	1879
	5926	6251	6253	6256		1880	1885	1901	1904
	to	6259	6598	6599		1915	1920	1921	1929
	6725	6776	6854	6869		2562	3563	5534	5546
	7064	7065	7074	7077		5558	5834	6581	8097
	7094	7105	7219	7234		8336	8871	9257	9574
	7238	7242	7328	7636		9933			
	8017	8229	8285	8495	<i>Sardinella</i>		0186	1875	1882
	8640	8881	9248	9534		1886	1888	1892	1894
	9567	9574	9836	9837		1900	1903	1905	1906
	9846	293me	331me			1916	1917	1918	1921
<i>Clupea pallasii</i>			0604	2088		2022	2027	2909	3563
	2748	3009	3010	3017		4293	5071	8126	9944
	3027	3030	4621	4702	<i>Sardinops, gen.</i>		1872	1921	3563
	4707	7017	7148	7223	<i>Sardinops caerulea</i>			0263	0310
	7638	7910	7993			0688	1396	1861	1862
<i>Clupea sprattus</i>			0468	1347		1864	1876	1881	1893
	1635	1867	4409	4650		1907	2091	2271	2749
	5656	6889	6890	7210		6484	9371	9372	
<i>Clupea sp.</i>			1898	8477	<i>Sardinops melanosticta</i>			1437	1861
<b>CLUPEIDAE</b>	1750	1856	1858			1871	1881	1902	2108
	1860	1896	1908	1914		2109	2112	2113	2116
	1923	to	1926	1929		2122	2299	7911	8393
	1932	1933	4650	4788		8816	8905	9371	
	4882	5606			<i>Sardinops neopilchardus</i>				1887
<b>CLUPEIFORMES</b>	0101	0255				1898	3446		
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<i>Clupeonella</i>	0514	1635	4893	7245		1846	1878	1883	1884
<i>Dorosoma</i>		2086	2293	8341					

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	6587	6588	6589	7653	1822	2292	2553	3946
<i>Sardinops sagax</i>			1877	1889	3989	5007	5027	5368
<i>Setipinna</i>			0716	6963	5371	6469	6558	6764
<i>Stolephorus</i>	0716	1475	3701	5539	6768	6769	6771	6772
<i>Stolothrissa</i>			1503	8468	6774	6775	6777	6863
<i>Tarpon</i>				7659	6866	7311	7497	7628
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	1361	1384	1397	2104	6416	7084	7692	7884
	2222	2664	2954	3002	9687			
	3016	3036	3037	3141	<i>Oncorhynchus sp.</i>		1425	2088
	3142	3154	3157	3161	2283	2571	2587	3474
	3173	3195	3331	3982	3556	6289	7638	7858
	3987	4158	4664	4873	7909	8111	8756	9113
	4876	4884	5007	5072	9248	9822		
	5437	6001	6375	6864	<i>Osmerus</i>	0020	1276	1805 2843
	7062	7215	7216	7249	4472	4480	4889	5007
	7420	7421	7422	7959	6546	6547	7684	8186
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<i>Glossanodon</i>				0879	7930	9705		
<i>Hypomesus</i>	8491	9111	9116		1,23 <i>Salmo gairdnerii</i>		0111	0303
<i>Leucichthys</i>				1384	0595	0616	1501	1601
<i>Mallotus</i>	3213	5791	7636	8687	1993	2491	2923	2965
<i>Oncorhynchus, gen.</i>	1554	1555	1556	1561	3752	4408	4636	4890
	1565	1566	1572	1573	5007	5051	5125	5127
	1577	1604	3001	3752	5999	6013	6369	6398
	4221	5674	6345	6369	6859	6863	7086	7408
	7264	7299	7414	8588	7623	7624	7625	7883
	8589	8590	8592	8593	7884	7927	7930	7934
	8594	9655	9859	9978	8142	8832	9518	9563
	295me	320me	341me		9607	9885	9904	
<i>Oncorhynchus gorbusha</i>	0318	0601			<i>Salmo salar</i>		0111	0154 0238
	1385	1557	1559	1567	0640	0644	0669	1276
	1568	1569	1574	2553	1340	1363	1383	2536
	3402	3403	3989	5620	to	2539	2674	2859
	6764	6768	6769	6862	3208	3408	3758	to
	6863	7907	7908	7958	3763	3961	3963	4126
	9941	200me			4128	4176	4341	4488
<i>Oncorhynchus keta</i>		1557	1560		4607	4886	4961	4963
	1563	1571	1579	1588	4964	5090	5205	5236
	1610	1994	2182	3406	5249	5361	5396	5474
	3989	6764	6768	6769	5983	5990	6250	6251
	6863	7301	7323	7958	6375	6679	7076	7081
	9164				7692	7859	8690	8691
<i>Oncorhynchus kisutch</i>		1543	1741		8869	9215	9223	9469
	4209	7640	7958	8820	9538	9630	9950	
	9921				<i>Salmo trutta</i>		0111	1030 0154
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<i>Caranx</i>	1749			4526	<i>Johnius</i>	0715	3423		8335
CENTRARCHIDAE				7939	<i>Julis</i>				7403
<i>Centropomus</i>				8203	LABRIDAE				5838
<i>Centropristis</i>	0521	8174		9676	<i>Labrus</i>				1967
<i>Cephalopholis</i>				3753	LACTARIIDAE				9915
CHAENICHTHYIDAE				4361	<i>Lagodon</i>			3292	9616
	5781				<i>Larimus</i>			3423	9372
<i>Cepola</i>				2024	<i>Lates</i>				8305
<i>Chaenocephalus</i>				0113	<i>Leiognathus</i>			1462	3701
<i>Chaetodontoplus</i>				8372	<i>Leiostomus</i>				3292
<i>Champocephalus</i>				0113	<i>Lepibema</i>				8878
<i>Cheilinus</i>				7403	<i>Lepomis</i>	0154	0195	0203	0306
CICHLIDAE	3442			8903		1550	2272	2279	2293
<i>Chorinemus</i>				9347		2544	2869	4151	4209
<i>Chromis</i>				8370		4210	4216	4401	6196
<i>Chrysophrys</i>	8367			9900		6391	7259	8135	8878
<i>Cichlasoma</i>				4127		9566	9674		
<i>Chironemus</i>				8713	<i>Lethrinella</i>				8269
<i>Coris</i>				6280	<i>Lethrinus</i>				8269
<i>Coryphaena</i>	1425	2106	4526	5966	LIOGNATHIDAE				9915
	8399				<i>Lucioperca</i>	2634	3008	3013	4559
<i>Crenilabrus</i>			0175	4585		4568	4569	4657	4660
<i>Cynoscion</i>	1607	3258	5088	6540		4667	6005	6397	7229
	9676					7563	8772	9567	9582
<i>Dascillus</i>				9871	LUTIANIDAE				4208
<i>Decapterus</i>	1475	1749	2024	3701	<i>Lutjanus</i>	1599	2765	2833	4415
	9372					5026	6570	9347	9688
<i>Dentex</i>				8335	MAENIDAE			0129	9915
<i>Diapterus</i>				2296	<i>Megalaspis</i>				1749
<i>Drepane</i>				9373	<i>Mene</i>				9347
<i>Elagatis</i>				3750	<i>Menticirrhus</i>				2000
EMBLOTOCIDAE				0018	<i>Micropogon</i>	2734	6451	6452	8203
EMMELICHTHYIDAE				8753	<i>Micropterus</i>	1537	2083	2293	2544
EPHIPPIDAE				6505		2888	3926	3958	4211
<i>Epinephelus</i>	1391	2281	2869	4526		4306	4701	5400	5415
	6260					5429	6010	6180	6196
<i>Eriscion</i>				6560		7259	7635	7934	8466
<i>Etheostoma</i>	2296	2544	3428	5424		8632	8720	9674	9904
	9953					9968			
<i>Etroplus</i>				1513	<i>Morone</i>				5418
<i>Eucinostomus</i>				9964	<i>Mullus</i>	0175	4797	5961	7851
<i>Evynnis</i>	0715	1425		7897		9060			
<i>Gazza</i>		1462		1749	<i>Mycteroperca</i>			3753	4526
<i>Gerres</i>				8370	<i>Mylio</i>			7894	8386
<i>Girella</i>				8337	NEMIPTERIDAE				0129
GIRELLIDAE				0129	<i>Nemipterus</i>			1475	3701
<i>Glyphisodon</i>				1511	<i>Nibea</i>				1751
<i>Gymnochanda</i>				4981	<i>Nothonotus</i>				3428
<i>Halichöres</i>				4526	<i>Oblada</i>			6282	8335
<i>Haplochromis</i>	0024	0674		4404	<i>Ophioscion</i>				3254
<i>Helioperca</i>				4598	<i>Pagellus</i>				7851
<i>Hemichromis</i>				9701	<i>Pagrus</i>				8335
<i>Hemigymnus</i>				7403	<i>Parapercis</i>				8713
HISTIOPTERIDAE				8753	<i>Parapristipoma</i>				8830

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<i>Perca flavescens</i>	2459	2888			5278	5286	5381	5486
5360	9912				6290	6400	6619	6669
<i>Perca fluviatilis</i>	0212	2634	3013		7343	7616	7780	8125
4180	4559	4568	4569		8159	8303	8467	8469
4658	5084	5545	5783		8472	8668	8902	9451
7447	8456	9248	9567		9944	9995		
9588	9597							
<i>Perca</i> sp.		3987	7551					8754
<b>PERCIDAE</b>	0196	4787	9962					4790
<i>Petrometopon</i>			3753		0175	0479	1749	1842
<i>Platax</i>		6505	9688		1846	2204	2445	2510
<b>POMADASYIDAE</b>			2205		3188	3964	3968	3997
<b>POMATOMIDAE</b>			8753		4832	5557	6178	6587
<i>Pomatomus</i>			3024		6588	7436	7653	7851
<i>Pomoxis</i>	2083	2544	4210	4216	7897	7898	8106	8370
8878	9674				9299			
<b>PRIACANTHIDAE</b>			8752	1.71	<b>UPENEUS</b>		2023	5961
<i>Priacanthus</i>			0715		<b>ANARHICHADIDAE</b>			1958
<i>Pristipoma</i>			9373		<i>Anarhichas</i>			6492
<i>Pristipomoides</i>			1425		<i>Blennius</i>	1449	1967	2008
<i>Promicrops</i>			7665			2503	5966	2154
<i>Pseudocaenichthys</i>			0113		<i>Centronotus</i>		1449	6524
<i>Pseudoscarus</i>			7403		<i>Chaenopsis</i>			6997
<i>Pseudosciaena</i>	0923	3423	9409		<i>Entomacrotus</i>			6357
<i>Pterophyllum</i>	0116	2124	6402		<i>Hypsoblennius</i>			9406
<b>RACHYCENTRIDAE</b>			9915		<i>Istiblennius</i>			6357
<i>Roccus</i>	0153	1742	2294	2544	<i>Labrisomus</i>		2057	8339
4211	5237	6187	6465		<i>Malacocentrus</i>			2057
6561					<b>PHOLIDAE</b>			6524
1,70	<i>Sargus</i>		7859		<i>Pholis</i>			2503
	<i>Scaridea</i>		7658		<i>Plectobranchus</i>			7885
	<b>SCIAENIDAE</b>	2203	9958	1,72	<i>Xiphasia</i>			3749
	<i>Sciaena</i>	3423	8865		<i>Ammodytes</i>		5926	9538
	<i>Selaroides</i>		1463		<i>Barathronus</i>			0695
	<i>Seriola</i>	0585	0600	1411	<b>OPHIDIIDAE</b>			4900
		1599	3413	5009	<i>Ophidion</i>			9408
		8390			1,73	<i>Callionymus</i>		0134
	<i>Seriolina</i>		3413		1,74	<i>Epinnula</i>		0695
	<b>SERRANIDAE</b>	0129	4208	4268		<i>Lepidopus</i>		8713
		8753				<i>Thyrsites</i>	3453	8713
	<i>Serranochromis</i>		2470			<i>Trichiurus</i>		0715
	<i>Sillago</i>	3467	3468			<i>Xesurus</i>		3023
	<i>Siphamia</i>		9401	1,75	<i>Cybiium</i>		1751	9347
	<b>SPARIDAE</b>		0129	8243		<i>Istiompax</i>		1598
	<i>Spicara</i>	0175	4786	7851		<i>Istiophorus</i>	0191	1419
	<i>Spondyliosoma</i>		5966				7901	
	<i>Stenotomus</i>		8875	9676		<i>Makaira</i>	0327	0486
	<i>Stizostedion</i>	1384	1544	2888			0925	1419
		4031	4130	5429			2010	2106
		7635	8878	5979			7903	9144
							9147	9148
							9149	
	<i>Synagris</i>		1451			<i>Pneumatophorus japonicus</i>		2114
	<i>Taius</i>		6411	8401			3014	7916
	<i>Terapon</i>	1391	1749	8370			9140	8623
	<i>Tilapia</i>	0224	0300	1391		<i>Pneumatophorus</i> sp.		1413
		2834	2878	3235		<i>Rastrelliger</i>	1475	3698
		3857	3935	4312		<i>Sarda</i>	0580	4490
				4578			8105	8867



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<i>Scomber</i> , gen.			6253	<i>Ophiodon</i>			5205
<i>Scomber scombrus</i>	0175	0400	0478	<i>Platycephalus</i>		1451	8335
	2154	2481	3576	<i>Pleurogrammus</i>		0601	7867
	5410	5926	6472	<i>Prionotus</i>			1607
	9371	9574		<i>Pterois</i>		9525	9526
<i>Scomber</i> sp.	0484	0596	0610	<i>Scorpaena</i>	0175	2815	4077
	3968	3996	3997		7959		6422
	7898	8477	9647	<i>Sebastes</i>	1232	3517	3562
<i>Scomberomorus maculatus</i>			5026		5036	to	5039
	5089				5043	5794	6411
<i>Scomberomorus</i> sp.			1391		6855	7234	7797
SCOMBRIDAE		5860	7268		7806	7807	7821
<i>Xiphias</i>	0486	4659	6477		7827	7831	7847
	8255				8406	8409	8689
1,76 ANABANTIDAE			5839	<i>Sebastodes</i>			2276
ANABANTOIDEI			5547	<i>Trigla</i>			8328
<i>Anabas</i>			0172	TRIGLIDAE			4703
<i>Betta</i>		1758	9627	1,80 <i>Auxis</i>		2106	2576
<i>Icticus</i>			9413	<i>Euthynnus</i>		0508	2576
<i>Macropodus</i>	2280	4181	6403	<i>Germo</i>	0261	0266	0614
<i>Osphronemus</i>		1511	5175		1803	1826	1827
<i>Pampus</i>			3469		2189	2571	2729
<i>Parastromateus</i>			3469		3425	4490	6174
<i>Psenopsis</i>		0715	7897		6543	6713	6868
<i>Stromateoides</i>		1749	1751		7900	9829	7513
<i>Trichogaster</i>		5829	9238	<i>Katsuwonus</i>		0262	0508
1,77 <i>Acanthogobius</i>			0613		1420	1425	1804
<i>Boleophthalmus</i>		1511	7387		2731	2732	2829
<i>Brachyochyrus</i>			6532		6542	6868	7162
ELEOTRIDAE			6506		9156	9470	8183
<i>Eleotris</i>			3979	<i>Neothunnus</i>	0192	0508	1237
<i>Evermannichthys</i>			6532		1425	2010	2829
<i>Garmannia</i>			3264		3425	5383	6174
<i>Gillichthys</i>			4171		6176	6868	7663
<i>Glossogobius</i>			0306		9143	9150	9151
GOBIIDAE	0016	6532	6993		9471	9922	9370
<i>Gobiomorus</i>			7856				
<i>Gobius</i>	1638	1967	2024				
<i>Kraemia</i>		4581	6357				
KRAEMERIIDAE			6357	<i>Parathunnus</i>	1419	3425	6174
<i>Oxyeleotris</i>			6506		6177	9155	9922
<i>Parioglossus</i>			9708	THUNNIFORMES		0187	0278
<i>Trigrigobius</i>			3264		0281	0486	0559
<i>Trypauchen</i>			3466		1246	1818	1828
1,78 <i>Acanthocottus</i>			2007		1832	1843	1987
<i>Congiopodus</i>			9220		2759	2760	2770
COTTOIDEI			4188		2831	2998	3429
<i>Cottus</i>	0020	2008	2503		3957	5166	5199
<i>Cyclopterus</i>			6251		5678	5860	6296
<i>Dendrochirus</i>			9525		6482	6483	6484
<i>Helicolenus</i>			8713		6494	6495	6499
<i>Hexagrammos</i>			8713		6573	6712	6966
<i>Lepidotrigla</i>			6411		7462	7614	7690
<i>Leptocottus</i>		0883	2276		7979	8028	8099
<i>Liparis</i>			8754		8199	8206	8219
<i>Myoxocephalus</i>	0020	0869	7871		8769	9142	9145
					9147	9149	9154

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	039me	117me	181me		Solea	0175	2084	3241	5926
	195me	249me	303me			8102			
<i>Thunnus maccoyii</i>			0925	1,86	<i>Rhynchobdella</i>				4183
<i>Thunnus thynnus</i>		0400	1409	1,87	<b>ECHENEIFORMES</b>				8686
	2106	3259	3425	4490	1,88	<b>TETRAODONTIFORMES</b>			8686
	5383	6174	6868	8369	1,89	<i>Balistes</i>			0102
	9235	9236	9574	9813		<i>Paramonacanthus</i>			3748
<i>Thunnus sp.</i>			9922			<i>Prevagor</i>			3748
<b>PLEURONECTIFORMES</b>			7416			<i>Triacanthus</i>			9703
	7866	8000	8406	8686	1,90	<i>Allomycterus</i>			9706
1,83 <i>Arnoglossus</i>			7851			<i>Chylomycterus</i>			3748
<i>Atheresthes</i>		8713	8784			<i>Diodon</i>		3022	3748
<i>Bothus</i>			8335			<i>Fugu</i>	1623	1624	1625
<i>Citharichthys</i>			7959			<i>Ostracion</i>			2115
<i>Cleisthenes</i>			2121			<i>Spheoroides</i>			9509
<i>Cynoglossus</i>	3462	4149	9373		1,91	<i>Tetraodon</i>	1511	4792	5829
<i>Etropus</i>		1391	8303			<i>Masturus</i>			2115
<i>Hippoglossoides</i>	2120	3670	5269			<i>Mola</i>			2115
	7417	7806	7913	8773		<i>Pseudomola</i>			2990
<i>Hippoglossus hippoglossus</i>			1232		1,92	<b>GOBIESOCIIFORMES</b>			6531
	2964	3411	3517	3554	1,93	<b>BATRACHOIDIFORMES</b>			8686
	5015	7797	7799	7821		<i>Opsanus</i>	2455	6996	8116
	8406	8412					9615		8838
<i>Hippoglossus stenolepis</i>	0274	0559			1,94	<b>LOPHIIFORMES</b>			8686
	1767	2088	4221	5671	1,95	<i>Histrio</i>			3253
	8198	8583	to	8587		<i>Lophius</i>		7871	8335
		9852	244me			<i>Ogocephalus</i>			3292
<i>Isopsetta</i>			8174		1,96	<i>Ceratias</i>			5787
<i>Lepidopsetta</i>			7913			<i>Gigantactis</i>			2565
<i>Limanda ferruginea</i>	0206	0626			1,99	<b>FISHES, MISC.</b>	0012	0038	0123
	7807						0156	0160	0183
<i>Limanda limanda</i>			4952				0188	0201	0249
<i>Limanda sp.</i>			7913				0266	0271	0275
<i>Microstomus</i>		0134	2276				0294	0296	0308
<i>Paralichthys</i>	0248	0250	1607	3256			0356	0378	0380
	4170	9676					0390	to	0394
<i>Parophrys</i>			7959				0398	0509	0510
<i>Platichthys</i>			7959				0513	0516	0535
<i>Pleuronectes cynoglossus</i>			3663				0559	0560	0561
<i>Pleuronectes microcephalus</i>			2011				0564	0568	0597
			3518	3576			0645	0648	0657
<i>Pleuronectes platessa</i>	0575	1978					0665	0668	0680
	2008	2011	2481	2503			0686	0696	0697
	3241	3990	4952	5041			0705	0720	to
	5084	5537	5926	5942			0725	0726	0727
	6625	6626	6854	7799			0736	0841	0847
	8752	9567					0871	0883	0916
<i>Pleuronectes sp.</i>	2170	7057	7913				0921	0922	0941
	9567						1033	1233	1234
<i>Pleuronectes hy.</i>			6492				1244	1282	1289
<b>PLEURONECTIDAE</b>			4653				1296	1297	1301
<i>Pseudopleuronectes</i>		0258	1392				to	1309	1313
	3663						1317	1319	1321
<i>Rhombus</i>	0575	2445	5942	7236			1325	1328	1329
	9567						1333	1334	1338
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1983	1984	1989	2009	4115	4135	4160	4187
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3162	3163	3167	3169	5006	5013	5026	5029
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	6538	6550	6554	6578	<i>Dotilla</i>			2472
	6579	6585	6592	7638	<i>Dromia</i>			7401
	7702	7753	7754	7857	<i>Ebalia</i>		0184	9507
	8129	8181	8189	8190	<i>Elamera</i>			7405
	8202	8364	8425	8427	<i>Emerita</i>			7886
	8687	8769	8846	8859	<i>Eriocheir</i>		6159	7334
	8863	9249	9825	9826	<i>Eupagurus</i>			2006
	9828	9832	9839	9914	<i>Eurynome</i>		0184	2501
	116me	139me	251me		<i>Galathea</i>			7401
	254me	338me	355me		<i>GALATHEIDAE</i>			2985
<i>Palaemon</i>		2512	2526	8302	<i>Goniopsis</i>			0116
<i>Palaemonetes</i>			0089	0184	<i>GRAPSIDAE</i>			8788
<i>Pandalus</i>	2513	2514	3537	6538	<i>Hemigrapsus</i>		2454	9612
<i>Parapeneus</i>				1986	<i>Hippa</i>			7401
<i>Parapeneopsis</i>				3464	<i>HOMARIDAE</i>	0282	1358	2220
<i>PENAEIDAE</i>			0633	0865		6365		
<i>Penaeus</i>	0276	0287	1439	1475	<i>Homarus</i>	0648	2128	2290
	1594	1834	1948	2001		2839	2840	3519
	2727	2752	2779	2819		3870	4016	4019
	2821	2903	3270	3464		5976	7280	7720
	3701	4207	5573	6480		8174	8500	8689
	6578	6579	7952	8217	<i>Hutchinsoniella</i>			0088
	8425	8426	8427	9080	<i>Hyas</i>			9951
	9668	9677	9772	9834	<i>HYMENOSOMATIDAE</i>			2472
	355me				<i>jasus</i>	1300	1304	1988
<i>Periclimenes</i>				2978		3968	3980	3985
<i>Processa</i>				9507		3999	4440	5802
<i>Sicyonia</i>		0248	2455			7983	286me	
<i>Synalpheus</i>			9336		<i>Justitia</i>			5995
<i>Systellaspis</i>			6102		<i>Libinia</i>			0866
<i>Trachypeneus</i>			5433		<i>Macrophthalmus</i>			7405
<i>Xiphopeneus</i>			2821		<i>Macropodia</i>			2892
2,29 <i>Acmaeopleura</i>			7465		<i>Maja</i>	2497	6640	7870
<i>Astacus</i>	0298	0525	0530	1242	<i>Matuta</i>			7390
	3056	3130	3386	4019	<i>Menippe</i>			0942
	4768	5680	5767	7362	<i>Neopanope</i>			9195
	8734	8791	9641		<i>Neophrops</i>		5926	9568
<i>Brachynotus</i>			9357		<i>Ocyopode</i>			7405
<i>Calappa</i>			7390		<i>OCYPODIDAE</i>			8788
<i>Callinassa</i>			1454		<i>Orconectes</i>	0402	0403	3741
<i>Callinectes</i>	0207	0866	2095	3292		8877	9948	
	6450	6565	6957	6998	<i>Oregonia</i>			9951
	7647	8184	8279	8499	<i>Pachygrapsus</i>		2130	7837
<i>Cambarellus</i>	0402	0403	8719	8729	<i>Pacifastacus</i>			9213
	8877				<i>Pagurus</i>			6378
<i>Cambarus</i>	0402	3741	7362	8734	<i>Palinurus</i>	2726	8021	8200
	9197	9337	9560			8204		8201
<i>Cancer</i>	2497	5859	6446	7870	<i>Panopeus</i>			0866
<i>Carcinides</i>				1816	<i>Panulirus</i>	0273	0276	0288
<i>Carcinus</i>	0109	0118	0119	0184		5995	6569	6583
						9823		8852

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<i>Paralithodes</i>	0256	0284	1554	1589	4227	4342	4363	4410
	2088	2187	2188	3474	4458	4462	4476	4486
	3989	4706	6551	7905	4501	4502	4505	4614
	7906	8395	8396	8551	4624	4695	4746	4862
	8552	9805			4976	4978	4979	4989
<i>Petrolisthes</i>				9113	5045	5165	5171	5276
<i>Pinnixa</i>				0867	5277	5278	5281	5550
<i>Pinnotheres</i>	0056	4909	7737		5565	5583	5591	5638
<b>PINNOTHERIDAE</b>			2472		to	5641	5643	to
<i>Polybius</i>			1400		5646	5660	5661	5669
<b>PORTUNIDAE</b>			3456		5677	5684	5685	5686
<i>Potamon</i>	0531	0532	3856		5693	5806	5808	5815
<b>POTAMONIDAE</b>			2989		5823	5915	5938	5939
<i>Procambarus</i>	0403	1390	3741	9948	5950	5952	5965	5974
<b>REPTANTIA</b>	0026	0132	3117		6039	6108	6200	6291
	3395	3449	4164	4439	6299	to	6335	6455
	5045	7632	7638	8500	6470	6472	6479	6487
	8685	9807	9812		6496	6541	6563	6571
<i>Scyllarides</i>				5995	6572	6577	6584	6586
<i>Stilbognathus</i>				7405	6592	6614	6617	6620
<i>Uca</i>	0338	0866	0885	2913	6650	6718	6867	6870
	3249	4082	6363	8275	6871	6880	6932	7112
<i>Thermosbaena</i>				0225	7244	7266	7271	7274
2,99 CRUSTACEANS, MISC.				0053	7281	7290	7394	7464
	0183	0202	0279	0342	7637	7697	7719	7720
	0384	0390	0397	0398	7757	7763	7775	7791
	0535	0560	0562	0566	7844	7845	7961	7983
	0581	0597	0657	0661	8007	8008	8009	8021
	0665	0668	0720	to	8026	8101	8110	8124
	0723	0725	0733	0736	8161	8176	8177	8178
	0847	1033	1036	1233	8194	8195	8197	8205
	1234	1235	1289	1296	8207	8208	8210	8211
	1297	1306	1308	1309	8213	to	8216	8220
	1319	1321	1324	1329	8224	8227	8319	8475
	1331	1335	1338	1340	8479	8545	8579	to
	1342	1343	1345	1349	8582	8595	to	8598
	1351	1360	1373	1388	8605	8628	8647	8667
	1401	1519	1529	1593	8677	8696	8732	8766
	1753	1764	1768	1817	8870	8897	8898	9105
	1837	1838	1839	1841	9107	9260	9266	9274
	1951	1982	1995	2073	9291	9374	9580	9719
	2078	2087	2229	2237	9729	9769	9791	9816
	2240	2248	2475	2493	9843	9844	9902	9974
	2535	2555	2560	2625	9991	033me	085me	
	2679	2704	2738	2755	099me	114me	116me	
	2757	2769	2780	2832	119me	172me	214me	
	2840	2902	3084	3096	219me	229me	231me	
	3194	3201	3215	3226	232me	233me	235me	
	3227	3274	3277	3292	236me	263me	269me	
	3295	3376	3380	3390	276me	356me		
	3396	3397	3399	3411	3,00 MOLLUSCS, GEN.	0003	0036	
	3470	3507	3553	3614	0051	0052	0055	0058
	3622	3644	3700	3702	0080	to	0084	0167
	3703	3705	3708	3732	0178	0190	0218	0219
	3734	3745	3753	4002	0328	0746	0751	0830
	4097	4194	4201	4203	0838	0840	0871	0876

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0906	0908	to	0914	7541	7542	7544	7547
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0935	to	0939	0943	7557	7596	7612	7650
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0985	1029	1030	1031	7685	7809	7875	7979
1157	1164	1183	1191	8003	8004	8005	8154
1219	1475	1481	1526	8234	8265	8317	8326
1602	1606	1618	1667	8410	8566	8602	8641
1701	1704	1759	1764	8692	8711	8787	8904
1768	1813	1837	1838	9102	9106	9118	9119
1839	1841	1959	2019	9123	9128	9158	9209
2076	2077	2111	2152	9212	9247	9268	9344
2266	2478	2517	2626	9352	9368	9439	9443
2800	3017	3044	3051	9449	9450	9492	9494
3054	3058	3061	3063	9495	9512	9522	9541
3064	3065	3067	3072	9547	9550	9575	9576
3074	3078	3084	3086	9602	9606	9635	9654
3088	3089	3090	3094	9670	9671	9723	9864
3101	3106	3107	3109	9891	9907	9924	9935
3115	3122	3124	3125	9974	033me	036me	
3127	3377	3385	3389	037me	038me	056me	
3392	3394	3418	3429	057me	058me	060me	
3522	3523	3538	3598	061me	063me	066me	
3599	3611	3614	3625	to	072me	074me	
3636	3637	3709	3942	075me	076me	079me	
3943	3944	3962	3967	082me	150me	198me	
3981	4019	4030	4095	257me	258me	259me	
4096	4204	4332	4348	278me	281me	289me	
4349	4352	4353	4354	319me	326me	351me	
4424	4609	4611	4617	3,03	<i>Ischnoradsia</i>		6984
4618	4620	4621	4626		<i>Katharina</i>		0331
4628	4629	4630	4632		<i>Mopalia</i>		0331
4693	4697	4698	4741		<i>POLYPLACOPHORA</i>		2137
4747	4751	4759	4761	3,05	<i>GASTROPODA</i>	1724	4136
4791	4804	4831	4852			5179	5241
5005	5011	5022	5059			6981	6982
5086	5087	5099	5122			8553	9290
5123	5124	5129	5131			9629	9634
5136	5154	5155	5198	3,06	<i>PROSOBRANCHIATA</i>		9691
5315	5320	5325	5327	3,07	<i>Acmaea</i>		6980
5328	5330	5462	5467		<i>Fissurella</i>		2268
5468	5491	5754	5758		<i>Gibbula</i>		1967
5761	5763	5771	5978		<i>Haliotis</i>	1802	4575
5989	5997	6113	6116		<i>Lamellaria</i>	2008	2503
6117	6190	6294	6464		<i>Monodonta</i>		0092
6592	6595	6758	6761		<i>Nassarivus</i>		0845
6762	6780	6833	6939		<i>Nerita</i>		0145
6944	6945	6966	6968		<i>Patella</i>	2497	2521
6969	6971	6972	6973			9161	9253
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					<i>Bullia</i>		2497
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	<i>Corvus</i>	2439	2976	2981	4402	<i>Ancylus</i>			0023 9437
	<i>Cymbiolacca</i>				0358	<i>Australorbis</i>	4007	4150	4524
	<i>Decipifus</i>				4572		5008	5247	8271 8272
	<i>Eupleura</i>			0093	5120	<b>BASOMMATOPHORA</b>			
	<i>Melongena</i>				3285	<i>Biomphalaria</i>			2473
	<i>Murex</i>				9877	<i>Bulinus</i>		2059	5247
	<i>Nassa</i>				4080	<b>ELLOBIIDAE</b>			
	<i>Nucella</i>				2484	<i>Gyraulus</i>			2636
	<i>Odostomia</i>				1619	<i>Helisoma</i>		1730	4174
	<i>Thais</i>			0183	4880	<i>Limnaea</i>	2159	3073	4078 4083
	<i>Trittia</i>				1619		4169	5246	5348 6419
	<i>Urosalpinx</i>	0093	1978	2484	5120		9074	9692	
		5970				<i>Melampus</i>		4533	4534
3,10	<i>Batillaria</i>				6985	<i>Planorbarius</i>			5247
	<i>Bithynia</i>				4143	<i>Planorbis</i>	4142	9559	9877
	<i>Calyptroea</i>			9226	9861	<i>Radix</i>			4143
	<i>Cerithidea</i>				2274	<i>Siphonaria</i>			1619
	<i>Crepidula</i>			0523	2497	<i>Spiralina</i>			4143
	<i>Cymatilesta</i>			2032	2213	<i>Taphius</i>		0140	4574
	<b>CYPRAEIDAE</b>				0027	3,14	<i>Cochlicella</i>		6266
	<i>Hydrobia</i>				033me	<i>Helix</i>		7870	9886
	<i>Littorina</i>	0157	2268	2497	2710	<i>Onchidium</i>			9531
		2893	8783			<i>Rosenia</i>			1619
	<i>Marisa</i>				4150	3,15	<b>PELECYPODA</b>	0035	0091 0549
	<i>Melania</i>				4173		0859	1755	2719 2945
	<i>Natica</i>				1978		3242	4460	4778 5117
	<i>Oncomelania</i>	5242	to	5245	6959		5152	5443	6513 6518
	<i>Opalia</i>				7385		6982	7618	7839 8496
	<i>Pauldomus</i>				7384		8497	9629	9634 9788
	<i>Pila</i>				7273		110me		
	<i>Polynices</i>				4540	3,16	<i>Anodonta</i>	0155	0185 3854 6641
	<i>Pomatiopsis</i>				6656		6663	7870	9687
	<i>Potamopyrgus</i>			2008	2503	<i>Arca</i>			9638
	<i>Velutina</i>				9197	<i>Botula</i>			1405
3,11	<i>Vivipara</i>	4160	4162	6958	7289	<i>Crassostrea</i>	0039	0041	0056 0334
	<i>Adalaria</i>				5258		0627	0864	0884 3447
	<i>Aplysia</i>	2438	2497	4122	9253		4302	7258	8790 9161
		6362	6987	7870	2503		9186	9190	9977
	<i>Berthella</i>				8662		199me	361me	
	<i>Berthelinia</i>				3463	<i>Crenella</i>			1405
	<i>Bursatella</i>				7399	<i>Gryphaea</i>	0028	2101	9302
	<i>Casella</i>				7399	<i>Margaritana</i>			5012
	<i>Chromodoris</i>				1600	<i>Margaritiphora</i>			9114
	<i>Creseis</i>				7399	<i>Melina</i>			0064
	<i>Discodoris</i>				6953	<i>Modiolus</i>	1405	9161	9500
	<i>Discia</i>				9516	<b>MYTILIDAE</b>			
	<i>Embletonia</i>				8296	<i>Mytilus</i>	0117	0137	0334 0539
	<b>OPISTHOBRANCHIATA</b>			2504			0875	0942	1377 1405
		4535					2483	3447	4019 6275
	<i>Petalifera</i>				6410		6393	6641	6795 6995
	<i>Philine</i>				2503		7607	7869	9161 9947
	<i>Philinoglossa</i>				9516	<i>Ostrea</i>	0028	0040	0212 0884
	<i>Pleurobranchus</i>			2503	2515		1303	1342	1810 1814
3,12	<b>PULMONATA</b>			9342	9343		1815	2049	2101 2208
							2745	2746	2747 2761



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	4458	4464	4476	4486	<i>Latax</i>				6213
	4501	4502	4505	4536	<i>Lutra</i>	4319	4321	4322	4330
	4538	4539	4614	4624		5910			
	4695	4976	4978	4979	<i>Mustela</i>			4325	4329
	4989	4998	5045	5165	4,06 <i>Arctocephalus</i>				5016
	5171	5276	5277	5278	<i>Callorhinus</i>	4221	4999	5222	5386
	5281	5440	5550	5565		7145	8185	8666	
	5591	5638	to	5641		135me	184me		
	5643	to	5646	5660	<i>Erignathus</i>				6523
	5661	5669	5677	5684	<i>Eumetopias</i>		2750	6514	9860
	5685	5686	5769	5771	<i>Halichoerus</i>	2458	3541	6232	6285
	5806	5815	5823	5915		6287	6523	7706	9205
	5938	5939	5952	5965	<i>Mirounga</i>				8740
	5968	5974	6039	6108	<i>Monachus</i>	0707	2565	4997	4998
	6161	6200	6291	6299	<b>OTARIIDAE</b>				7263
	6330	to	6335	6464	<i>Phoca</i>	2178	6127	6128	6521
	6470	6472	6479	6488		6662	7407	7877	7960
	6496	6541	6563	6571		8122	9318		
	6572	6577	6584	6586	<b>PHOCIDAE</b>				6522
	6592	6595	6614	6617	<b>PINNIPEDIA</b>	0062	0135	0212	
	6620	6650	6718	6867		0548	0559	1708	2841
	6870	6871	6880	6932		3279	4367	6126	6490
	6983	7045	7112	7244		6595	7059	7950	8442
	7266	7271	7274	7288	<i>Zalophus</i>				9214
	7290	7464	7467	7492	4,14 <b>DUGONGIDAE</b>				6399
	7516	7637	7697	7721	<i>Hydrodamalis</i>				5774
	7757	7763	7775	7791	4,15 <b>RODENTIA</b>				4318
	7844	7845	7961	7983	4,16 <i>Castor</i>		5910	6609	7923
	8007	8008	8009	8021	<i>Myocastor</i>	0302	6940	7337	8470
	8027	8100	8101	8110		9056			
	8124	8176	8177	8178	<i>Nutria</i>				5915
	8194	8195	8197	8205	<i>Ondatra</i>			6609	8718
	8207	8208	8210	8211	4,18 <b>CHIROPTERA</b>				4318
	8213	to	8216	8220	4,21 <b>CETACEA</b>	0016	0062	0073	0077
	8224	8227	8297	8319		0136	0270	0362	0559
	8475	8479	8545	8579		0648	0733	0882	0926
	to	8582	8595	to		1239	1330	1708	1839
	8598	8605	8628	8647		1848	2192	2248	2669
	8667	8677	8692	8696		2753	2873	2955	2957
	8704	8732	8766	8870		3134	3185	3542	3560
	8890	8897	9105	9107		3704	3968	4221	4364
	9136	9260	9266	9274		4365	4486	5028	5070
	9291	9374	9412	9580		5135	5288	5580	5607
	9719	9728	9769	9791		5623	5631	5634	5670
	9816	9843	9844	9902		5809	5948	6567	6595
9974	9991	051me	073me			6825	7026	7041	7058
	085me	116me	119me			7146	7662	7696	7778
	172me	198me	214me			8212	8218	8221	8244
	219me	229me	235me			8245	8246	8248	to
	236me	263me	269me			8251	8253	8256	to
	276me	356me				8260	8428	8429	8430
4,00 MAMMALS, GEN.		0110	1032			8431	8434	8440	8442
	2713	3981	5154	6338		8443	8444	8447	to
	036me					8450	8553	8885	8898
4,05 <i>Aonyx</i>				3856		9574	9800	9820	9864
<i>Enhydra</i>	2782	4975	4999	7145					

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	9913	9984	007me	034me	5,07	SALIENTIA	0567	3784	6663
		145me	161me	245me	5,10	Scaphiopus			5387
22	<i>Berardius</i>		4913	7208	5,11	<i>Bufo</i>	1730	1949	4971
	<i>Delphinarterus</i>		0223	4105		<i>Hyla</i>		5390	8346
		5584	5861	7208	8252	<i>Leptodactylus</i>			9506
		8435	to	8439	8441	5,12	<i>Rana</i>	0276	1502
	DELPHINIDAE	0310	0846	1336			5299	5391	5392
		3293	4317	5922	6520		8660	8853	9251
		7211	8553			5,29	AMPHIBIANS, MISC.		1502
	<i>Delphinus</i>	4783	4913	5819	6366		2543	4518	5248
		8875					8356	8556	5388
	<i>Globicephala</i>		6530	8252		5,30	REPTILES, GEN.	0110	0167
	<i>Lagenorhynchus</i>			4913			0350	2713	3981
	<i>Mesoplodon</i>			8661			6339	8343	8354
	<i>Neomeris</i>			6520		5,31	<i>Caretta</i>		4038
	ODONTOCETI			0104			CHELONIA		6932
	<i>Orca</i>			7208			<i>Chelonia</i>	1597	3755
	<i>Orcinus</i>			4913			<i>Chelydra</i>	0164	2295
	<i>Phocaena</i>		4316	6520			<i>Chrysemys</i>		8347
	<i>Physeter</i>	0078	0363	3184	4517		<i>Dermochelys</i>		2115
		4913	7208	7956	8247		<i>Emys</i>	0122	8146
		8648	9167	9382	9789		<i>Eretmochelys</i>		0164
	<i>Tursiops</i>		2298	2992	8252		<i>Graptemys</i>		2295
23	<i>Balaenoptera, gen.</i>		0074	0075			<i>Kinosternon</i>		2295
		0076	9789				<i>Lepidochelys</i>	5109	5923
	<i>Balaenoptera borealis</i>		4913	8446			<i>Lissemys</i>		0164
	<i>Balaenoptera musculus</i>		0078	8255		5,31	<i>Pseudemys</i>		2295
	<i>Balaenoptera physalus</i>		0078	2875			<i>Sternothaerus</i>		9960
		3437	4005	4478	4913		<i>Trionyx</i>		0164
		5028	7599	8254	8883	5,35	<i>Enhydrina</i>		2880
		9279					<i>Natrix</i>	0382	8342
	<i>Balaenoptera</i>	4913	7841	7956	8432		<i>Tropidonotus</i>		6396
		8653					<i>Vipera</i>		0382
	<i>Eschrichtius</i>			0079		5,36	<i>Alligator</i>		0121
	<i>Eubalaena</i>			4913			<i>Caiman</i>		0121
	<i>Megaptera</i>	0078	2956	3437	3452		<i>Crocodylus</i>	0120	0121
		4366	4478	5028	8261			0120	0121
		8445	8446	9239	033me	5,49	REPTILES, MISC.	2543	3292
	MYSTACOCETI	0074	0104	4478				4518	5248
		8433	9851			5,50	AVES	0110	5154
97	MAMMALS, AQUATIC	0648	0880				BIRDS, GEN.		2713
		1183	3376	3507	3930	5,58	<i>Aptenodytes</i>	4543	6122
		4320	4323	4324	4634		SPHENISCIDAE		6122
		4979	5123	5491		5,61	PROCELLARIIFORMES		6121
		5675	5915	8326	007me	5,62	<i>Anhinga</i>		7358
		289me					<i>Morus</i>		2441
99	MAMMALS, MISC.			8568			<i>Phalacrocorax</i>	3759	5002
00	AMPHIBIANS, GEN.	0110	0167			5,63	<i>Ardea</i>		3759
		0350	2713	3981	4683	5,64	<i>Anas</i>		4143
		5154	6339	8343	8354		<i>Mergus</i>	3759	4160
04	<i>Necturus</i>			2149		5,68	<i>Haematopus</i>		2896
05	<i>Ambystoma</i>			9878			LARIDAE		0679
	<i>Amphiuma</i>		2149	8242			<i>Larus</i>	4159	5079
	<i>Notophthalmus</i>			9959			<i>Rynchops</i>		7363
	<i>Salamandra</i>			9882			<i>Uria</i>		2282
06	<i>Siren</i>			2149		5,77	<i>Megaceryle</i>		9714

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		4138	4139	4995	5002			1938	2046
		5905	7491	7650	8121			4356	4779
		8326						5076	5077
5,89	BIRDS, MISC.				3322			5498	5499
5,93	POGONOPHORA		0090	3043				6525	7369
		4684	5566	7485				9345	9678
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5,94	TUNICATA	0053	4204	6340					
		6344	8810						
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5,96	<i>Ascidia</i>				4909	6,05	<i>Haemogregarina</i>		4520
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		9103	9752				<i>Myxobolus</i>		4880
	<i>Ascidia</i>				9662	6,07	<i>Glugea</i>		4880
	<i>Boltenia</i>				8150		<i>Myxosporidium</i>	5848	8460
	<i>Botryllus</i>				0126		<i>Nosema</i>		9680
	<i>Chelyosoma</i>				6401	6,09	<i>Triactinomyxon</i>		7380
	<i>Ciona</i>	0114	7869	7870			<i>CILIATA</i>	0086	2790
	<i>Clavelina</i>				2862	6,10	<i>Opalina</i>		9250
	<i>Cynthia</i>	7460	7461	8150	9163	6,11	<i>Blepharisma</i>		5170
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	<i>Salpa</i>	0128	2114	2115	6376		<i>Paramaecium</i>	0230	0234
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5,99	CHORDATES, MISC.	0597	1183				<i>Stentor</i>	2461	2701
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6,00	PROTOZOA	3981	4202	5061		6,13	PORIFERA	0019	2721
		6342	7875					4062	6236
6,01	MASTIGOPHORA,				4376	6,14	CALCAREA	4333	4334
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		9061	9900				5007	
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	<i>Celleporella</i>	0041 9321		<i>Magelona</i>		2519
	<i>Chaperiella</i>	4541		<i>Mercierella</i>		7608
	<i>ECTOPROCTA</i>	4204 7617 7998		<i>Oriopsis</i>		6956
	7999 8458			<i>POLYCHAETA SEDENTERIA</i>		
	<i>Electra</i>	9661			0576	8553
	<i>Flustrella</i>	0041 9321		<i>Polycirrus</i>	0143 6436	7257
	<i>Hippodiplosia</i>	4429		<i>Polydora</i>	8295 8809	9666
	<i>Membranipora</i>	7999		<i>Potamilla</i>		8798
	<i>Membraniporella</i>	4541		<i>Sabella</i>		3275
	<i>Micropora</i>	4541		<i>Salmacina</i>		8612
	<i>Plumatella</i>	9693		<i>Scoloplos</i>	0673	2705
	<i>Retevirgula</i>	4541		<i>Spirorbis</i>	0041 0043	3447 3455
	<i>Schizoporella</i>	2812	6,51	<i>Aulodrilus</i>		3860
	<i>Tremogasterina</i>	4541		<i>BRANCHIOBELLIDAE</i>		1793
6,43	<i>BRACHIOPODA</i>	0796 4204		<i>Ilyodrilus</i>		3860
	8013			<i>OLIGOCHAETA</i>	3103 4616	4760
	<i>Dallina</i>	2499 2500		<i>Rhizodrilus</i>		8391
	<i>Fallax</i>	2499		<i>Tubifex</i>	7870	9561
	<i>Lingula</i>	9363		<i>Uncinaria</i>		3860
6,45	<i>CHAETOGNATHA</i>	0709 1693	6,52	<i>GEPHYREA</i>	4685 7835	9999
	2210 6341 6412 8884			<i>Phascolion</i>		6158
	9394 9999			<i>Priapulid</i>		2167
	<i>Sagitta</i>	9076	6,53	<i>Acanthobdella</i>		4186
6,46	<i>ANNELIDA</i>	6342 9943 9999		<i>Erpobdella</i>		8684
6,47	<i>Dinophilus</i>	9355		<i>Haementeria</i>		8684

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	<i>HIRUDINEA</i>	1966	3095	4139	6,82	<i>Potamyia</i>			4211
		4155	4167	4186	4198	<i>Rhyacophila</i>			6978
		4622	6395	7457	9058	<i>TRICHOPTERA</i>	2707	2711	2723
		9334					3242	4305	4521
	<i>Hirudo</i>				4185	6,83	<i>LEPIDOPTERA</i>		3242
	<i>Limnatis</i>				3070	6,84	<i>Codiosoma</i>		6977
	<i>Makarabdella</i>				7694	<i>COLEOPTERA</i>		5338	5347
	<i>Myzobdella</i>				6957	<i>Dicranthus</i>			5354
	<i>Ozobranchus</i>				9858	<i>DYMTISCIDAE</i>	5350	5351	5352
6,54	<i>ARTHROPODA</i>	2700	4019	4203		<i>ELMIDAE</i>			5346
		6342	6389			<i>Helops</i>			6977
6,56	<i>Limulus</i>	0116	0156	3292	6231	<i>Hydroporus</i>			5344
		9523				<i>Hydrous</i>			5563
6,62	<i>ACARINA</i>	1964	2897	7853	9340	<i>Laccophilus</i>			5358
		9542	9577			<i>Nacerdes</i>			6977
	<i>Arrenurus</i>				7361	<i>Ocys</i>			6977
	<i>Eylais</i>				9542	6,87	<i>Ablabesmyia</i>		5570
	<i>HALACARIDAE</i>				1724	<i>Aedes</i>	1503	2173	5306
	<i>HYGROBATIDAE</i>				9341		8120	9949	6360
	<i>Litarachna</i>				9532	<i>Anopheles</i>	3159	5306	6360
	<i>Metarhombognathys</i>				2498		9265		8473
	<i>Pontarachna</i>				9532	<i>Chaetocladius</i>			9551
	<i>Rhombognath. des</i>				2498	<i>Chaoborus</i>		6941	6976
6,63	<i>Anoplodactylus</i>				9530	<i>CHIRONOMIDAE</i>		1782	3152
	<i>AUSTRODECIDAE</i>				5261		6976	7050	
	<i>Nymphon</i>				0168	<i>Chironomus</i>	1936	7711	9305
	<i>Pallenopsis</i>				4776	<i>Chrysops</i>			4522
	<i>PYCNOGONIDA</i>				0168	<i>Coelopa</i>			3539
	<i>Raillietella</i>				9081	<i>Culex</i>	4309	6360	6950
6,66	<i>INSECTA</i>	0012	0267	0581	0737	<i>CULICIDAE</i>			7964
		2712	3781	5006	5023	<i>DIPTERA</i>	0552	3539	5355
		5209	5333	5334	5342		9342	9343	7457
		5343	5348	5357	6204	<i>Ephydra</i>			9380
		6324	8274	8326	8803	<i>Eukiefferiella</i>			9551
		9386	9437	9890		<i>Glyptotendipes</i>			6967
6,71	<i>Isocapnia</i>				1499	<i>Mansonia</i>			4515
	<i>PLECOPTERA</i>				5335	<i>Mochlonyx</i>			4516
6,72	<i>ISOPTERA</i>				6323	<i>Paracladopelma</i>			9543
6,76	<i>Ameletus</i>				1496	<i>Pelopia</i>			2556
	<i>EPHEMEROPTERA</i>	4305	5337			<i>Procladius</i>			9551
		6504				<i>PSYCHODIDAE</i>			2722
	<i>Hexagenia</i>				4211	<i>SIMULIIDAE</i>			9510
6,77	<i>Aeshna</i>				5339	<i>Simulium</i>	2060	2895	4164
	<i>Anax</i>				5340		9073	9390	9996
	<i>Crocothemis</i>				1968	<i>Stenochironomus</i>			7048
	<i>ODONATA</i>	5332	5336	5341	6205	<i>TENDIPEIDAE</i>		3393	4615
		7688	8345	9341			5349		
6,79	<i>Belostoma</i>				0737	<i>Tendipes</i>		0755	2556
	<i>Buenoa</i>				7781	6,89	<i>ECHINODERMATA</i>	1971	2046
	<i>CORIXIDAE</i>				8280		2460	3049	3292
	<i>Gerris</i>				6652		4070	6341	6502
	<i>HEMIPTERA</i>				3438		7876	8807	9210
	<i>Krizousacorixa</i>				9216		9352		9345
	<i>NOTONECTIDAE</i>				5356	6,91	<i>Anareaster</i>		1407
	<i>Notonecta</i>				7781		<i>Asterias</i>	0212	1978
	<i>Velia</i>				6652		<i>ASTEROIDEA</i>	4746	6383
									9360

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	<i>Astropecten</i>	1975	4542	0946	0947	0984	0985
	<i>Asterina</i>		0066	1029	1030	1031	1033
	<i>Coranaster</i>		4542	1034	1036	1070	1157
	<i>Coscinasterias</i>	0065	4542	1164	1183	1191	1219
	<i>Luidia</i>		4542	1293	1475	1481	1526
	<i>Marthasterias</i>		9639	1593	1595	1602	1606
	<i>Patiria</i>		0867	1618	1658	1667	1693
	<i>Pisaster</i>		8277	1701	1704	1759	1788
	<i>Sclerasterias</i>		4542	1813	1948	1951	1959
6,92	<i>Ophiothrix</i>		4426	1992	2019	2056	2068
6,93	<i>Allocentrotus</i>	0036	2094	2073	2076	2077	2111
	<i>Arbacia</i>	0131 1399	2099 3356	2131	2152	2266	2478
		4555 6503		2517	2625	2626	2655
	<i>Centrostephanus</i>		2150	2800	2825	2861	2884
	<i>Clypeaster</i>		6503	2902	3017	3044	3051
	<i>Diadema</i>	2153	7840	3054	3058	3061	3063
	<i>Echinarachnius</i>		8731	3064	3065	3067	3072
	<b>ECHINIDAE</b>		0179	3074	3077	3078	3081
	<i>Echinocardium</i>	0672 2641	6503	3084	3086	to	3090
	<i>Echinocyamus</i>		6503	3093	3094	3099	3101
	<b>ECHINOIDEA</b>	1032 1700	2635	3106	3107	3109	3113
		4750 7353		3115	3122	3124	3125
	<i>Echinus</i>	2638	2641	3127	3149	3150	3151
	<i>Glyptocidaris</i>		8801	3191	3201	3226	3227
	<i>Heliocidaris</i>		2150	3237	3295	3374	3377
	<i>Lytechinus</i>	0330	2127	3380	3382	3384	3385
	<i>Micraster</i>		2529	3389	3392	3396	3397
	<i>Paracentrotus</i>	0653	2638	3399	3411	3412	3418
		2640 6503		3429	3470	3507	3522
	<i>Phyllasanthus</i>		2150	3523	3538	3598	3599
	<i>Psammechinus</i>	2509	2638 2640	3611	3614	3622	3625
		2641		3636	3637	3644	3709
	<i>Pseudocentrotus</i>		1619	3942	3943	3944	3962
	<b>SCUTELIDAE</b>		4073	3967	4030	4095	4096
	<i>Strongylocentrotus</i>	0183	0330	4135	4194	4202	4301
		0335 0862	2127 2135	4332	4348	4349	4352
		2641 7353	8715	4353	4354	4363	4424
	<i>Temnopleuris</i>		8802	4525	4549	4609	4611
6,94	<i>Actinopyga</i>		1399	4617	4618	4620	4621
	<i>Holothuria</i>		2090	4624	4627	to	4630
	<b>HOLOTHURIOIDEA</b>	0057	0087	4632	4693	4695	4697
		1219	4071	4698	4741	4747	4751
	<i>Stichopus</i>		7870	4757	4759	4766	4774
6,97	<b>INVERTEBRATES, AQUATIC</b>			4791	4804	4823	4831
		0003	0004 0036	4852	4862	4863	4868
		0051	0052 0055	4870	to	4878	4882
		0080	to 0084	4885	4886	4893	4895
		0178	0183 0190	to	4898	4976	4979
		0202	0218 0219	5011	5022	5059	5086
		0545	0581 0597	5087	5099	5122	5123
		0742	0751 0830	5124	5129	5136	5154
		0840	0868 0871	5155	5198	5315	5320
		0895	0902 to	5325	5327	5328	5329
		0908	to 0915	5414	5462	5468	5491
		0919	0926 0928	5501	5505	5583	5721
		to	0939 0943	5754	5758	5761	5763

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5771	5782	5974	5978	0858	0906	0908	0910
5989	5997	6113	6116	0911	0914	0918	0920
6117	6294	6295	6299	0922	0940	1030	1045
6592	6624	6708	6709	1154	to	1164	1166
6719	6758	6761	6762	1182	1188	1191	1194
6780	6791	6792	6833	1195	1204	1206	1448
6939	6944	6945	6949	1450	1455	1458	1467
6966	6968	6969	6971	1475	1476	1478	1479
6972	6973	7005	7007	1481	1518	1521	1522
7008	7009	7046	7049	1528	1602	1618	1667
7116	7122	7138	7139	1704	1707	1959	1999
7141	7144	7196	7197	2015	2017	2019	2040
7200	7202	7206	7233	2042	2043	2076	2077
7271	7327	7356	7360	2102	2152	2211	2266
7368	7375	7376	7381	2396	2456	2517	2557
7386	7392	7394	7410	2564	2626	2665	2695
7411	7413	7450	7479	2900	3017	3044	3050
to	7484	7491	7523	3054	3061	3063	3065
7524	7541	7542	7544	3075	3078	3083	3084
7547	7548	7549	7554	3087	3096	3097	3101
7556	7557	7596	7612	3110	to	3113	3123
7650	7673	7678	7679	3131	3149	3150	3194
7680	7685	7697	7710	3234	3377	3387	3388
7719	7721	7809	7838	3392	3405	3418	3429
7844	7845	7874	7957	3445	3522	3523	3570
7979	8000	8004	8005	3575	3598	3599	3611
8234	8265	8317	8326	3614	3625	3671	3682
8331	8410	8566	8602	3684	3690	3694	3709
8641	8679	8711	8732	3725	3881	3886	3887
8750	8782	8786	8792	3888	3893	3903	3907
8800	8904	9102	9118	3917	3918	3942	3943
9119	9123	9128	9158	3967	3981	4003	4029
9209	9212	9268	9291	4030	4093	4340	4348
9368	9439	9443	9449	4349	4350	4355	4406
9450	9454	9492	9494	4591	4592	4609	4610
9495	9522	9541	9546	4611	4617	4618	4619
9550	9575	9576	9602	4623	4625	4689	4696
9606	9638	9654	9669	to	4699	4775	4831
9670	9671	9709	9719	5099	5122	5136	5138
9723	9728	9864	9924	5139	5154	5181	5262
9942	9974	033me		5315	5327	5328	5414
036me	037me	038me		5467	5491	5567	5754
060me	061me	066me		5761	5989	5997	6104
to	072me	074me		6113	6132	6190	6216
075me	076me	079me		6249	6294	6443	6592
082me	085me	092me		6726	6758	6761	6780
119me	150me	206me		6939	6942	6943	6944
220me	257me	258me		6966	6969	6972	7052
259me	289me	319me		7053	7066	7116	7122
326me	351me			7139	7140	7141	7143
6,98	INVERTEBRATES, GEN.	0889		7194	7205	7327	7336
	5154	6342		7351	7356	7360	7371
6,99	INVERTEBRATES, MISC.	0842		7373	7394	7410	7411
7,00	ALGAE, GEN.	0036	0152	7425	7459	7465	7523
	0219	0367	0401	7541	7547	7548	7554
	0729	0751	0838	7569	7650	7678	7679

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7685	7710	7811	7838	7,08	<i>Enteromorpha</i>	0942	2274	4074
7979	7992	8147	8148			9503		
8153	8234	8265	8326		<i>Letterstedtia</i>			1493
8410	8550	8566	8603		<i>Stigeoclonium</i>			8622
8641	8679	8688	8707		<b>ULOTRICHINEAE</b>			8554
8708	8709	8716	8750		<i>Ulothrix</i>			6438
9102	9118	9119	9123		<i>Ulva</i>	0942	1671	2185
9128	9268	9366	9367			6438		2274
9391	9443	9468	9490	7,09	<i>Prasiola</i>			3920
9522	9602	to	9606	7,11	<i>Acrosiphonia</i>			3892
9654	9713	9854	9876		<i>Chaetomorpha</i>	1935	2274	4910
9924	9974	033me			<i>Cladophora</i>	1935	2185	2690
057me	060me	061me			<b>CLADOPHORALES</b>	8554		3896
062me	066me	to			<i>Pithophora</i>			5917
072me	074me	076me			<i>Rhizoclonium</i>			3890
078me	079me	081me			<i>Spongomorpha</i>			1935
082me	085me	122me		7,12	<i>Cephaleuros</i>			3683
179me	193me	230me			<i>Ochlochaete</i>			9985
248me	250me	326me			<i>Protococcus</i>			3118
351me					<i>Trentepohlia</i>			3683
7,01	<b>CHLOROPHYCEAE</b>	0370	1952	7,15	<i>Apirogyra</i>	3894	4910	8320
		3680	3885		<i>Zygnema</i>			8306
		6761	7352		<b>ZYGNEMACEAE</b>			3654
7,02	<b>VOLVOCALES</b>	2257	8554	7,16	<i>Cosmarium</i>			4910
7,03	<i>Apistonema</i>		8556		<b>DESMIDIACEAE</b>	0729	1738	
	<i>Chlamydomonas</i>	0329	1449			8554	6974	
		2134	4590		<i>Micrasterias</i>			9240
		9303			<i>Staurastrum</i>			3898
	<i>Dunaliella</i>		2098	7,17	<i>Acetabularia</i>	0368	2890	9874
	<i>Haematococcus</i>		8555		<i>Caulerpa</i>	1453	6240	9222
	<i>Lambertia</i>		8555			9987		9873
	<i>Polytoma</i>		8267		<i>Codium</i>	2890	3889	4427
	<i>Prasinocladus</i>		8555		<i>Halicoryne</i>			2890
7,06	<i>Ankistrodesmus</i>		1675		<i>Halimeda</i>			9222
	<i>Chlorella</i>	0343	0348		<i>Vaucheria</i>		3906	9872
		0373	1197	7,18	<i>Chara</i>			7378
		1673	1674		<b>CHARALES</b>			3689
		1682	3515		<i>Nitella</i>			7379
		3675	3676		7,23	<i>Monodus</i>		3909
		3924	4087		7,31	<b>CHRYSOPHYCEAE</b>		3914
		5301	5303		7,32	<i>Chlorodesmus</i>		9222
		6414	6415			<i>Chromulina</i>		6628
		7651	8114			<b>COCCOLITHOPHORIDACEAE</b>		0833
		9250	9269			<i>Coccolithus</i>		6627
		9309	9754			<i>Isochrysis</i>	0040	1449
	<b>CHLOROCOCCALES</b>	7976	5773			<i>Micromonas</i>		6628
	<i>Codium</i>		9496			<i>Monas</i>		3908
	<i>Glaucocystopsis</i>		9397			<i>Monochrysis</i>		1212
	<i>Hydrodictyon</i>		5917			<i>Ochromonas</i>	1676	3522
	<i>Oocystaenium</i>		7973			<i>Pedinomonas</i>		6628
	<i>Pseudococcomyxa</i>		8282	7,41	<b>BACILLARIOPHYCEAE</b>	0819		
	<i>Scenedesmus</i>	2697	3515			1165	1201	1211
		4120	6387			1457	1464	1693
		9271	7878			1722	3052	3066
	<i>Selenastrum</i>		3686			3085	3091	3232
7,07	<b>ULOTRICHALES</b>		3895					3233

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	3398	3532	4374	5757	7,73	<i>Padina</i>			1457				
	5972	6406	6761	7570	7,77	<i>Chorda</i>			7873				
	8681	8828	9089	9094		<i>Ecklonia</i>			9860				
	9396	9908				<i>Himantothallus</i>			9989				
7,42	<i>Asteromphalus</i>			2852		<i>Laminaria</i>	0041	0609	0829	0851			
	<i>Biddulphia</i>		6758	7691			1737	2693	2694	9990			
	<i>Chaetoceras</i>			8623		<i>Macrocystis</i>		0851	0927	1037			
	<i>Coscinodiscus</i>			7411		<i>Phyllogigas</i>				9989			
	<i>Cyclotella</i>			1477		<i>Undaria</i>			7732	7986			
	<i>Gossleriella</i>			7691	7,78	<i>Cladostephus</i>				3892			
	<i>Skeletonema</i>		6499	7906	7,80	<i>Cystoseira</i>				4687	4693		
	<i>Stephanopyxis</i>			7691		<b>FUCACEAE</b>	1200	6361	6681				
	<i>Thalassiosira</i>			6758		<b>FUCALES</b>				3899			
7,43	<i>Anomeoneis</i>			3233		<i>Fucus</i>	0041	3455	6442	6681			
	<i>Asterionella</i>			1704		<i>Himantalia</i>				3900			
	<i>Navicula</i>		8233	9407		<i>Notheia</i>				9421			
	<i>Nitzschia</i> (see <i>Phaeodactylum</i> )					<i>Pelvetia</i>				6681	8624		
		0854	3233	4199	6499	7,81	<b>RHODOPHYCEAE</b>			0370	0544		
	<i>Phaeodactylum</i> (see <i>Nitzschia</i> )									1952	3677	3685	3885
				3454						3916	6438	6441	6444
	<i>Pseudohimantidium</i>			1973						6922			
7,52	<i>Chroomonas</i>			1975		7,82	<i>Asterocytis</i>				3899	9985	
	<i>Cryptochrysis</i>			1976		<i>Porphyra</i>	1424	2201	2631	2802			
	<i>Cryptomonas</i>	1975	1976	1977			2881	3675	6385	8621			
	<i>Hemiselmis</i>			1975	1976	<i>Porphyridium</i>				4025	9756		
	<i>Rhodomonas</i>			1976	1977	<i>Smithora</i>					0361		
	<i>Sennia</i>				1976	7,83	<i>Laurencia</i>	2631	4072	6603			
7,61	<b>DINOPHYCEAE</b>			7921		7,84	<i>Asparagopsis</i>				3890		
7,63	<i>Exuviella</i>			1202		<i>Balbania</i>					3905	3906	
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7,66	<i>Gonyaulax</i>	3867	6673	6700	9504	<i>Thorea</i>						3906	
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2010	2011	2012	2191	2103	2105	2107	2116
2204	2441	2445	2458	2123	2143	2144	2149
2470	2508	2533	2750	2205	2209	2280	2281
2784	2824	2923	2964	2282	2447	2449	2471
2966	3005	3009	3010	2575	2576	2583	2584
3013	3016	3017	3022	2807	2990	3003	3007
3029	3030	3130	3203	3008	3011	3012	3013
3211	3212	3217	3235	3016	3032	3041	3042
3258	3266	3269	3424	3154	3187	to	3190
3468	3469	3537	3541	3207	3246	3253	3254
3940	4124	4125	4207	3255	3257	3258	3260
4299	4322	4360	4364		to	3264	3273
4365	4367	4368	4386	3325	3327	3329	3330
4517	4630	4635	4636	3331	3413	3423	3425
4637	4643	4700	4790	3428	3436	3466	3467
4791	4794	4795	4796	3724	3726	3747	to
4853	4928	4947	4958	3750	3783	3784	3817
4975	4981	4982	5016	3926	3930	3982	4218
5024	5055	5074	5088	4219	4225	4316	4317
5089	5109	5159	5175	4318	4336	4366	4518
5257	5486	5539	5548	4557	4579	to	4582
5556	5573	5775	5791	4584	4585	4586	4638
5976	6195	6199	6505	4641	4644	4654	4659
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6526	to	6534	6536	4900	4913	4921	to
6646	6649	6766	6966	4933	4935	4937	4945
6989	7058	7059	7145	4946	5027	5051	5053
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7332	7358	7408	7417	5205	5218	5239	5383
7419	7421	7422	7423	5387	5394	5398	5416
7488	7491	7497	7545	5430	5485	5528	5535
7551	7552	7553	7555	5541	5547	5772	5787
7562	7567	7585	7660	5829	5830	5838	5839
7665	7684	7707	7851	5840	5843	5844	5966
7879	7902	8102	8103	6001	6103	6175	6178
8121	8328	8441	8644	6181	6267	6268	6273
8717	8775	9114	9192	6282	6343	6357	6374
9205	9925	9926	9961	6391	6449	6647	6711
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181me	251me	252me		6962	6963	6988	6989
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0235	0247	0300	0342	7512	7546	7558	7562
0356	0521	0555	0557	7573	7575	7692	7745
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6.1 Systematics



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 0551 0556 0564 0600  
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 4661 4761 4786 4792  
 4797 4798 4799 4813  
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0604	0610	0611	0612	3437	3438	3440	3448
0636	0640	0648	0654	3452	3453	3525	3526
0670	0689	0692	0693	3528	3533	3542	3571
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0864	0869	0870	0880	3666	3726	3765	3768
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2664	2680	2681	2702	5367	5371	5387	5389
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6394	6396	6398	6399	9291	9318	9320	9328
6400	6403	6411	6416	9330	9372	9375	9379
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6679	6708	6712	6713	9534	9552	9554	9556
6722	6768	6778	6795	9565	9566	9568	9569
6825	6854	6859	6864	9572	9573	9585	9594
6866	6924	6925	6964	9607	9614	to	9617
6991	6993	6996	7060	9619	9621	to	9628
7062	7063	7065	7067	9630	9632	9636	9647
7077	7081	7098	7158	9675	9695	9698	to
7212	7213	7214	7224	9701	9705	9707	9731
7225	7228	7263	7270	9743	9744	9746	9751
7282	7299	7301	7335	9757	9856	9865	9867
7341	7363	7365	7382	9871	9878	9882	9885
7383	7386	7387	7389	9920	9921	9922	9941
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7875	7877	7880	7884	0378	0379	0548	0569
7894	7895	7905	7908	0575	0616	1380	1463
7911	7912	7913	7916	1502	1514	1542	1543
7923	7930	7936	7958	1559	1560	1576	1684
7959	7967	8024	8115	1748	1749	1751	1948
8116	8134	8135	8137	2048	2049	2065	2128
8142	8146	8243	8252	2179	2180	2181	2263
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8290	8302	8303	8314	2455	2510	2589	2627
8337	8341	8343	8345	2714	2825	2954	2963
8347	8348	8367	8368	2974	3000	3164	3191
8369	8373	8377	8384	3192	3194	3197	3198
8385	8392	8401	8433	3201	3226	3227	3250
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8478	8512	8543	8544	3332	3410	3517	3518
8545	8561	8562	8653	3519	3735	3785	3923
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7663	7694	7737	7929	5002	5006	5012	5027
7939	7956	7960	8000	5036	5039	5041	5043
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8626	8627	8713	8838	5104	5112	5118	5169
8839	9056	9062	9064	5180	5220	5236	5294
9068	9075	9077	9079	5404	5415	5418	5429
9080	9081	9167	9214	5460	5461	5465	5469
9215	9241	9351	9358	5474	5475	5481	5482
9398	9402	9422	9505	5534	5543	5544	5553
9508	9509	9520	9557	5558	5561	5581	5604
9558	9567	9582	9592	5656	5669	5672	5673
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	1608	1666	1687	7061	7066	7090	7148
	1739	1767	1787	7223	7227	7264	7325
	1810	1814	1815	7328	7355	7412	7414
	1853	1856	1857	7424	7438	7496	7580
	1861	to	1866	7581	7706	7713	7784
	1870	1871	1873	7785	7794	7802	7804
	1877	1881	1902	7806	7807	7813	7818
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8576	8579	8580	8581	2826	2833	2878	2894
8589	8605	8689	8721	3016	3019	3056	3130
8784	8804	8805	8817	3153	3212	3270	3386
8818	8820	8831	8878	3464	3468	3469	3769
9126	9140	9143	9145	3941	3964	3996	4001
9151	9153	9248	9348	4113	4216	4311	4341
9364	9371	9448	9452	4415	4635	4920	4942
9555	9562	9568	9588	4958	4963	4987	4992
9597	9647	9676	9806	5031	5070	5088	5089
9807	9859	9912	9914	5090	5166	5172	5237
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161me	195me	200me		5584	5604	5656	5671
249me	255me	268me		5674	5791	5859	5860
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	5270	5429	5782	8218	8221	8225	8245
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	8244	8257	8434	8426	8427	8504	8583
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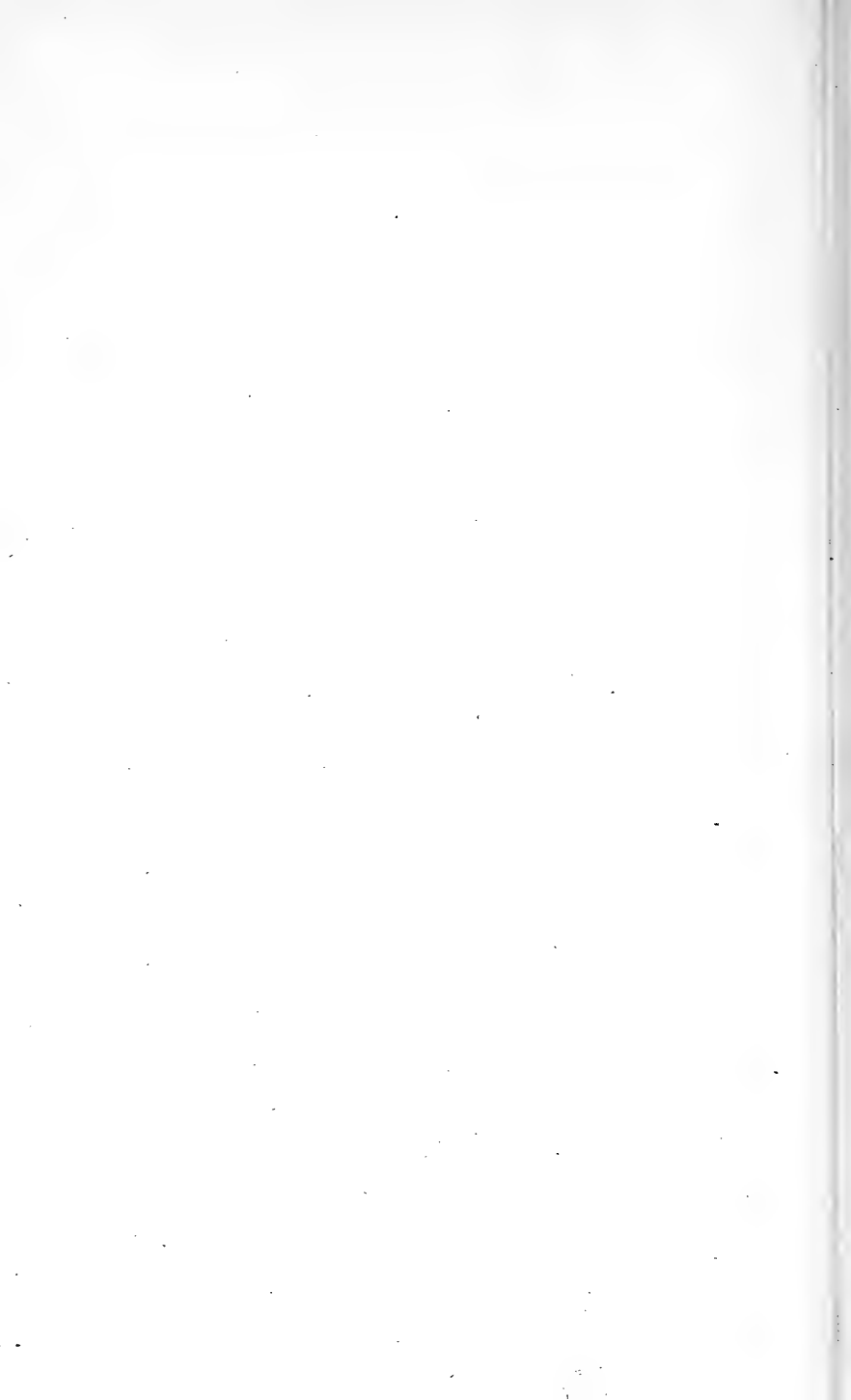
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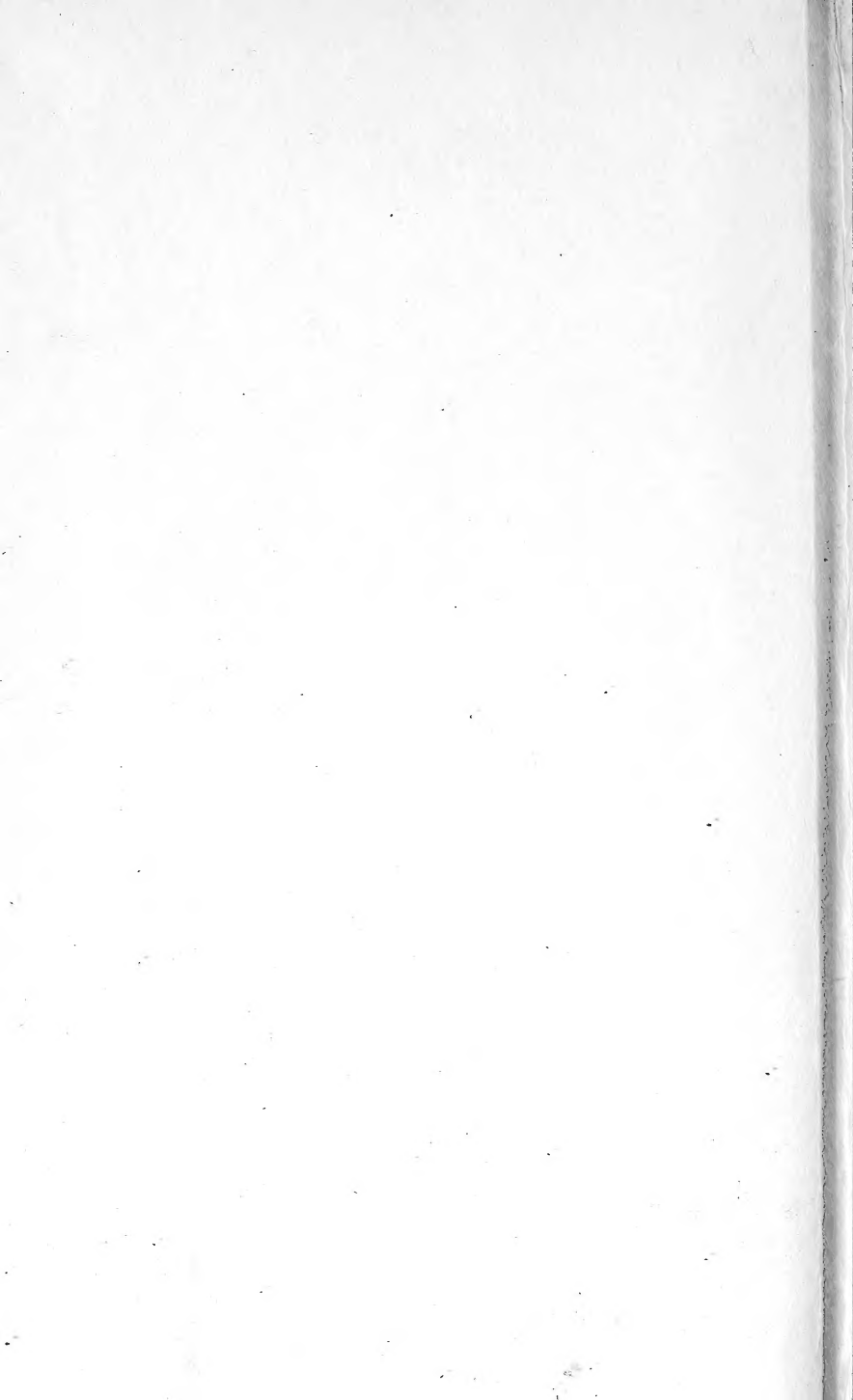












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