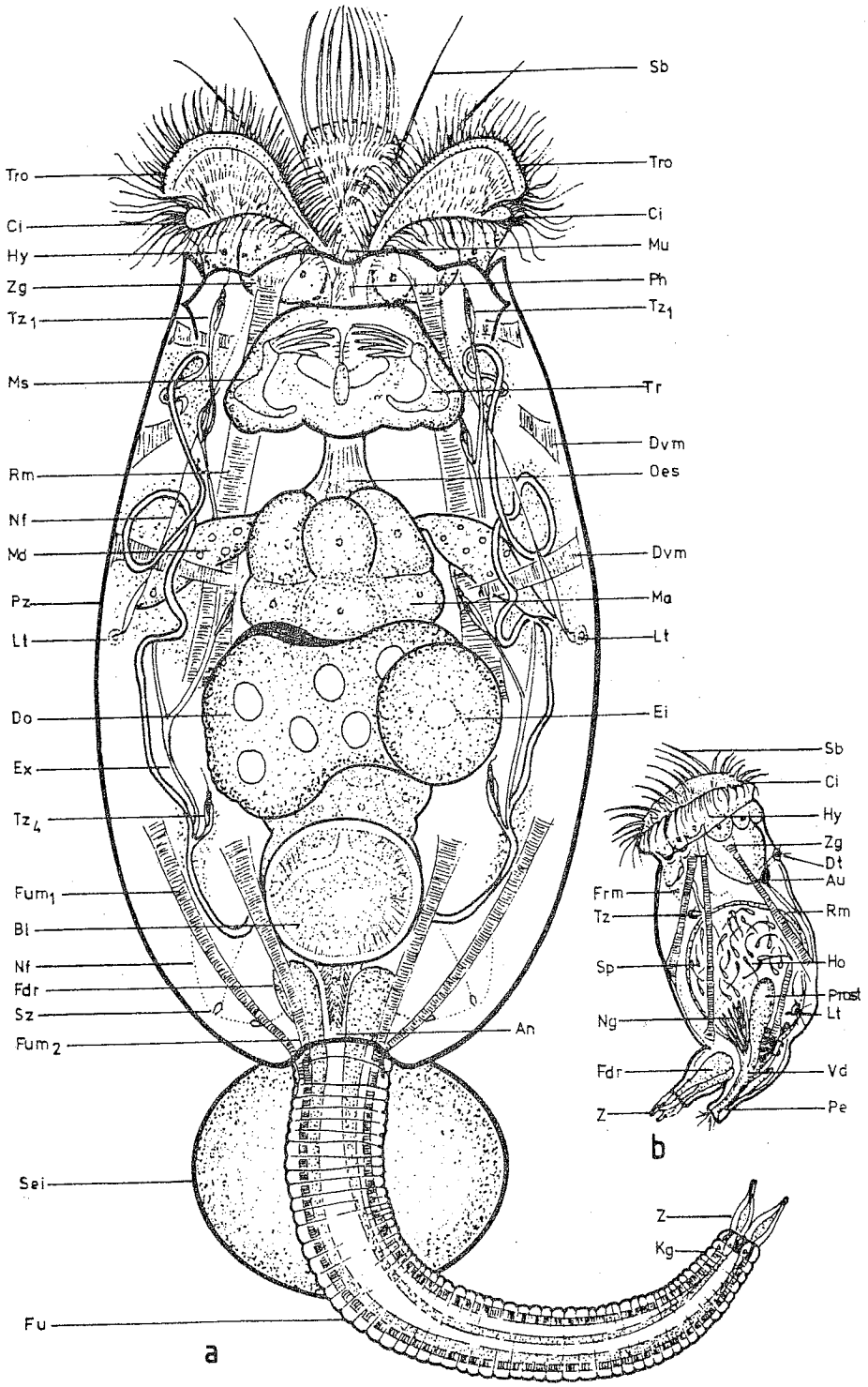
NUMBER 5 AUTUMN, 1982

ROTIFER NEWS

A Newsletter for Rotiferologists throughout the World



(Brachionus plicatilis, from W. Koste, Mikrokosmos .1980. p. 149)

Editors:

James R. Litton, Jr.
Biology Department
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ROTIFER NEWS is not part of the normal scientific literature (e.g. journals such as ECOLOGY, LIMNOLOGY AND OCEANOGRAPHY, and VERH INTERNAT VEREIN LIMNOL); therefore, it should not be cited as such. ROTIFER NEWS is a newsletter which prints citations of recent published literature, abstracts of papers published elsewhere, news, and notes about work in progress or such items being submitted for publication in regular scientific journals. ROTIFER NEWS is printed each Autumn. Please send reprints and/or references, news, notes, requests to either:

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PLEASE BE SURE TO INFORM THE EDITORS CONCERNING OTHER INVESTIGATORS WHO MIGHT WISH TO RECEIVE ROTIFER NEWS.

PRODUCTION OF ROTIFER NEWS

A letter quality copy of ROTIFER NEWS is produced at Ripon College from text files using a DEC PDP 11/70 as a text editor and the system programs EDT (editor) and RNO (runoff). (Automatic (computer) formatting results in some problems which we will try to circumvent in future issues (e.g., the lack of accents as found in French, German, Italian, Spanish, and etc., and splitting of addresses in the mailing list section.) A memograph reproduction of the copy is then made and printed at St Mary's College.

NEWS, NOTES, AND REQUESTS

Items received by either editor on or before 15 August 1982 have been included in this issue of ROTIFERS NEWS (No. 5), all other items we be published in issue No. 6.

The editors are sorry to inform our readers that we must request help in the mailing of ROTIFER NEWS. As you are well aware, international and even domestic mailing costs are quite high. We are requesting that the readers of ROTIFER NEWS support us in this valuable endeavor by honoring the suggested dues ($ 4.00 US dollars for two years - 4 issues) which are printed on the accompanying questionnaire which follows the last regular page of this issue.

As ROTIFER NEWS goes to "press" there are less than two weeks before the Third International Rotifer Symposium begins in Uppsala, Sweden. A detailed listing of Symposium III's program will be printed in the next issue of ROTIFER NEWS (planned for EARLY SPRING OF 1983). A reader has suggested that information pertaining to the Fourth International Rotifer Symposium be made available much further in advance than has been done previously. The editors will attempt to honor this request.

1. Back issues of ROTIFER NEWS are still available! If you need a back issue (1-4) of ROTIFER NEWS copies are available from Jim Litton. Your comments on any aspect of ROTIFER NEWS is requested by the editors! You may write either one inorder to let your interests be known.

2. Harmut Arndt requests information on the culture of brackish water rotifers from anyone having experience in that area (address given below).

3. Charles Hussey reports that he has been experimenting with scanning electron microscopy of several rotifers including: Asplanchna priodonta, Floscularia ringens, Trichotria pocillum, and Mytilina ventralis. This work is at present being put into a form suitable for presentation at the third International Rotifer Symposium.

Charles has also recently published the following work: A CHECKLIST AND BIBIOGRAPHY OF RECORDS OF ROTIFERA (ROTATORIA) FROM BRITAIN. Microfiche (1981) 10 fiches + 8pp. booklet.

ISBN 0 565 008447 12.00 pounds.

"Over 600 species have been reported from Britain. This checklist has been compiled from published records and is supported by an extensive biblography of over 970 sources. Additional data has been derived from specimens in the Collections of the British

Museum (Natural History). The work will guide the user through the labyrinth of nomenclatural changes afflicting this group and indirectly provides a chronicle of the long history of their study in this country. For each record, all available details are given of the authority, habitat and locality, and whether a figure or description is provided. A map reference, based on the National Grid has been included for each locality." (see below - Recent Literature.)

4. Mark White (address given below): would like to receive information on the media suitable for culture of Brachionus angularis, Keratella spp. and Filinia terminalis, especially when these species are grown together. Also he is particularly interested in information regarding the construction of chemostatic systems (chemostats). Anyone who is familiar with rotifer chemostat systems, has any information about chemostats, or knows someone who does, is requested to share that information with Mark!

5. Esther Lubzens (address given below) is interested in receiving English translations of papers written in German (especially Buchner et. al.)

6. Linda May has recently completed her Ph.D. Thesis. Following is an abstract of that work.

ABSTRACT

ECOLOGY OF PLANKTONIC ROTIFERS AT LOCH LEVEN, KINROSS-SHIRE

"The population dynamics of rotifers in Loch Leven was studied over a three year period (1977-1979) from samples collected at weekly intervals. Since up to 55 percent of the smaller rotifers may be lost when collected with a net of 45 micron mesh size, the samples were collected by volumetric methods and concentrated by sedimentation.

Loch Leven was generally well-mixed with rotifers distributed more or less randomly throughout the pelagic zone on most occasions. Population densities could, therefore, be estimated from only a small number of samples.

Rotifers are generally difficult to identify since little is known of their ecology and their morphology is often strongly influenced by environmentally induced polymorphism. In order to avoid any major systematic misunderstanding the species list for Loch Leven is accompanied by short descriptions of the animals with notes on the problem of identification.

Rotifers showed a distinct pattern of seasonal succession which appeared to be influenced, primarily, by species specific responses to changing water temperature. Many species showed a well-defined range of temperature preference beyond which their reproductive success was seriously impaired. Within this range of

temperature preference, the birth rate was dependent upon water temperature and food availability.

Many rotifer species appeared to be food specialists and some observations were made on their feeding habits. Attempts were made to culture rotifers on various algal species in the laboratory to test hypotheses suggested by field observations.

The predation of rotifers by Cyclopoid copepods, the predatory rotifer Asplanchna priodonta and larval perch is discussed. However, little quantitative information was available and the impact of predation on rotifer populations in Loch Leven is still unknown."

7. M. Bruzon Gallego is interested in receiving information concerning rotifer culture using algae and the yeast Saccharomyces cerevisiae. Anyone currently using such organisms as food for the culture of rotifers may contact Gallego at the address given below.

8. R.J. Shiel and W. Koste have (in preparation) a Key to the Australian Planktonic Rotifera. ROTIFER NEWS will inform its readers when this work is published. Shiel reports that he found a population of Synchaeta pectinata at 25,000 individuals per liter in a local reservoir in December 1981 (South Australia). This may well make the record books for highest population density!

If there are any other such major works in preparation (partially completed) please inform the editors so that we may included that information in the next issue of ROTIFER NEWS.

9. Gunter Tzschaschel is in the process of preparing a volume entitled "Rotatoria (Monogononta) for the new edition of "Brauer: Susswasserfauna Deutschlands" and also a synopsis of the interstitial rotifers. He is very interested in receiving reprints dealing with new species, redescriptions of known species, new proposals for systematic and/or taxonomic revisions, keys, etc. For his morphological studies he is interested in permanent preparations and drawings of rare species (to be returned to the owner as soon as possible). Gunter offers his aid to those collegues who are having problems in identifying rotifers. His address is given below.

10. Wayne Evans (address given below) is conducting research on the ecology of the sessile rotifer Cupelopagis vorax which occurs on Elodea leaves in small ponds near his laboratory. He would like to hear from anyone engaged in research on C. vorax or any other predatory sessile rotifer for an exchange of ideas and literature. He has successfully cultured C. vorax through three generations using filtered pond water in 50 microliter Cooke Histo-plates. (The pond water was filtered through a 37 or 64 micrometer mesh screen, then filtered two times througha Whatman # 5 qualitative filter paper. The water should be changed once daily.) The animals were fed epifaunal rotifers such as Lepadella.

Evans has submitted a paper to Hydrobiologia entitled: "Seasonal abundances of psammic rotifers in an acid mine polluted stream. (See also the list of recent literature below.)

11. Paul Turner requests help from his collegues. He is looking for references which might aid him in the identification of Rotifers from South Korea. (See addresses below).

12. R.L. Wallace has been asked by someone in the U.S. EPA for information on the geographic distribution of Philodina acuticornis. Anyone with ANY information concerning this species is requested to get in contact with Wallace (address given below).

13. Bruno Berzins (address see below) has several works in press including the list of titles which follows. "Zuz Kenntnis der Rotatorienfauna von Madagascar." "Contribution to the knowledge of Rotatoria of Australia." "Die Unterarten von Dissotrocha aculeata (Macrostyla)." "Short notes on Rotatoria."

14. Following are several abstracts that have been presented at the 45 th Annual Meeting of the American Society of Limnology and Oceanography, Inc., which was held June 14 - 17, 1982 at North Carolina State University, Raleigh, North Carolina. (NB: These are not all the papers presented at this meeting which might be of interest to rotiferologists. We only printed those abstracts for which the author's written permission was given.)

(A) N.G. Hairston, Jr., W.E. Walton, and W.R. Munns -- The timing of copepod resting egg production: An adaptation to unpredictable environments.

"For freshwater zooplankton, resting egg production represents a means of escaping harsh periods in the environment. The switch from subitaneous to resting eggs is usually considered to be induced by some environmental cue that presages the onset of unfavorable conditions. In 4 populations of Diaptomus sanguineus from both temporary and permanent ponds this switch appears to be more strictly regulated. Maturing females produce one or two clutches of subitaneous eggs and then make all future clutches resting eggs. This is true whether the harsh period comes in spring as it does in permanent ponds when fish feeding activity increases, or in late summer as it does when temporary ponds dry up. Computer simulations of competition between a variety of possible fixed and induced strategies show that when the onset of harsh conditions is even moderately unpredictable, a fixed sequence of subitaneous eggs first followed by resting eggs is nearly always dominant."

(B) R.E. Magnien and J.J. Gilbert -- Diel cycles of reproduction and vertical migration in the rotifer Keratella cochlearis and their influence on the estimation of population dynamics.

"Diel cycles of reproduction and vertical migration were observed in the rotifer Keratella cochlearis. A strong and persistant egg hatching synchrony was observed during the summer months when 73% to 93% of eggs hatched during an afternoon period of 6 to 7 hours duration. We hypothesize that this synchrony develops during oogenesis in response to diel changes in lake temperature. Vertical migration resembled a regular, wave-like pattern when mean depths of the population were examined. Migrations differed in timing, however, for ovigerous and non-ovigerous fractions of the population. Ovigerous animals reached their lowest and highest positions in the water column approximately 4 and 6 hr later, respectively, than non-ovigerous animals. Differences in timing produced diel changes in the depth profile of egg depths. On two successive years, sampling at different times of the day produced variations in egg ratio and the calculation of b, the instantaneous birth rate, that approached an order of magnitude."

(C) W.J. McManus -- Clonal Coexistence and the Evolution of Sex: A new look at Williams Aphid-Rotifer Model.

"Williams Aphid-Rotifer Model was modified to incorporate the coexistence of obligatory parthenogenetic clones. Computer simulation of this (modification) indicated that the coexistence of 2 - 4 obligatory clones reduced the effects of the proposed immediate selective advantage of facultative parthenogenesis. The coexistence of 5 or more clones had less additional effect. Also, the incorporation of recombination load to the model further reduced the proposed advantage of reproducing sexually. These results bring into doubt the importance of immediate selective pressures to account for sexual reproduction in cyclic parthenogens."

(D) P. Starkweather -- Rotifers and Blue-greens: Variability in behavior and trophic interactions.

"The cosmopolitan rotifer Brachionus calyciflorus is found in mesotrophic waters and is capable of feeding on many types of blue-green algae [bluegreen bacteria]. Despite this behavioral ability to consume diverse cell types, not all cyanophytes are utilized with equal efficiency, as assayed via feeding and life-table experiments. The blue-greens fall into 3 categories: 1. acceptable - supporting population growth at relatively low cell densities (e.g. Anabaena flos-aquae), 2. marginal - supporting growth only at high food densities (e.g. Synechococcus cedorum, and 3. unacceptable - not supporting population growth regardless of available cell densities (e.g. Microcystis aeruginosa). These results illustrate that generalizations which contrast the trophic value of eucaryotic versus cyanophyte foods are not sustained for this species, and perhaps for other rotifers which commonly co-occur with blue-greens. In addition, strain differences among conspecific cyanophytes may add significant variability to both feeding and life-table comparisons."

Starkweather is interested in hearing about other research documenting interactions between rotifers and blue-green algae: Subjects could include feeding, antibiosis, substrate interactions, etc.

15. Manfred Siebert (address given below) has developed with his collegues a new bioassay for the sublethal effects of chemicals. Basically they use parameters of rotifer population dynamics such as: carrying capacity, "little-r" (the intrinsic rate of natural increase), and the frequency of population level oscillations as bio-indicators of the sublethal effects of chemical substances. The rotifers are grown under controlled constant environmental conditions (25 degrees C, 15-ml experimental vessels, 1 X 10^6 algal cells/ml, and standardized medium). Up to the time of this entry (17 MAY 1982) they have tested pentachlorophenol, phenol, 4-nitrophenol, and 4-chloroaniline.

16. R. Gulati and coworkers have recently started a baseline zooplankton study of a number of shallow, eutrophic lakes that form an open system and receive nutrient-rich water from a river. In the very near future, these lakes will receive treated phosphate poor-water from Amsterdam-Rhine canal, instead of the polluted water. The main object of our study is to examine the changes in the rotiferan and cladoceran fauna, and their grazing pressure during the next several years.

Gulati also has a long term project (10 years) on Lake Vechten. In Lake Vechten rotifers are not important in terms of biomass, but they can reach rather high densities (4000-5000 individuals per liter) in short periods of time. The important genera in this lake are: Keratella spp., Kellicottia sp., and Asplanchna sp.

17. J.J. Gilbert has several reviews on rotifer reproduction biology in press to be published in: Reproductive biology of invertebrates. Editors: K.G. Adiyodi and R.G. Adiyodi; John Wiley and Sons. -- VOL I: Female reproductive system, female types, oogenesis, egg types and envelopes, and oviposition; VOL II: Biology of monogonont males, male reproductive system, spermatogenesis, and spermatozoa; VOL III: Accessory sex glands; VOL IV: Fertilization and development; VOL V: Sexual differentiation and behavior; VOL VI: Asexual reproduction and reproductive strategies.

18. R.L. Wallace is interested in receiving preserved samples of sessile rotifers (5% formalin if possible). Contributors are asked to please include relevant collection data (i.e. collector, location, date, water temperature, substratum, and habitat chemistries if available). <ADDRESS: Biology Department, 300 Seward street, Ripon, WI, 54971, U.S.A.>

19. Brian J Ford <Address: Scientific Unit, Mill Park House, 57 Westville Road, Cardiff CF2 5Df, U.K.> has the following paper

in press. "The Rotifera of Antony van Leeuwenhoek." Microscopy (1982).

20. Readers are requested to inform the editors their opinion on the following problem: Many of the papers which are currently being found by our searching methods (See opening paragraph to RECENT LITERATURE) are concerned with rotifers as food for fish larvae (etc.) and not really directed to the biology and ecology rotifers. What we would like to know from the readers is, do you wish to see these peripheral works in the recent literature or not. For the most part they have been included in this issue of ROTIFER NEWS.

21. So little information concerning rotifer culture media was sent to ROTIFER NEWS that no special section will be devoted to this topic in Issue #5. However, see Stemberger (1981) in the Recent Literature section.

22. Leonard Bennetch reports that he has a number of important rotifer reprints for sale. The library includes, "100 separate papers, comprising 2400 pages, 3440 rotifer listings, and 3132 descriptive drawings or figures." If you wish further details (a list of the papers) of this offer please write:

Leonard Bennetch
827 W. Market St.
Bethlehem, PA 18018
U.S.A.

A PARTIAL LIST OF SUBSCRIBERS TO ROTIFER NEWS ^_THEIR RESEARCH AREA

This is not a complete list of the Mailing list of ROTIFER NEWS. Most of the following people returned the questionnaire from the last issue, or verbally indicated their research interests to the Editors. A few names were added when the Editors discovered changes of address from reviewing the literature. The mailing list for ROTIFER NEWS is based on the list developed by John Gilbert (see past issues) and several new researchers who have recently discovered ROTIFER NEWS. Any rotiferologist who knows of other people who should be receiving it should let the editors know as soon as possible.

Hartmut Arndt, Jr Wilhelm- Pieck- Universitat Rostock Sektion Biologie Freiligrathstrasse 7/8 DDR-25 Rosrock 1	Population dynamics of Baltic estuarine rotifers; modelling of population dynamics, food consumption, nutrient release, mortality and natality, and rotifer patchiness.
Roland C. Aloia Department of Anesthesiology School of Medicine Loma Linda University Loma Linda, California USA 92350	Ultrastructural and biochemical parameters of the organs and organelles of rotifers, particularly the cell membrane structure/function relationships.
G.L. Barron Department of Environmental Biology Unviersity of Guelph Guelph, Ontario CANADA N1G 2W1	Fungal endoparasites of rotifers.
C. William Birky, Jr. Department of Genetics The Ohio State University Columbus, Ohio USA 43210	Developmental polymorphism in rotifers.
Kenneth Bogdan Department of Biological Sciences Dartmouth College Hanover, New Hampshire USA 03755	Feeding behavior of rotifers and the role of feeding in structuring fresh water zooplankton communities.
Leslie G. Brinson 206 Kirkland Dr. Greenville, North Carolina USA 27834	

British Museum (Natural History)
Cromwell Road London
ENGLAND SW7 5BD

Fred Burchsted Texas Memorial Museum 2400 Trinity Austin, Texas USA 78705	Faunistic and natural history of central Texas zooplankton with emphasis on the fauna of bogs.
Bruno Berzins Institute of Limnology University of Lund Box 3060 220 03 Lund SWEDEN	Rotifer taxonomy, The rotifer fauna from Madagascar, Australia, Greenland, Kambodga. Computer correlation analysis of Swedish rotifers and abiotic factors.
Nancy M. Butler Department EPO Biology University of Colorado Boulder. Colorado USA 80303	Ecology of sessile rotifers.
R. Chengalath Invertebrate Zoology Division National Museum of Natural Sciences Ottawa, Ontario CANADA K1A OM8	Ecology of Canadian rotifers.
Marcie L. Commins Department of Zoology University of California Davis, California USA 95616	
Margaretha De Ridder V. Van Malderlaan, 37 bus 3 B 1710 Dilbeek BELGIUM	
Stanley I. Dodson Department of Zoology Birge Hall University of Wisconsin Madison, Wisconsin USA 53706	
Mark W. Durand Department of Biological Sciences	Rotifer community structure. Rotifer-cladoceran interactions.

Dartmouth College
Hanover, New Hampshire
USA 03755

W.T. Edmondson
Department of Zoology
NJ-15
University of Washington
Seattle, Washington
USA 98195

Continued study of the zooplankton of lakes Washington, Soap, Lenore, the latter two which received ash from Mt. St. Helens

James L. Elmore
Environmental Sciences
Division
Oak Ridge National Lab
Oak Ridge, Tennessee
USA 37830

Effects of synthetic oils on rotifers and other zooplankton in experimental ponds. Population and community dynamics of rotifers.

Jolanta Ejsmont-Karabin
Polish Academy of Science
Institute of Ecology
Department of Hydrobiology
05-150 Lomianki
Dziekanow Lesny k. Warszawy
POLAND

Effects of weight, temperature, and food concentrations on P and excretion in zooplankton. Rotifers as components in P and N remineralization in lakes of different trophic status.

Hildegard Enesco
Department of Biology
Sir George Williams Campus
Concordia University
1455 de Maisonneuve Blvd. West
Montreal, Quebec
CANADA H3G 1M8

The use of Asplanchna brightwelli in aging research

Wayne A. Evans
Department of Biology
Union College
Barbourville, KY 40906
USA

Population dynamics of the rotifer fauna of sand bars in streams and freshwater beaches. Ecology of Cupelopagis vorax.

C.H. Fernando
Department of Biology
University of Waterloo
Waterloo, Ontasio
CANADA N2L 3G1

Systematics, ecology, zoogeography of zooplankton. Role of rotifers as food of fish.

Oruella Ferrara
Universita di Roma
Istituto Di Zoologia
"Federico Raffaele"
00100 Roma
Viale dell'Universita, 32
ITALY

Ireneo Ferrari
Istituto di Zoologia
Universita
Via Universita 12
43100 Parma
ITALY

Taxonomy of shallow water systems; dominance, deversity, colonization, and succession. Rotifers as indicators of water quality. Predator/prey relationships. Asplanchna feeding.

Frank Fiers
Koninklijk Belgisch Instituut
Voor Natuurwetenschappen
Vautierstraat, 29
B-1040. Brussel
BELGIUM

Systematics and biogeography of marine rotifers from the Pacific and Indian oceans.

D.J. Forsyth
Department of Scientific
and Industrial Research
P.O. Box 415
Taupo
NEW ZEALAND

Population dynamics, production and grazing rates of rotifers in lakes of the central volcanic plateau of North Island, New Zealand.

A. J. Francez
Laboratoire de Zoologie
Universite de
Clermont-Ferrand II
B.P. 45
F-63170 Aubiere
FRANCE

Taxonomy, morphology, ecological, studies of Sphagnum bog rotifers, including reproduction, population dynamics, and trophic relations, especially in Auvergne (French Central Massif).

Tom Frost
Trout Lake Station
Center for Limnology
University of Wisconsin
Madison, Wisconsin
USA 53706

Feeding ecology of planktonic rotifers.

M. Bruzon Gallego
Pemares
Casa Del Mar
5 a Planta
Cadiz
SPAIN

Mass culture of marine zooplankton, for example the Rotifer: Brachionus plicatilis and Artemia sp.

A.L. Galliford
46 Trevor Drive
Liverpool
ENGLAND L23 2RW

Zooplankton (including rotifers) of UK waters.

John J. Gilbert
Department of Biological
Sciences
Dartmouth College

Polymorphism in Asplanchna. Feeding rates and food selectivities of suspension-feeding rotifers. Competitive interactions between

Hanover, New Hampshire USA 03755	suspension-feeding rotifers and crustaceans.
Andre Gillard Faculty of Agricultural Sciences University of Ghent Coupure 533 B-9000 Ghent BELGIUM	Systematics of the Brachionidae.
Irena Grajner Uniwersytet Slaski Zaklad Ekologii Zwierzat ul. Bankowa 9 40-007 Katowice POLAND	
James Green Zoology Department Westfield College Hampstead, London NW3 7ST ENGLAND	Altitudinal and latitudinal variation in rotifers
John Green School of Science University of Waikato Private Bag Hamilton NEW ZEALAND	Taxonomy, distribution and population ecology of New Zealand planktonic rotifers.
Nevin E. Grossnickle University of Michigan Biological Station Pellston, Michigan 49769 USA	Culture, biossay, bioaccumulation studies on rotifers; use of rotifers as food for invertebrate predators.
R.D. Gulati Limnological Institute Vijverhoflaboratory Rijsstraatweg 6 3631 AC Nieuwersluis THE NETHERLANDS	Population dynamics of rotifers and cladocera in eutrophic waters; zooplankton grazing studies; zooplankton studies on Lake Vechten.
U. Halbach Zoological Institute University of Frankfurt D-6000 Frankfurt/M FEDERAL REPUBLIC GERMANY	
Horst Hertel Institut fur Tierphysiologie	

und Angewandte Zoologie
der Freien Universitat Berlin
1 Berlin 41
Grunewaldstrasse 34
FEDERAL REPUBLIC GERMANY

Wolfgang Hofmann
Max-Planck-Institut fur
Limnologie
Postfach 165
D 2320 Plon
FEDERAL REPUBLIC GERMANY

Role of rotifers in the limnetic zooplankton. Population ecology (Filinia); cyclomorphosis (Keratella cochlearis)

Charles G. Hussey
Department of Zoology
British Museum
(Natural History)
Cromwell Road
London SW7 5BD
ENGLAND

Curation of National Collections, Scanning Electron Micrographical studies on rotifers, Taxonomy of rotifers.

Sif Johansson
ASKO LAB
Institute of Marine Ecology
Box 6801
S 113 86 Stockholm
SWEDEN

Robert Keen
Department of
Biological Sciences
Michigan Technological
University
Houghton, Michigan
USA 49931

Developmental rates of eggs in fluctuating temperatures; population dynamics of predatory and prey rotifers.

Mark Kirkpatrick
Department of Zoology
NJ-15
University of Washington
Seattle, Washington
USA 98195

Quantitative genetics: tolerance to salinity varation and the heritability of rates of sexual VS asexual reproduction in B. plicatilis.

David Klarer
Old Woman Creek Natural
Estuarine Sanctuary
2005 Cleveland Road East
Huron, Ohio
USA 44839

Zooplankton energetics; seasonal distribution of planktonic rotifers.

Brigitte Koch-Althaus
Technische Universitat
Dresden

Quantitative determinations of rotifers populations. Saltwater rotifers; rotifers of sandy

Sektion Wasserwesen Bereich Hydrobiologie 8027 Dresden Mommsenstr 13 FEDERAL REPUBLIC GERMANY	soils.
Walter Koste Ludwig-Brill-Strasse 5 D-4570 Quakenbruck FEDERAL REPUBLIC GERMANY	Morphologie, Taxonomie, Systematik, und Okologie der monogononten Rotatorien. Tropische Faunengebiete;
Nicole Lair Universite de Clermont-Ferrand II Equipe d'Hydrobiologie Regionale B.P. 45 63170 Aubiere FRANCE	Systematique, dynamique, et ecologie des populations en lacs et eaux courantes.
David R. Lenat North Carolina Department of Natural Resources and Community Development 512 North Salisbury Street Raleigh, North Carolina USA 27611	Thermal pollution and aquatic ecology.
Maria Lewkowicz Experimental Fish Culture Station Golysz 43-422 Chybie POLAND	Zooplankton community structure and energetics. Zooplankton production in Carp ponds. Mass lab culture of Brachionus.
James R. Litton, Jr. Biology Department Saint Mary's College Notre Dame, IN USA 46556	Polymorphism in rotifers. Effects of tocopherols and related compounds on rotifers. Ecology of freshwater and marine rotifers.
Esther Lubzens Israel Oceanographic and Limnological Research Tel-Shikmona P.O. Box 8030 Haifa ISRAEL	Reproductive biology of Brachionus plicatilis, including: sexuality; resting egg production, preservation, control of hatching. Mass culture of rotifers.
Samuel J. Markello 4049 N. Boston Road Eden, New York USA 14057	

L.K. Matveeva
A.N. Severtsov Institute
of Animal Evolutionary
Morphology and Ecology
USSR Academy of Sciences
Leninskii pr. 33
Moscow 117071
USSR

Species composition, seasonal changes in density; vertical distribution of planktonic rotifers. Competition. Culture of Asplanchna spp. feeding, and developmental biology.

Linda May
Institute of Terrestrial
Ecology
78 Craighall Road
Edinburg
SCOTLAND

Laboratory culture of rotifers; Effects of food supply, water temperature on growth rates. Population dynamics. Rotifers of Loch Leven.

William J. McManus
Research Biologist
RMC - Environmental Services
Division
Muddy Run Ecological Lab.
P.O. Box 10
Drumore, PA
USA 17518

Clonal coexistence of rotifers. Evolution of sexual reproduction. Further analysis of the Williams rotifer-aphid model. Modelling.

George G. Mulamoottil
Faculty of Environmental
Studies
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Waterloo, Ontario
CANADA N2L 3G1

Thomas Norgady
Chemistry Department
Concordia University
Loyola Campus
7141 Sherbrooke St West
Montreal, Quebec
CANADA H4B 1R6

Use of fluorescence histochemical techniques in the study of the neuro-biochemistry and neuropharmacology of Brachionus and Euchlanis; Principal component and cluster analysis in the study of benthic rotifers.

Peter Ohm
Zoologisches Museum
Hegewischstrasse 3
D-2300 KIEL 1
FEDERAL REPUBLIC GERMANY

The Museum holds some rotifer collections (mainly KOSTE)

S. Parma
Limnological Institute
Rijsstraatweg 6
3631 AC Nieuwersluis
THE NETHERLANDS

Barbara L. Peckarsky

Department of Entomology
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Cornall University
Ithaca, New York 14850
USA

Birger Pejler
Institute of Limnology
Box 557
S - 751 22 Uppsala
SWEDEN

Rotifers as indicators of water quality and trophic status.

Rosalind M. Pontin
26 Hermitage Woods Crescent
St. Johns
Woking
Surrey GU21 1UE
ENGLAND

Rotifers from acid waters and newly formed ponds.

Roger Pourriot
E.N.S. Laboratoire de
Zoologie
46, rue d'Ulm
75230 Paris Cedex 05
FRANCE

Reproduction, dormancy, nutrition, population dynamics, and predator-prey relationships.

Stanislaw Radwan
Department of Zoology and
Hydrobiology
Academy of Agriculture
Akademicka 13
20-934 Lublin
POLAND

Biology, ecology, population dynamics, and secondary production of planktonic and littoral rotifers. Rotifers as indicators of trophy and saproby. Saline water rotifers.

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ITALY

Ecology and evolution of Bdelloid rotifers: life table studies and mass culture techniques.

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Predator- prey interactions: Chaoborous sp. predation on rotifers.

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Therapic
Abt. Limnologie

Population dynamics and secondary production of rotifers. Grazing and assimilation of different foods (algae) by planktonic rotifers

Aupenstelle Stechlin DDR-1431 Neuglobsow Alte Fischerhutte FEDERAL REPUBLIC GERMANY	
Jean-Claude Rostan Universite Lyon 1 Laboratoire de Biologie Animal et Ecologie 43 Boulevard du 11 Novembre 69622 Villeurbanne Cedex FRANCE	Studies of detritus food chains; Experimental approaches to the separation of detritus and fauna; ecology of fish ponds.
Agnes Ruttner-Kolisko Biological Station Austrian Acad. Sci. Lunz am See A-3293 AUSTRIA	Rotifer genetics: crossing geographically different strains of Brachinous plicatilis; Life history, growth rates. Influence of abiotic and biotic factors on population dynamics
George W. Salt Department of Zoology University of California Davis, California 95616 USA	Analysis of food preferences in Asplanchna and Asplanchnopus
Masaaki Sawada Department of Biology Concordia University Sir George Williams Campus 1455 De Maisonneuve Blv. West Montreal, Quebec, CANADA H3G 1M8	Rotifer aging research.
Peter Schaber Abteilung f. Limnologie Institut fur Zoologie Technikerstr. 13 A-6020 Innsbruck AUSTRIA	Taxonomy and ecology of zooplankton. Relationship of zooplankton to the trophic status of lakes
Reimar Schaden Colina Bl. A, ap 35 Campus Universitario 70.910 Brasilia - DF BRASIL	Ecology of planktonic and benthic rotifers. Cyclomorphosis of tropical species. Association indices.
Heinz Schulte Akazienweg 23 D 8300 Landshut FEDERAL REPUBLIC GERMANY	Taxonomy and ecology of bdelloid rotifers. Saprobiology of rotifers.
Russell J. Shiel	Population dynamics, trophic

Department of Biology University of Waterloo Waterloo Ontario M22 3G1 CANADA	ecology, systematics, and zoogeography of rotifers
Manfred Siebert Zoologisches Institut der J.W. Goethe - Universitat Arbeitsgruppe Okologie Siesmayerstrasse 70 D-6000 Frankfurt/M. 1 FEDERAL REPUBLIC GERMANY	Rotifer bioassay research: effects of chemical substances on rotifer population dynamics.
J.A. Sinkeldam Rijksinstituut Voor Natuurbeheer Kasteel Broekhuizen Leersum THE NETHERLANDS	Relationship of plankton and the trophic status of lakes.
Terry W. Snell Division Of Science University of Tampa Tampa, Florida USA 33606	Ecological genetics of rotifers: ecology and evolution. Aquaculture.
Vida M. Stout Department of Zoology University of Canterbury Private Bag Christchurch 1 NEW ZEALAND	General limnological studies of freshwater zooplankton in New Zealand lakes, particularly the influence of environmental factors on the populations. Studies of the marine species Seison.
Peter L. Starkweather Department of Biological Sciences University of Nevada Las Vegas, Nevada USA 89154	Feeding biology and behavior of rotifers.
Dave Strayer Section of Ecology and Systematics Cornell University Ithaca, New York USA 14853	Benthic micrometazoans, including rotifers.
Kuno Thomasson Vaxtbiologiska Institution Box 559	Freshwater planktonic rotifers: taxonomy, distribution, and ecology.

S-751 22 Uppsala SWEDEN	
Paul N. Turner 3709 Sandra Drive Fayetteville, N.C. 28304 USA	Taxonomy and distribution of rotifers: biogeography, climatic, and altitudinal affects. Variation within a single habitat.
Gunter Tzschaschel Institut f. Biologie II (Zoologie) Kopernikusstrasse 16 D-5100 Aachen FEDERAL REPUBLIC GERMANY	Taxonomy, systematics, phylogeny, ecology, and distribution of rotifers. See News and Notes above.
James E. Vancil Department of Natural Sciences and Mathematics Texas College Tyler, Texas USA 75702	Trophic analysis and watershed pollution. Rotifers of reservoirs in Texas, Oklahoma, Arkansas, and Louisiana. Rotifers of the Quetico Provinvial Pake and Okefenokee swamp.
Carole Verdone-Smith Biology Department Concordia University SGW Campus 1455 de Maisonneuve Blvd. Montreal, Quebec H3G 1M8 CANADA	Effects of temperature and dietary restriction on aging and reproductive patterns in Asplanchna. Effect of maternal age and life-span on aging in rotifers.
R.L. Wallace Biology Department Ripon College Ripon, Wisconsin USA 54971	Ecology, systematics, and evolution of sessile rotifers.
Norbert Walz Zoologisches Institut Seidlstr 25 D-8000 Munchen 2 FEDERAL REPUBLIC GERMANY	Chemostat cultures, experimental and lake populations dynamics, lab and in situ feeding experiments, competition studies,
Craig E. Williamson Department of Biology Williams Hall 31 Lehigh University Bethlehem, PA USA 18015	Selective predation by copepods on rotifers.
Manuel Yufera Instituto de Investigaciones Pesqueras de Cadiz Puerto Pesquero s/n	Physiology of Brachionus plicatilis in mass culture. Salinity-zooplankton relationships. Fingerling

Cadiz
SPAIN

breeding.

Nora P. Zankai
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HUNGARY

Zooplankton feeding in Lake Balaton

RECENT LITERATURE

The literature cited below has been gleaned from several sources including: BIOSIS (Dialog file 5), reprints sent to the editors of ROTIFER NEWS by the authors, information provided by various rotiferologists, Zoological Record, etc. The editors wish to thank the many researchers who have taken their time to inform us of relavent materials. We apologize for any incorrect citations which may follow! An attempt is always made to cite works completely and properly. We would like to be informed of any important errors in these citations; corrections will be published in the next issue (Number 6) which is scheduled for August 1983. Please note that Rotifer News (in its current home) is produced in draft and final forms using a DIGITAL PDP 11/70 computer as a text editor. This device is, unfortunately, not capable of adding the accents found in other languages. We are sorry about this, and agree that it detracts from the overall international flavor of ROTIFER NEWS, but there is little that can be done about it at the present time.

The editors encourage authors to send us reprints so that they can be properly cited and abstracted. Only if reprints are received can we properly annotate the citations. Some of the abstracted material found below has been copied directly from the author's abstract and/or textual material. Other material was copied from DIALOG file 5, Zoological Record, or specific information provided by the author. Still other material was abstracted by the editors. Since ROTIFER NEWS is not part of the scientific literature (see caveate on page one), but is rather a newsletter providing a service to researchers, we do not believe that this is a infringement on any copyright laws.

Most, but not all, of the following list of papers have as their major topic some aspect of rotifer biology.

Abdel-Malek, S.A. and Ishak, M.M. 1980. Some ecological aspects of Lake Qaron Fayoum Egypt 2. Production of plankton and benthic organisms Hydrobiologia 75(3):201-208.

Adalsteinsson, H. 1979. Zooplankton and its relation to available food in lake Myvatn, Iceland. Oikos 32(1-2):162-194.

Adamek, Z. and Sanh, T.D. 1981. The food of grass carp fry Ctenopharyngodon idella in southern Moravian Czechoslovakia fingering ponds. Folia Zool

Aleksandrov, V.V. 1980. Electric interactions of polarized water masses and zooplankton in water bodies. Gidrobiol Zh 16(5):13-19. <Language: RUSSIAN.> <A correlative relationship was established on a gradient between a quasi-stationary geoelectric field and the

quantity of microzooplankton in a surface water layer of an oligotrophic lake.>

Ali, A. 1981. Bacillus thuringiensis var israelensis ABG-6108 agaisnt chironomids and some nontarget aquatic invertebrates. J. Invertebr Pathol 38(2):264-272. <A wettable powder formulation of this bacteria was tested against chironomid larvae [as a controlling agent]. The highest dose in experimental ponds (2.5 ppm) had no adverse effects on rotifers.>

Ali, A. and Lord, J. 1980. Impact of experimental insect growth regulators on some nontarget aquatic invertebrates. Mosquito News 40(4):564-568.

Ali, S., Chowdhury, A., and Ray, A.R. 1980. Ecology and seasonal abundance of zooplankton in a pond in Tongi Dacca, Bangladesh. Bangladesh J Zool 8(1):41-48. <Rotifers and other zooplankton were studied in an artificial find pond.>

Ali, A. and Stanley, B.H. 1981. Effects of a new insect growth regulator UC-62644 on target Chrionomidae and some nontarget aquatic invertebrates. Mosquito News 41(4):692-701.

Amsellem, J. and Clement, P. 1980. A simplified method for the preparation of rotifers for transmission and scanning electron microscopy. Hydrobiologia 73:119-122. <A detailed description of TEM and SEM preparation.>

Amsellem, J. and Ricci, C. 1982. Fine structure of the female genital apparatus of Philodina (Rotifera:Bdelloidea). Zoomorphology 100(2):89-106.

Anderson, B.A., Benfield, E.F., and Buikema, A.L. 1977. Zooplankton of a swamp water ecosystem. Hydrobiologia 55(2):177-185.

Argentesi, F., De Bernardi, R., and Ricci. C. 1979. A simple parameter estimation technique for single species population models. Mem Ist Ital Idrobiol Suppl 37:201-212.

Arndt, H. Jr., Heerkloss, R. and Schnese. 1981. Patchiness and development of populations of Baltic estuarine rotifers. 7th Symposium of the Baltic Marine Biologists (BMB), Rostock, Aug 31 - Sept 4, 1981, Limnologica 15/2 (1983 in press).

Arndt, H. Jr., Schnese, W., und Heerkloss, R. 1981. Untersuchungen zur raumlichen Verteilung des Zooplanktons in einem flachen inneren Kustengewasser der Ostee. Wiss Ztschr. W.-Pieck- Universitat Rostock 30, Math. -nat. R. (in press). <Language: GERMAN>

Avendano, V. and Saiz, F. 1977. Taxocenosis de rotiferos limneticos de la laguna El Plateado. Anales Mus Hist nat Valparaiso 10:107-120. <Lanuage: SPANISH with ENGLISH summary.>

Babitskii, V.A. 1980. Microbenthos in three different types of lakes. Gidrobiol Zh 16(1):37-45. <Language RUSSIAN> <Information on the species composition, quantitative growth, and production of bottom microfauna (including rotifers) in three differnet lakes of different trophic status are described.>

Balvay, G. 1981. Biological consequences of treating a lake with hydrogen peroxide on the plankton biocenosis. Water Res 15(6):691-696. <Language: FRENCH.>

Balvay, G. and Laurent, M. 1981. Rotifers of the Lake Leman. Schweiz Z Hydrol 43:126-139.

Bancsi, I. 1980. The rotifera fauna of the flood-plain of the bog rog at Sarospatak. Tiscia (szeged) 15:61-92.

Barron, G.L. 1980. Haptoglossa mirabilis new species attaching rotifers by rapid injection of an infective sporidium. Mycologia 72(6):1186-1194. <H. mirabilis is described as a new endoparasitic oomycete which attacks rotifers. A solitary infection produces a large, cylindrical thallus with round ends. At maturity each thallus functions as a zoosporangium producing one or several evacuation tubes through which laterally biflagellate zoospores escape. Zoospores encyst after a swarming period. Each encyst zoospore then germinate to produce a remarkable hypodermic-like infection cell. Using this cell, the fungus

attacks rotifers by rapid injection of a walled, cylindrical sporidium which enlarges to become the thallus.

Barron, G.L. 1980. A new genus of the Zygomycetes. Can J Bot 58(23):2450-2453. <Brachymyces megasporus new genus, new species of the zygomycetes; isolated from garden soil. This species produces one to four very large blackish-brown conidia at the apex of short, stout, hyaline conidiophores. In contrast to the massive spores, the vegetative hyphae are extremely fine in diameter (ca 1.0 um). Hyphae attack rotifers which become filled with a broad convoluted, assimilative hyphae.>

Barron, G.L. 1980. Fungal parasites of rotifers, Harposorium. Can J Bot 58(20):2193-2199. <Two new species are described as parasitic on a species of bdelloid rotifer, genus Adineta. In H. angularis the conidia are long, slender, bent at right angles and taper to an acutely curved apex. Infection is initiated by conidia lodging and germinating in the gullet of the host between the mouth and the mastax. In H. cylindrosporum the conidia are also ingested but apparently pass through the mastax to initiate infection in the lower gut.>

Barron, G.L. 1981. Two new fungal parasites of bdelloid rotifers. Can J Bot 59(8):1449-1455. <Haptoglossa humicola (Oomycetes) and Tolypocladium trigonosporum (Hyphomycetes) are described as new endoparasites attacking rotifers, belonging to the genera Adineta

and Philodina, in soil. In H. humicola the laterally biflagellate zoospores produce spherical cysts each of which then germinates to form a specialized injection cell. The host is attacked by means of rapid injection of a sporidium through the cuticle. Each sporidium produces a thallus inside the host which at maturity functions as a zoosporangium. In T. trigonosporum, after infection, a network of curved anastomosing fertile hyphae produces a loose shell around the encysted host. Conidia are not produced under water, but in air these fertile hyphae give rise to solitary or clusteded phialides and triangulate conidia.>

Barron, G.L. and Tzean, S.S. 1981. A sub cuticular endoparasite impaling bdelloid rotifers using three-pronged spores. Can J Bot 59(7):1207-1212. <Triacutus subcuticularis (genus et species nov) is described as an endoparasite of the bdelloid rotifers. The infection hypha does not establish in the visceral tissue but grows in the pseudocoel between the cuticle and the epidermis. In this location the thallus grows and divides repeatedly to produce numerous unicellular assimilative segments which pack the subcuticular space of the living host. After death of the rotifer each hyphal segment produces 1 or several filiform extensions which bear solitary 1-celled, 3-pronged spores at the apex. Infection is initiated by the spore impaling the rotifers in the mouth region.>

Baticados, M.C., Gacutan, R.Q., and Gutierrez, P.J. 1977. Effects of furanace on Brachionus. Quarterly Res Rep Aquacult Dep SE Asian Fish Dev Cent 1(1):34-35.

Bazilevich, V.M. 1980. Zooplankton of canals in the southern Ukrainian-SSR, USSR and its food value. Gidrobiol Zh 16(5):130-131.

Bennetch, L.M. 1981. Hexarthra polychaeta: spec. nov. a new member of the genus Hexarthra from the United States. Microscopy (Lond) 34:192-194. <A rare species of rotifer is named, described and illustrated, and a comparison with some other members of the genus is given.>

Bertollo, L.A.C. 1977. Uma estimativa das variancias genotipica e ambiental no Rotifero Asplanchna. Ciencia Cult S Paulo 29(5):689-694. <Lanuage: SPANISH with ENGLISH summary.>

Berzins, B. 1980. Limnologiska Undersokningar I Ybbarpsan 1980. Perifyton och Plankton. <Biomass of periphyton and plankton in the Ybbarpsan system increased from June to July/August and decreased thereafter. A large portion of periphytic and planktonic organisms were washed out due to unusually high precipitation during summer/fall. The successive increase in eutrophication was interrupted this year, with exception for the lower points where waste discharge gave a higher degree of eutrophication.>

Berzins, B. 1982. Short notes on Rotatoria. 8 p. with 2 plates. <Institute of Limnology, University of Lund, Sweden.>

Berzins, B. 1982. Zur Kenntnis der Rotatorienfauna von Madagascar. 24 p. with 12 plates. <language: GERMAN>

Bielanska-Grajner, I. 1980. Nowe dla Gornego Slaska Gatunki wrotko (Rotatoria) <New species of rotifers (Rotatoria) from Gorny Slask Poland. Fragmenta Faunistica (Warsaw) 25(19):325-333. <Language: POLISH> <Biogeographical study of rotifers from Gorny Slask, Poland> <The editors have received two different references to this work; one has the issue number as being 19, the other has it as 18. Any reader who knows the correct issue number is requested to inform ROTIFER NEWS.>

Bilinski, S. and Ksiazkiewicz, M. 1980. Nurse cells: Ultrastructure and origin. Postepy Biol Komorki 7(4):287-304. <Language: POLISH> <Address: Ul. Karasia 6,30-060 Krakow, POLAND> <With the exception of certain members of the Dipteran family Cecidomyiidae, nurse cells are found in the ovaries of rotifers, annelids, tardigrades, crustaceans, mites, insects, and lizards. The nurse cells are sister cells in relation to the oocyte and remain connected with it by means of cytoplasmic bridges or trophic cords.>

Blakar, I.A. and Jacobsen, O.J. 1979. Zooplankton distribution and abundance in seven lakes from Jotunheimen, a Norwegian high mountain area. Arch. Hydrobiol 85:277-290.

Bogdan, K.G. and Gilbert, J.J. 1982. The effects of posterolateral spine length and body length on feeding rate in the rotifer, Brachionus calyciflorus. Hydrobiologia 89(3):263-268.

Bogdan, K.G., Gilbert, J.J., and Starkweather, P.L. 1980. In situ clearance rates of planktonic rotifers. Hydrobiologia 73:73-77. <The in situ clearance rates of several rotifer species from a small, temperate eutrophic lake were mearsured using three radioactive tracer cell-types, a bacterium (Aerobacter), a yeast (Rhodotorula) and alga (Chlamydomonas). Rates were below 10 ul/anim/h but varied significantly among species. Keratella cochlearis, Kellicottia bostoniensis, and Conochilus dossuaris ingested all three tracer cells but rates varied substantially with tracer cell-type. Polyarthra dolichoptera and P. euryptera ingested only the algal cells. Co-occurring forms of K. cochlearis and species of Polyarthra differed markedly in size and in tracer cell utilization, indicating niche diversification in food resources.>

Boshko, E.G. 1978. "The parasites and symbionts of Astacus (=Pontastacus) leptodactylus Esch. in Udai river (Dneprov basin). pp: 16-20. In (A.P. Markevick ed.) Problems of Hydroparasitology, Naukova Dumka, Kiev. p 180.

Boshko, E.G. 1980 Rotifers: Rotatoria of the gill chamber of the crayfish Astacus leptodactylus of the Dnieper Basin Ukrainian-SSR, USSR. Vestn Zool 0(5):15-21. <Language: RUSSIAN>

Boltovskoy, A. and Urrejola, R. 1977. Dos nuevas especies del genero Keratella (Rotatoria) de Tierra del Fuego, Argentina. Limnobios 1(6):181-187. <Lanuage: SPANISH with ENGLISH summary>

Boraas, M.E. 1978. A chemostat system for the study of rotifer-algal-nitrate interactions. In: Kerfoot, W.C. (Ed.) Evolution and ecology of zooplankton communities. pp 173-182. Special symposium Volume 3 American Society of Limnology and Oceanography. University Press of New England, Hanover, New Hampshire, USA. <A method is described for long-term continuous culture of rotifers (Brachionus) on a green alga (Chlorella) in a defined medium, both in two-stage chemostats and in mixed culture. At constant environmental conditions, the cultures are stable and reproducible. Steady states are independent of initial conditions. In general, the results agree with previous work on bacteria and protozoa.>

Boshko, E.G. 1980. Rotifers: Rotatoria in long-clawed crayfish gill cavity from the Dnieper River basin, Ukrainian-SSR, USSR 2. Vestn Zool 0(6):41-46. <Language: RUSSIAN.>

Bosselmann, S. 1981. Population dynamics and production of Keratella hiemalis and Keratella quadrata in Lake Esrom Denmark. Arch Hydrobiol 90(4):427-447. <The production of these two rotifers was estimated by the linear method.>

Burns, C.W. and Mitchell, S.F. 1980. Seasonal succession and vertical distribution of zooplankton in lakes Hayes and Johnson, New Zealand. N Z J Mar Freshwater Res 14(2):189-204.

Burwitz, P. 1977. Eine sonderbare "Koloniebildung' des Radertieres Philodina megalotrocha. Mikrokosmos 66(10):293-294.

Calvi, P.C., Ferrari, I., and Mazzocchi, M.G. 1979. Effetti della marea sulla distribuzione di popolazioni zooplanctoniche in un ambiente lagunare. Mem Ist Ital Idrobiol 37 (Suppl):95-106. <Language: ITALIAN>

Campbell, J.M. and Haase, B.L. 1980. Availability of suitable phytoplankton food for zooplankton in an ice-covered lake. Hydrobiologica 79:113-119.

Cantelmo, F.R., Tagatz, M.E. and Rao, K.R. 1979. Effects of barite on meiofauna in a flow-through experimental system. Mar Environ res 2(4):301-310.

Capelli, G.M. 1980. Seasonal variation in the food habits of the crayfish Orconectes propinzuus in Trout Lake, Vilas County, Wisconsin, USA (Decapoda:Astacidea:Cambaridae). Crustaceana

(Leiden) 38(1):82-86.

Capozzo, J.M. 1979. The effects of halogen toxicants on survival, feeding, and egg production of the rotifer Brachionus plicatilis. Estuarine Coastal Mar Sci 8(4):307-316.

Carter, J.C.H. 1979. Zooplankton of the lower Matamek river, Quebec, Canada. Nat Can (Que) 106(5-6):539-546. <Diel sampling of zooplankton in a lotic system.>

Chandra, M.P. and Kameswara, R.R. 1976. Epizoic rotifers observed on Odonata nymphs from Visakhapatnam. Science Cult 42(10):527-528.

Cho, K.S., Cho, D.H., and Yoon, K.M. 1978. Biological studies on the effects of sewage disposal of Chuncheon cities on the physicochemical water quality of Uiam Reservoir. Korean J Limnol 11(3-4):7-24. <Language: KOREAN with ENGLISH summary>

Chuikov, Yu S. 1979. Zooplankton of purification reservoirs of the Astrakhan Oblast Russian-SFSR, USSR. Gidrobiol Zh 15(6): 57-60. <Language RUSSIAN> <Address Astrakhan State Reserve, Astrakhan, USSR> <Planktonic communities with one dominant zooplankter species (usually Brachionus calyciflorus) and high functional indices (filtration rate and energy material conversion) are formed in small artificial sewage disposal ponds (0.5 ha). The only predators are insect larvae.>

Clement, P. 1980. Phylogenetic relationships of rotifers as derived from photoreceptor morphology and other ultrastructural analyses. Hydrobiologia 73:93-118. <Very stimulating reading and excellent photomicrographs. Should be read by every rotiferologist, RLW.>

Clement, P., Amsellem, J., Cornillac, A.-M., Luciani, A., and Ricci, C. 1980. An ultrastructural approach to feeding behaviour in Philodina roseola and Brachionus calyciflorus (Rotifers). I. The buccal velum. Hydrobiologia 73:127-132. <The structure situated in the lumen of the buccal tube, called here 'buccal velum', separates the buccal space from the pharyngeal space. The velum is a supple membrane-pile. Its structure resembles that of a fish-trap. The food, once ingested, cannot go back into the buccal lumen.>

Clement, P., Amsellem, J., Cornillac, A.-M., Luciani, A., and Ricci, C. 1980. An ultrastructural approach to feeding behaviour in Philodina roseola and Brachionus calyciflorus (Rotifers). II. The Oesophagus. Hydrobiologia 73:133-136. <The cuticular oesophagus is a simple expansion of the dorsal pharyngeal wall of the mastax. The ciliary oesophagus is the cellular anterior wall of the stomach lumen, but seems to have the same embryological origin as the pharynx. In Brachionus calyciflorus, its cilia are surrounded by cuticular velums which have the same myelin-like structure and the same function as the buccal velum of Philodina roseola. In all cases the oesophagus prevents the return of food particles from the

stomach to the mastax lumen.>

Clement, P., Amsellem, J., Cornillac, A.-M., Luciani, A., and Ricci, C. 1980. An ultrastructural approach to feeding behaviour in Philodina roseola and Brachionus calyciflorus (Rotifers). III. Cilia and muscles. Conclusions. Hydrobiologia 73:137-141. <The orientation of the cilia pseudotrochus is controlled by muscles inserted on their rootlets. The peculiar structures of buccal and pharyngeal cilia are described: their beating leads the food towards the mastax. The circular and longitudinal muscles of the buccal funnel allow peristaltic movements and probably the rejection of food items not accepted by the mastax receptors.>

Clement, P. and Pourriot, R. 1980. A transmissible influence through several generations in a clone of the rotifer Notommata copeus. Hydrobiologia 73:27-32. <Over ten years, the individuals of an orthoclone of Notommata copeus gradually lost their sensitivity to photoperiod. This loss is transmissible but reversible in three generations. It is endogenous but not chromosomal. The hypothesis is forwarded that it is induced by external factors, and quite possibly crowding.>

Clement, P., Rougier, C., and Pourriot, R. 1976. Les facteurs exogenes et endogenes gui controlent l'apparition de males chez les rotifers. Bulletin Soc zool Fr 101(Suppl 4):86-95. <language: FRENCH>

Colwell, A.E. and Schaefer, C. 1981. Effects of the Insect growth regulator Bay-sir 8514 on pest Dipthera and nontarget organisms. Can Entomol 113(3):185-192.

Connell, A.D. 1978. Reversed vertical migration of planktonic crustaceans in a eutrophic lake of high pH. J Limnol Soc South Afr 4(2):101-104.

Corbet, S.A., Perrin, R.M.S., Hartley, D.R., Lancashire, P.D., Mace, H.A.F., McClay, A.S., Morton, J.R., Parefitt, R.F., and Reid, D.G. 1980. Diel changes in plankton and water chemistry in Wicken England, UK, Brick Pit. Hydrobiologia 74(3):249-272.

Corrales, M.A. 1979. Zooplankton of the high Parana River, Argentina and Paraguay. Ecosur 6(12):185-206.

Coussement, M. and Dumont, H.J. 1980. Some peculiar elements in the rotifer fauna of the Atlantic Sahara and Atlas mountains. Hydrobiologia 73:249-254. <In addition to ubiquitous forms, the Adrar of Mauretania has a number of rare tropicopolitan species, which occur here in relative abundance. In the Moroccon Atlas mountains, West-African forms meet boreo-alpine forms. A population of Hexarthra from Atar, Mauretania, was intermediate between the fennica- and the jenkinae- group.>

Dad, N.K. and Pandya, V.K. 1982. Acute toxicity of two insecticides the to rotifer Brachionus calyciflorus. Environmental Studies 18(3-4):245- (?).

Dewey, J.M. 1977. Rates of feeding, respiration, and growth of the rotifer Brachionus plicatilis and the dinoflagellate Noctiluca miliaris in the laboratory. Dissertation Abstr Int (B) 37(7):3208.

Donner, J. 1978. Material zur saprobiologischen Beurteilung mehrerer Gewasser des Donau-Systems bei Wallsee und in der Lobau, Osterreich, mit besonderer Berucksichtigung der litoralen Rotatorien. Archiv Hydrobiol (Suppl) 52(2-3):117-228. <Language: GERMAN with ENGLISH summary>

Donner, J. 1979. The rotifers of Neusiedlersee. In (H. Loffer, ed.) Neusiedlersee: The Limnology of a shallow lake in central Europe. Monographiae Biologicae 37:411-421.

Doohan, M. 1975. Rotifera. pp. 289-304. In: Curds, C.R. and Hawkes, H.A. [Eds]. Ecological aspects of used-water treatment, Volume 1. The organisms and their ecology. Academic Press, New York. 414p.

Dorobantu, C. and Godeanu, S. 1975. Rotatoria. pp 22-32. In: Ionescu, M. [Ed.] Fauna Serie Monografica. Academica Republicu Socialiste Romania. Portile de Fier. pp 316. <Language: ROMANIAN>

Droop, M.R. and Scott, J.M. 1978. Steady-state energetics of a planktonic herbivore. J. mar. biol. Ass. U.K. 58(3):749-772.

Duffy, W.G. and Liston, C.R. 1978. Seasonal abundance of planktonic rotifers in a nearshore area of central Lake Michigan. Joutnal Gt Lakes Res 4(1): 46-49.

Dumont, H.J. and Coussement, M. 1978. An examination of some Hexarthra species (Rotatoria) from western Canada and Nepal. Canadian J Zool 56(3): 440-445. <FRENCH summary>

Dumont, H.J. and Green, J. (Eds.) 1980. Rotatoria. Proceedings of the 2 nd International Rotifer Symposium. W. Junk BV, The Hague, 263p. -OR- Dumont, H.J. and Green, J. (Eds.) 1980. Rotatoria. Hydrobiologia 73(1-3). <42 papers given during the second International Rotifer Symposium held at Gent Belgium 17-21, 1979. All of those papers are listed in this issue of ROTIFER NEWS.>

Dumont, H.J. 1980. Workshop on taxonomy and biogeography. Hydrobiologia 73:205-206.>

Duncan, A. and Gulati, R.D. 1981. Parakrama Samudra (Sri Lanka) Project of tropical lake ecosystem. III. Composition, density and distribution of the zooplankton in 1979. Verh Internat Verein Limnol 21(2):1001-1008.<Address Department of Zoology, Royal

Holloway College, University of London, Englefield Green, Surry TW2 1/4 9TY, United Kingdom>

Eakin, R.M. 1979. Evolutionary significance of photoreceptors: In retrospect. Amer Zool 19:647-653. <This essay presents an updating of the author's theory that there are two major lines of evolution of photoreceptors, one ciliary and the other rhabdomeric (microvillar). Arguments are presented for rejecting a new and alternative theory of Salvini-Plawen and Mayr (1977) that photoreceptors have arisen many times, independently of one another, and that there are no major lines in the evolution of light-sensitive organelles. Arguments are also advanced against the theory of Vanfleteren and Coomans (1976) and others that microvillar photoreceptors are induced by ciliary structures.>

Edmondson, W.T. and Litt, A.H. 1982. Daphnia in Lake Washington. Limnol Oceanogr 27(2):272-293. <In 1976 Daphnia, a genus that had been inconspicuous in the zooplankton of Lake Washington (Seattle, King Co., Washington state, USA), suddenly became dominant. The mean summer transparency of the lake doubled. The major change affecting the success of Daphnia evidently was a decrease in the abundance of the predatory Neomysis mercedis in the mid-1960's. Daphnia probably did not increase at that time because of the continued persistence of significant quantities of Oscillatoria until 1975. Eight species of Daphnia have been seen in the lake, but only three have become abundant. Daphnia pulicaria has been continuously present since its appearance in May 1976, although it becomes very scarce in winter. Daphnia galeata mendotae and Daphnia thorata have had much more limited occurrence. In each year from 1976 to 1980, two species formed separate population maxima, except in the fall of 1979 when D. thorata, although present failed to increase. Instead, the plankton became dominated by the rotifer Conochilus hippocrepis which had been increasing for several years. In 1980 D. thorata and D. pulicaria made maxima, but in reverse order from earlier years. Several other species of zooplankton have been less abundant since the resurgence of Daphnia than during the period of eutrophication and recovery (of Lake Washington).

Ejsmont-Karabin, J. 1978. Studies on the usefulness of different mesh size plankton nets for thickening zooplankton. Ekol Pol 26(3):479-490.

Ejsmont-Karabin, J. Bownik-Dylinska, L. Weglenska, T., and Karabin, A. 1980. The effect of mineral fertilization on lake zooplankton. Ekol pol 28:3-44.

Ejsmont-Karabin, J., Bownik-Dylinska, L. and Godlewska-Lipowa, W. (in press). Nutrient regeneration by zooplankton as a mechanism of providing primary production demands.

Ejsmont-Karabin, J. (in press). The role of nutrient regeneration by Rotatoria and Crustacea in lakes of different trophy.

Elmore, J.L. and Bunting, D.L. 1979. Long-term changes in zooplankton species composition and selected physicochemical parameters in Woods Reservoir, Tennessee. Jour Tenn Acad Sci 54(4): 132-136.

Eloranta, P. 1980. Zooplankton in a watercourse polluted by a sulfite pulp mill. Ann Zool Fenn 17(4):261-268. <Pollution effects on the zooplankton community are discussed.>

Endo, K. and Mochizuki, I. 1979. Relation between specific growth rate of the rotifer Brachionus plicatilis and concentration of food marine species of Chlorella. J Ferment Technol 57(4):372-374.

Enesco, H.E. and Holtzman, F. 1980. Effects of calcium, magnesium, and chelating agents on the life span of the rotifer Asplanchna brightwelli. Exp gerontol 15(5):389-392. <The average life span of the rotifer was reduced when Mg or Cl chloride was added to the medium. Maximum longevity and average number of offspring were also reduced as the concentration of either CaCl2 or MgCl2 was increased. None of the chelating agents used (EDTA, EGTA, and sodium citrate extended the average life span. Exposure to the latter two resulted in a decreased lifespan.>

Enesco, H.E. and Mahoney, D. 1981. Age related decrease in nuclear and nucleolar size in hypodermal cells of the rotifer. Exp Gerontol 16(1):41-46. <As Asplanchna brightwelli age there is a continuous and significant decrease in the diameter of both nucleus and nucleolus (63%) in the hyperdermal cells.>

Enesco, H.E. and Verdone-Smith, C. 1980. Alpha-tocopherol increases life span in the rotifer Philodina. Exp Gerontol. 15(5):335-338. <The addition of alpha-tocopherol (Vitamin E) (but not the solvent, Tween-80) to the culture medium significantly extended the average life span.>

Epp, R.W. 1977. Some effects of changing osmolarity and pH on the distribution and physiology of Brachionus plicatilis (Rotatoria). Disseration Abstr Int (B) 37(8):3795-3796.

Epp, R.W. and Lewis, W.M. 1980. Metabolic uniformity over the environmental temperature range in Brachionus plicatilis (Rotifera). Hydrobiologia 73:145-167. <Described is the metabolic response of the rotifer to temperature changes in the range of 15 to 32 (degrees C) in intervals of 2 degrees C. Utilization of such a narrow temperature intervals permited an approximation of the instantaneous Q-10 which is defined as the Q-10 over an infinitely small temperature interval. Results show the existence of a plateau in the curve of respiration against temperature (Q-10 = 1) over the range 20-28 (degrees C). The plateau is bounded on either side by temperature ranges over which metabolism is temperature sensitive (Q-10 values from 3.4 to 4.8). It is significant that

the plateau occurs over the environmental temperature range for the major portion of the growing season. This population is thus programmed to hold a constant (preferred?) metabolic rate in spite of diel temperature fluctuations when the environment is otherwise favorable.>

Epp, R.W. and Winston, P.W. 1977. Osmotic regulation in the brackish-water rotifer Brachionus plicatilis (Muller). J Exp Biol 68:151-155.

Epp, R.W. and Winston, P.W. 1978. The effects of salinity and pH on the activity and oxygen consumption of Brachionus plicatilis (Rotatoria). Comp Biochem Physiol 59:9-12.

Erben, R. and Zaric, M. 1976. Rotatoria in creeks of the Zagreb Mountains (Medrednica) in relation to the organic pollution. Poljoprivreda Sum 22(1): 47-55. <Language: SLOVENE with ENGLISH summary>

Evans, Wayne A. 1981. Spatial dispersion, prey selection and fecundity in the sessile rotifer Cupelopagis vorax (Leidy). American Zoologist 21(4):932. Published Abstract.

Evans, Wayne A. (In press). Abundances of micrometazoans in three sandy beaches in the island area of western Lake Erie. Ohio J Science.

Everitt, D.A. 1981. An ecological study of an antarctic fresh water pool with particular reference to Tardigrada and Rotifera. Hydrobiologia 83(2):225-238. <Address: Biol section Antarctic Division, Dept Sci and Environ, 568 St Kilda Road, Melbourne, Victoria, 3004, Australia.> <Deep Lake Tarn is a small pool in the Vestfold Hills, Antarctica, which freezes solid seasonally. When free water is present, rotifers, tardigrades, nematodes, protozoans, and bacteria are active and are mainly associated with an algal mat composed of cyanophytes, chlorophytes, chrysophytes, and a pyrrophyte. Monogonont rotifers appeared only in summer and species succession occurred. They are thought to overwinter as resting eggs. Two bdelloid rotifers, Macrotrachela quadricorifera (Milne) and Mniobia russeola (Zelinka) and 1 monogonont rotifer Ptygura sp. are new records for continental Antarctica.>

Fernando, C.H. 1980. The species and size composition of tropical fresh water zooplankton with special reference to the oriental region southeast asia. Int Rev Gesamten Hydrobiol 65(3):411-426. <A biogeographical study of species compostion of tropical and temperate fresh waters.>

Fernando, C.H. and P-Zankai, N. 1981. Rotifera of Malaysia and Singapore with remarks on some species. Hydrobiologia 78(3):205-220. <An intensive and extensive sampling of all types of Malaysian and Sigaporean freshwaters for zooplankton gave 165 species, subspecies, and varieties of rotifers.>

Ferrari, I. and Rossi, O. 1977 Composition and seasonal succession of the zooplankton in Lake Mergozzo (northern Italy) Memorie Ist ital Idrobiol 33:85-104.

Ferrari, I., Gandolfi, G., and Stefanini, A. 1978. Lo zooplancton della sacca del Canarin: composition e ruilo nell' alimentazione dei pesci planctofagi. Atti Soc ital Sci nat Museo civ Stor nat Milano 119:211-228. <language: ITALIAN>

Ferrari, I., Mazzocchi, M.G., and Matteucci, G. 1981. Dynamics of rotifer populations in an experimental channel. Proc IV Simposio di Dinamica di Popolazioni, Parma, Octtobre 1981 (in press).

Ferrari, I. Sibilia, F. and Tosi, L. 1980. Ricerca preliminare su composizione e abbondanza dello zooplancton dei laghi di Mantova. Atti Soc Ital Sci Nat Museo Civ Stor Nat Milano 121(4): 371-381. <Language: ITALIAN>

Fisher, J.W. 1981. Ecology of Fundulus catenatus in three interconnected stream orders. Am Midl Nat 106(2):372-378. <Address: Research Lab., Wright-Patterson Air Force Base, Ohio, USA, 54533.> <Important food items consumed by age 0 fish included crustaceans, hydrocaria, rotifers, gastropods, nematoda, and hymenoptera.>

Foran, J.A. and King, R.H. 1981. Summer production estimates for the rotifer Polyarthra vulgaris in a Northern Michigan, USA, bog lake. J. Freshwater Ecol 1(1):3-12. <Dept Environ Engineering, AP Black Hall, Univ Florida, Gainesville, FL, USA.>

Forsyth, D.J. and McCallum, I.D. 1980. Zooplankton of Lake Taupo. New Zealand J Mar Freshwater Res 14:65-69.

Francez, A.J. 1980. Quelques Bdelloides (Rotiferes) des tourbieres d'Auvergne. Rev Sci Nat Auvergne 46(1-4):21-46. <Language: FRENCH> <Address: see above> <The bdelloids of several bog ponds of the Auvergine. Drawings.>

Francez, A.J. 1981. Rotiferes de quelques tourbieres d'Auvergne. Ann Stat Biol Besse-en-Chandesse 15:276-287.<Language: FRENCH> <Rotifers of several bog ponds of the Auvergine. Records of over 140 rotifers from the area are reported>

Francez, A.J. (in press) Remargues taxinomiques sur quelques Rotiferes des tourbieres avec la description d'une forme nouvelles. Rev Suisse Zool.

Fujishita, H. 1977. The rotifer fauna of Osaka 4. Collecting Breed Tokyo 39(4):111-116. <Language: JAPANESE>

Fukusho, K. Hara, O. and Yoshio, J. 1976. Mass production of the rotifer Brachionus plicatilis. by feeding Chlorella sp. and yeast using large-scale outdoor tanks. Aquiculture 24(30:96-101. <Language: JAPANESE>

Fukusho, K., Iwamoto, H., Matsuoka, M., Imada, M., and Fujita, S. 1978. The mass production of juveniles of the percoid fish, Oplegnathus fasciatus, using the rotifer Brachionus plicatilis fed on special yeast. The Aquiculture 26(2):71-82.

Galkovskaya. G.A. 1980. Rate of oxygen consumption by rotifers from natural populations. Vyestsi Akad Navuk BSSR Syer Biyal Navuk 0(6): 114-116. <Language: RUSSIAN.>

Galkovskaya, G.A. and Ejsmont-Karabin, J. 1981. O metaboliceskom sootnosenii O/N u kolovratok. <On metabolic ratio of O/N in rotifers> Dokl AN BSSR 25:472-474. <Language: RUSSIAN> <The atomic metabolic O/N ratio has been calculated for rotifers for the first time. The values of this ratio are found to be considerably lower than the literature data for crustaceans. Possible reasons of the low O/N ratios in experimental Brachionus calyciflorus populations at favourable conditions are discussed>

Garlasco, C.C., Newell, R.L., and Wells, E.A. 1978. Abundance and depth distribution of zooplankton in Renner and Beaver Bays, Lake Sakawea, North Dakota. 1976-1977. Proceedings North Dakota Academy Science 32(2):20-28.

Gatesoupe, F.J. and Luquet, P. 1981. Practical diet for mass culture of the rotifer Brachionus plicatilis: application to larval rearing of sea bass Dicentrarchus labrax. Aquaculture 22(1-2):149-164. <The diet in continuous culture of the rotifer are descibed.>

Gatesoupe, F.J. and Robin, J.H. 1981. Commercial single cell proteins either as sole food source or in formulated diets for intensive and continuous production of rotifers Brachionus plicatilis. Aquaculture 25(1):1-16.< Institut National Recherche Agronomique-INRA. Cent. Recherches Hydrobiol. Lab Nutritional Poissons, Saint-Pee-Sur-Nivelle, 64310 Ascain, FRANCE.> <Commercial Spirulina, Chorella and a methanol-grown yeast were tested as sole food source for the rotifer B. plicatilis. Some good results were obtained, but only with medium salinity (18 permill) and none with seawater (35 permill). Information on the effects of food level and population density is presented.>

Gilbert, J.J. 1980. Some effects of diet on the biology of the rotifers Asplanchna and Brachionus. In: Nutrition in the lower Metazoa (D.C. Smith and Y. Tiffon, eds.). Pergamon Press. pp. 57-71.

Gilbert, J.J. 1980. Developmental polymorphism in the rotifer Asplanchna sieboldi. Am. Sci. 68:636-646.

Gilbert, J.J. 1980. Female polymorphism and sexual reproduction in the rotifer Asplanchna: evolution of their relationship and control by dietary tocopherol. Am Nat 116:409-431.

Gilbert, J.J. 1980. Further observations on developmental polymorphism and its evolution in Brachionus calyciflorus. Freshwat Biol 10:281-294.

Glibert, J.J. 1980. Observations on the susceptibility of some Protists and Rotifers to predation by Asplanchna girodi. Hydrobiologia 73:87-91. <Direct observations of behavioral interactions show that the predator A. girodi: 1)easily ingested Synchaeta pectinata, two forms of Keratella cochlearis cochlearis, and individuals of Conochilus unicornis and C. dossuaris enzymatically dissociated from their matrix; 2) rarely, if ever, captured Kellicottia bostoneinsis and intact Conochilus; and 3) generally rejected the peritrich ciliate Rhabdostyla sp. and the dinoflagellate Peridinium sp. Coloniality and secretion of a gelatinous matrix in Conochilus can be viewed as adaptions to limit mortality from invertebrate predation. Intraspecific variability in the feeding responses of A. girodi is considered.>

Gilbert, J.J. 1980. Feeding in the rotifer Asplanchna: behavior, cannibalism, selectivity, prey defenses, and impact on rotifer communities. In (Kerfoot, W.C. Ed.) Evolution and ecology of zooplankton communities. pp 158-172. Special symposium Volume 3 American Society of Limnology and Oceanography. University Press of New England, Hanover, New Hampshire, USA. <See address given above.> <The recent literature is reviewed, and some new, experimental results on cannibalism and the defenses of various rotifers against Asplanchna predation are provided. The bases of active and passive selective feeding in Asplanchna are considered. Asplanchna has the capacity for both functional and rapid, numerical responses to prey density and, thus, can be expected to influence the survivorship of certain prey organisms and the species structure of zooplankton communities.>

Gilbert, J.J. 1981. Control of morphotype frequency distribution in populations of the rotifer Asplanchna sieboldi: factors influencing the production of the tocopherol-dependent cruciform and campanulate morphotypes. Ecology 62:1299-1310.

Gilbert, J.J., Birky, C.W., Jr., and Wurdak, E.S. 1979. Taxonomic relationships of Asplanchna brightwelli, A. intermedia, and A. sieboldi. Arch Hydrobiol 87:224-242.

Gilbert, J.J. and Bogdan, K.G. 1981. Selectivity of Polyarthra and Keratella for flagellate and aflagellate cells. Verh Int Ver Limnol 21(3):1515-1521. <In situ clearance rates of these two rotifers on flagellate and aflagellated strains of Chlamydomonas

reinhardti were measured using radioactively labelled cells (P-32 and P-33). Clearance rates of Bosmina sp. were also determined.>

Gilbert, J.J. and Bogdan, K.G. (in press). Rotifer grazing: in situ studies on selectivity and rates. IN: Trophic dynamics of aquatic ecosystems (D.G. Meyers and J.R. Strickler, eds.). AAAS Symposium Vol.

Godeanu, S.P. 1978. Specificity of the zoolpankton in several lakes from northern Germany with different degree of eutrophication. Verh Internat Verin Limnol 20:963-968.

Godeanu, S.P. 1979. Dynamics of the zooplankton production in Iacub Lake in the Danube Delta, Romania. Trav Mus Hist Nat 'Grigore Antipa' 1978. 163-168.

Gophen, M. 1978. Zooplankton Monographiae biol 32:297-311.

Gorbunov, A.K. 1979. Method of rapid intra-vital measurement of microscopic animals by impulse microphotography. Gidrobiol Zh 15(6):114-115. <Language: RUSSIAN> <A motion picture study of rotifers and waterfleas.>

Green, J. 1980. Asymmetry and variation in Keratella tropica. Hydrobiologia 73:241-248. <Keratella tropica usually has two posterior spines. Both may vary in length, but the left is always shorter than the right. Sometimes the left spine is absent. Spine length varies with the length of the lorica, but there are other, external, influences. Three separate lines of evidence indicate that factors which promote spine length are related in some way to the presence of calanoid copepods.>

Green, J. 1981 Associations of rotifers in Australian crater lakes. J. Zool. Lond. 193:469-486.

Green, J. 1981. Altitude and seasonal polymorphism of Keratella cochlearis (Rotifera) in lakes of the Auvergoe, Central France. Biol. J. Linn. Soc. Lond. 16:55-61. <Lorica and posterior spine lengths were taken from Keratella cochlearis from samples of ten lakes ranging in altitude of 630m to 1244m above sea level. There was a positive relationship with lake altitude and these measures. Since the total period of time to sample these lakes was short, seasonal effects can be considered to be negligible. This indicates that the lower temperatures at higher altitudes delay the normal summer diminution in size of the lorica and the posterior spine. The conductivity of the lake waters varied from 14 to 100 micro-mho/cm/20 C, but no relationship to the dimension of K. cochlearis was found.>

Groeneweg, J. and Schluter. 1981 Mass production of freshwater rotifers on liquid wastes. II. Mass production of Brachionus rubens Ehrenberg 1838 in the effluent of high-rate algal ponds used for the treatment of piggery waste. Aquaculture 25:25-33.

<Institut Biotechnol 3 Der Kernforschungsanlage Juelich GMBH PO Box 1913 D-5170 Juelich 1,DDR.> <Diluted pig manure was treated in an algal-bacterial system in outdoor algal ponds. The pond effluent was fed once or twice daily to an indoor 50 liter rotifer culture. Depending on the algal-bacterial biomass concentration in the pond effluent, rotifer cultures containing 200-580 animals/ml could be obtained.>

Gur'eva, N.A. 1976. [Lower crustaceans and rotiferans of freshwater resvoirs of the Chukotsk Peninsula.] Trudy dalnevost nauchn tsentralbiol pochv inst 36(139):66-71. <Language: RUSSIAN>

Haberman, J. 1978. Seasonal dynamics of pelagic rotifers of Lakes Peipsi-Pihkva and Vortsjarv. Eesti NSV Tead Akad Toim (Biol) 27(1):16-30.

Halbach, U. 1978. Populations dynamik planktischer Rotatorien. Verhandlungen Ges Okol 7:173-183. <Language: GERMAN>

Halbach, U. et al 1981. Population dynamics of rotifers as bioassay tool for toxic effects of organic pollutants. Verh. Internat. Verein. Limnol. 21(2):1141-1146.<Address: Zoological Institute, University of Frankfurt, D-6000 Frankfurt/M., Federal Republic Germany.> <Members of the planktonic rotifer genus Brachionus, especially B. rubens were used to develop a bioassay of high sensitivity to evaluate the possible chronic effects which could arise by the release of toxic chemicals into the aquatic environment.>

Hardy, E.R. 1980. Composition of the zooplankton in 5 lakes of central Amazonia Brazil. Acta Amazonica 10(3):577-610.

Harman, D. 1981. The aging process. Proc Nat Acad Sci USA 78(11):7124-7128.

Heerkloss, R., Schnese, W., Arndt, H., and Fischer, F. 1980. Konsumtionsrate und Vertikalwanderung des Zooplanktons in einem flachen Kustengewasser. Wiss. Ztschr. W.-Pieck- Universitat Rostock 29, Math.-nat. R.:73-76. <Language: GERMAN>

Hendel, M. Morling, G. Pejler, B. 1979. The ultrastructure of the lorica of the rotifer Keratella serrulata (Ehrbg). Zoon 7:49-54.

Herzig, A. 1980. Ten years quantitative data on a population of Rhinoglena fertoensis (Brachionidae, monogononta). Hydrobiologia 73:161-167. <Some information, based upon a ten years study, is given on the ecolofy of Rhinoglena fertoensis, a cold stenothermic rotifer. The largest numbers were always found during winter months under ice. A remarkable increase in population density is recorded throughout the investigation and is explained by the good quality of the food supply and a parallel increase in its abundance. The dynamics of this species appear to be closely connected with water temperature gradients. The distribution of

Rhinoglena fertoensis is discussed in connection with water chemistry.>

Herzig, A. 1980. Effects of food, predation, and competition in the plankton community of a shallow lake (Neusiedlersee, Austria). Developments in Hydrobiology 3:45-51.

Hettler, W.F. 1981. Spawning and rearing Atlantic Menhaden Brevoortia-tryannus. Prog Fish Cult 43(2):80-84. <Address: National Marine Fisheries Service, NOAA Southeast Fisheries Center, Beaufort Lab., Beaufort N.C., 28516, USA> <Larval Atlantic memhaden (B. tyrannus) were reared to the juvenile stage on a diet of cultured rotifers (Brachionus plicatilis) and etc.>

Hino, A. and Hirano, R. 1980. Relationship between body size of the rotifer Brachionus plicatilis var spatiosus and the maximum size of particles ingested. Bull Jpn Soc Sci Fish 46(10):1217-1222. <A resgession line was obtained between lorica length and the maximum diameter of particles ingested.>

Hofmann, W. 1979. Characteristics of syntopic populations of Eudiaptomus gracilis (Sars) and E. graciloides (Lilljeborg) in three lakes of different trophic levels. Arch Hydrobiol. 86(1):1-12.

Hofmann, W. 1980 Zum Zooplankton der Eifelmaare. Mitt pollichia 68: 166-176. <Language: GERMAN>

Hofmann, W. 1980. Workshop on the determination of population parameters. Hydrobiologia 73:143.

Hofmann, W. 1980. On morphological variation in Keratella cochlearis populations from Holstein Lakes (Northern Germany). Hydrobiologia 73:255-258. <Keratella cochlearis occurs in many Holstein lakes (northern Germany) as three defined and separate forms: cochlearis, hispida, and tecta, each showing very little variation between the lakes. The present data show that the tecta form did not originate from a Lauterborn cycle.

Hofmann, W. 1981. Limnologische Untersuchungen an Seen des Kreises Plon. Jb Heimatkunde Kreis Plon 11:159-176. <Language: GERMAN>

Hofmann, W. 1981. On temporal variation in the rotifer Keratella cochlearis (Gosse): the problem of "Lauterborn-cycles". Verh Internat Verein Limnol 21:1522. <Abstract>

Hollowday, E.D. 1979. The capture and ingestion of the planktonic rotifer Asplanchna priodonta by the Holotrichous Ciliate Trachelius. Microscopy (Lond) 33(8):535-538.

Holt, J., Johnson, A.G., Arnold, C.R., Fable, W.A., Jr., and Williams, T.D. 1981. Description of eggs anf larvae of laboratory reared Red Drum Sciaenops ocellata. Copeia 1981(4):751-755.

Horkan, J.P.K. 1981. List of Irish Rotifers. Irish Fisheries Investigations 21. Dublin: Stationary Office. 24pp.

Hurlbert, S.H. and Mulla, M.S. 1981. Impacts of mosquitofish Gambusia affinis predation on plankton communities. Hydrobiologia 83(1):125-152. <The effects of mosquitofish predation were studied in 12 experimental ponds in southern California, USA.>

Hussey, C. 1980. A historical survey of the collection and study of rotifers in Britain, UK. Hydrobiologia 73:237-240. <With reference to the author's compilation of British rotifer records, the main contribution to our knowledge of rotifers in the British Isles are outlined and the impetus provided by local natural history societies is commented upon. The usefulness and limitations of early records are examined and the scope offered to future collectors is discussed.>

Hussey, C. 1981. A checklist and bibliography of records of Rotifera (Rotatoria) in Britain. London : British Museum (Natural History) 8pp + 10 fiches. <see synopsis above>

Infante, A. 1978. A method for the study of foods of herbivorous zooplankton. Transactions Am microsc Soc 97(2):256-258.

Infante, A. de. 1980. Los Rotiferos del Lago de Valencia. Acta Cient Venez 31(1):30-47. <language: SPANISH>

Kameswara, R.R. and Chandra, M. P. 1976. On the occurrence of a rotifer Asplanchna sieboldi (Leydig) urawaensis (Sudzuki) in Indian waters. Current Sci 45(6):234-235.

Kameswara, R.R. and Chandra, M. P. 1977. Rotifers as indicators of pollution. Current Sci 46(6):190.

Kameswara, R.R. and Chandra, M. P. 1977. Monostyla obtusa Murray (Rotifer, Lecanidae) - a new record from India. Geobios Jodhpur 4(3):118.

Kansanen, P.H. 1981. Effects of heavy pollution on the zoobenthos in Lake Vanajavesi southern Finland with special reference to the meiozoobenthos. Ann Zool Fenn 18(4):243-252.

Karabin, A. 1978. The pressure of pelagic predators of the genus Mesocyclops (Copepoda, Crustacea) on small zooplankton. Ekologia pol 26(2): 241-257. <POLISH summary>

Karunakaran, L. and Johnson, A. 1978. A contribution to the rotifer fauna of Singapore and Malaysia. Malayan Nat J. 32(2):173-208.

Kerfoot, W.C. 1980. Evolution and ecology of zooplankton communities. Special symposium Volume 3 American Society of Limnology and Oceanography. University Press of New England, Hanover, New Hampshire, USA. p793. <A must for every rotiferologist whose

interests extend into the ecology of zooplankton in general. Five papers which concern rotifers directly: Borass, Gilbert, King, Starkweather, and Williamson and Gilbert.>

King, C.E. 1980. The genetic structure of zooplankton populations. In (Kerfoot, W.C. Ed.) Evolution and ecology of zooplankton communities. pp 315-328. Special symposium Volume 3 American Society of Limnology and Oceanography. University Press of New England, Hanover, New Hampshire, USA. <From a genetic viewpoint, the most remarkable aspect of the groups comprising freshwater zooplankton is the diversity of their life history patterns. Zooplankton, perhaps more than most organisms, are subject to extensive temporal variation in their environment. Genetic studies of rotifers in particular have revealed considerable population differentiation through time; that is, the rotifers occupying a lake are subdivided into genetically distinct populations that succeed one another. Patterns of selection accompanying temporal subdivision of the environment are discussed for rotifers, and to a lesser extent for other zooplankton, in an attempt to examine the influence of sexual reproduction on population structure. Calculations based on zooplankton population sizes and infered mutation rates suggest that an enormous amount of genetic variation is produced by mutation, particularly in rotifers with their large popluation sizes and short generation times. These concepts are considered in the context of current theories of the evolution of sexual reproduction. Thus sexual reproduction may have little significance to the adaptation of most rotifers except as a device for making resting eggs.>

King, C.E. and Miracle, M.R. 1980. A perspective on aging in rotifers. Hydrobiologia 73:13-20. <Most research on aging in rotifers has been performed with populations, not with individuals. As a consequence, the dependent variable in these studies is usually either mean lifespan or rate of survivorship. After a brief consideration of the literature published since the last major review (King, 1969), the results of a series of experiments are presented. Males and females of three genetically distinct clones of Brachionus plicatilis were used for a factorial life table analysis at three different temperatures. The results of these experiments indicate several potential problems in using populations to study the aging process of individuals. These problems derive from the fact that lifespan is only one component of fitness, and its relative duration may not reflect the evolutionary success of the clone. That is, lifespan is free to vary in response to both stochastic and deterministic events without significantly reducing fitness. Under these conditions, neither mean lifespan nor pattern of survivorship will provide meaningful data on the determinants of individual senescence.>

King, C.E. and Snell, T.W. 1980. Density-dependent sexual reproduction in natural populations of the rotifer Asplanchna girodi. Hydrobiologia 73:149-152. <The monogonont rotifer Asplanchna girodi was continously present in daily and bi-daily

plankton samples of Golf Course Pond during the spring of 1977. Two cycles of sexual reproduction occurred during this period. By isolation and culture of females it was possible to determine the reproductive type of the collected individuals. Data thus obtained suggested that environmental cues associated with population density are responsible for the production of sexual females.>

Klekot, L. and Klimowicz, H. 1981. Rotifer communities of ponds supplied with post-waste water. Holarctic Ecology 4:208-214. <Address: Research Inst on Environmental Development, Dept. of Natural Basis for Environmental Development, 01-692 Warsaw, Kolektorska 4 POLAND> <The studies concern the changes in communities of rotifers in a model system of 4 through-flow ponds linked in a row and constantly supplied with waste-water after mechanical-biological treatment.>

Klimowicz, H. 1970. Wrotki/Rotatoria/Wod Astatycznych. [Rotifers of astatic waters.] Zeszyty Naukowe Instytutu Gospodarki Komunalnej Nr 30. 254 p.

Klimowicz, H. 1970. Mikrofauna osadu czynnego Czesc I. Zespoly mikrofauny w modelach laboratoryjnych osadu czynnego. [Microfauna of activated sludge. Part I. Assemblage of microfauna in laboratory models of activated sludge.] Acta Hydrobiol 12(4):357-376.

Klimowicz, H. 1972. Mikrofauna osadu czynnego Czesc II. Zespoly mikrofauny w zblokowanych komorach napowietrzania. [Microfauna of activated sludge. Part II. Assemblages of microfauna in block aeration tanks.] Acta Hydrobiol 14(1):19-36. <Investigations were carried out on the microfauna of activated sludge proceeding from block aeration tanks; 67 species of microfauna were identified, 34 of which belonged to Ciliata, 26 to Rotatoria, 6 to Rhizopoda, and 1 to Flagellata.>

Klimowicz, H. 1973. Microfauna of activated sludge Part III. The effect of physico-chemical factors on the occurrence of microfauna in the annual cycle. Acta Hydrobiol 15(2):167-188. <Language: ENGLISH with POLISH translations of figure and table ledgends> <The effect of the physico-chemical and atmospheric conditions on the development of the microfauna in the annual cycle was determined; 69 species were identified.>

Klimowicz, H. 1974. Biological studies of the sewage-treatment processes in the city ot Torun. Pol Arch Hydrobiol 21(2):291-299.

Klimowicz, H. 1974. Changes in the numbers of plankton in the course of treatment of tap water. Acta Hydrobiol 16(2):121-137.

Klimowicz, H. 1974. Mikrofauna osadu czynnego z Uruchomionej Nowej Oczyszczalni o Trudnym do ustabilizowania procesie Oczyszczania Sciekow. Prace Instytutu meteorologii I Gospodarki Wodnej Nr 3

185-199. <Language: POLISH with ENGLISH summary

Klimowicz, H. 1975. Annual development of plankton ina river water intake weir and in a treatment pond and its removal in treatment plants. Acta Hydrobiol 17(3):299-308.

Klimowicz, H. 1979. Estimation of water usability of the dam reservoir Zegrzynski on the Rivers Bug and Narew for waterworks based on plankton investigations Acta Hydrobiol 21(1):37-52. <Planktonic studies in the end sector of a high dam reservoir were carried out over one year period. 47 species of rotifers were seen.>

Klimowicz, H. 1979. Plankton from the canal of the River Odra and its reduction during the water treatment for waterworks. Acta Hydrobiol 21(2):177-184.

Klimowicz, H. 1981. The plankton of the River Vistula in the region of Warsaw in the years 1977-1979. <Keywords: Potamology, river plankton, saprobiological indication.>

Koschel, R., Haubold, G., Kasprzak, P., Kuchler, L., Proft, G., und Ronneberger, D. 1981. Eine limnologische Zustandsanalyse des Feldberger Hausses. Acta hydrochim hydrobiol 9(3):255-279. <Language: GERMAN.>

Koste, W. 1979. Lindia deridderi n. sp. ein Radertier der Familie Lindiidae (Uberordnung Monogononta) aus SE-Australien. Arch Hydrobiol 87(4):504-511. <language GERMAN, with ENGLISH abstract> <A new species is described - (Lindia deridderi) - with figures and photomicrographs. Collections were from a billabong (standing waters on a floodplain) in the Murry-River floodplain near Wodonga, Victoria, SE-Australia. A table comparing the taxonomy of closely related species is presented.>

Koste, W. 1980. Two planktonic rotifers, Filinia australiensis new species and Filinia hofmanni new species, with remarks on the taxonomy of the Filinia longiseta and Filinia terminalis group, genus Filinia, Family Filiniidae, Superorder Monogonta. Arch Hydrobiol 90(2):230-256. <Language GERMAN> <A biogeographical taxonomic study of the genus Filinia.>

Koste, W. 1980. Portrait of a rotifera, Brachionus plicatilis: a fresh water rotifer. Mikrokosmos 69(5):145-155. <Another one of Walter Koste's excellent reviews of a single species.>

Koste, W. 1981. Zur Morphologie, Systematik und Okologie von neuen monogononten Radertieren (Rotatoria) aus dem Uberschwemmungsgebiet des Magela Creek in der Alligator-River-Region Australiens, N.T. Teil I. Osnabrucker naturwiss Mitt 8: S97-126. <Language GERMAN, with ENGLISH Abstract> <This investigation has added 25 new species to the species list for the continent, including 4 new species: Dicranophorus halbachi, Lepadella (s.str.) lindaui, L (s. str.) minorui, and Testudinella greeni. Species descriptions include

tables, figures, and photomicrographs. Biogeographical information is considered.>

Koste, W. 1981. Rotatorien vom Aligator River (Australia). Osnabrucker Nat. wiss. Mitt. 8. <Language: GERMAN>

Koste, W. 1982. Das Radertier-Portrat: Ploesoma truncatum, ein rauberisches Plankton-radertier. Mikrokosmos __:167-173. <Editors are unsure of the volume number>

Koste, W. and Shiel, R.J. 1980. New Rotifera from Australia. Trans R Soc S Aust 104(5-6):133-144. <A biogeographical-taxonomy study which reports new species in the following genera: Brachionus, Keratella, Lepadella, Lecane, Dicranophorus, and Testudinella. Decsripitons and figures are included. Ecological and disrtibutional information other other species is included.>

Koste, W. and Shiel, R. J. 1980. Preliminary remarks on the characteristics of the rotifer fauna of Australia (Notogaea). Hydrobiologia 73:221-227. <Unusually large forms of Asplanchna sieboldi, Brachionus plicatilis, B. calyciflorus, Filinia pejleri, Trichocerca similis and Keratella slacki were collected from waters of south-eastern Australia. These giant forms are figured, and brief location and ecological data are given.>

Koste, W. and Shiel, R.J. 1980) On Brachionus dichotomus, Shephard, 1911 (Rotatoria: Brachionidae) from the Australian region, with a description of a new subspecies, Brachionus dichotomus reductus. Proc Roy Soc Vic 91(2):127-134. <This species, hitherto regarded as a doubtful species, is recorded from waters of eastern Australia. It is a valid species related to the Brachionus caudatus group. An intermediate variation is described and figured. Ecological and distributional information is also given.>

Koussouris, T.S. and Photis, J.D. 1980. Some hydrobiological characteristics of Amvrakia Lake Western Greece. Acta Hydrobiol 22(3):337-344. <language: POLISH> <Seasonal hydrobiological study including rotifers.>

Kowalczyk, Cz. and Radwan, S. (in press). Ecological groups of pelagic zooplankton in different limnological lakes. Acta Hydrobiol.

Kownacki, A., Wojtusiak, J. and Zurek, R. 1976. New and rare species of Rotatoria, Cladocera and Chironomidae (Diptera) for the aquatic fauna of Afghanistan. Acta hydrobiol Krakow 18(3):291-304. <POLISH summary>

Kozlova, I.V. 1980. Zooplankton of lake Karaguz, Russian -SFSR, USSR under peled cultivation for many years. Gidrobiol Zh 16(6):96-97.

Kuhlmann, D. Quantz, G. and Witt, U. 1981. Rearing of Turbot larvae, Scophthalmus maximus, on a natural and artificial food. Aquaculture 23(1-4):183-196. <Address: Inst. Meereskunde, Aussenstelle, Buelk., D-2301, Daenischenhagen, Buelk, West Germany> <Turbot larvae (S. maximus) were fed with mass-cultured rotifers (B. plicatilis) and copepods (Eurytemora affinis and Acartia tonsa). The fish preferred copepod nauplii to rotifers.>

Kutikova, L.A. 1978(?). Rotatoria. In: Mordukhai-Boltovskogo, F.D. [Ed] [Atlas of the Aral Sea invertebrates]. Pishchevaya Promyshiennost, Moscow 1974:1-271. <Language: RUSSIAN> <NB: the editors are not clear on the correct publishing date for this work.>

Kutikova, L.A. 1980. On the evolutionary pathways of speciation in the Genus Notholca. Hydrobiologia 73:215-220. < An attempt is undertaken to determine criteria and limits of taxonomic rank in the genus Notholca proceeding from the standpoint of level-values of the characters evolution. Level-values of characters were established using Vavilov's principle of homologic series of hereditary variability. As a result of taxonomic revision such terms as groups of species, species and subspecies are recommended. Analysis of the scheme of relations between representatives of the genus and data on their ranges gives a clue to relations between phylogeny and geographic distribution of the group over the vast territory of the Asian continent which may have been its center of speciation.>

Lair, N. 1980. The rotifer fauna of the river Loire (France), at the level of the nuclear power plants. Hydrobiologia 73:153-160. <In the heated affluents of nuclear power plants of the river Loire, rotifers are abundant. Cosmopolitan species are numerically dominant, but a tropical fauna is also present, among which the genus Brachionus. representing 20% of the total species, is best represented. From a comparison between water upstream and downstream of the power plants, it further appears that in downstream warmed-up waters, some species show an important development, but not in colder upstream waters.>

Lee, C-S., Hu, F., and Hirano, R. 1981. Organisms suitable as food for larvae of Black Sea Bream Mylio macrocephalus. Prog Fish Cult 43(3):121-124.

Lee, W.Y. and Macko, S.A. 1981. Toxic effects of cembranolides derived from octo corals on the rotifer Brachionus plicatilis and the amphipod Parhyale hawaiensis. J. Exp Mar Biol Ecol 45(1):91-96.

Leentvaar, P. 1980. Note on some Brachionoidae rotifers from The Netherlands. Hydrobiologia 73:259-262. <Some Brachionidae indicative of polluted water are normally found in brackish but unpolluted waters in The Netherlands. The circumtropical K. tropica is now regularly recorded in the Hollands Diep, which is

slightly thermally polluted, but it also seems to occur, at times, in waters that receive no heated effluents. Hydrobiologia 73:259-262.>

Leimeroth, N. 1980. Respriation of different stages and energy budgets of juvenile Brachionus calyciflorus. Hydrobiologia 73:195-197. <Respiration data for different stages of Brachionus calyciflorus, fed with three concentrations of Kirchneriella lunaris at 20 degrees C, are presented. Increasing oxygen consumption from 4.1 to 4.6 (x 10E-3) ul/h x ind. with food decreasing from 5 x 10E+6 to 1 x 10E+6 and 4 x 10E+5 cells/ml has been found for adult females with one egg, but other age groups showed divergent results. Based on the respiration data for age groups 0 to 12 and 12 to 24 h old and some other results and calculations -- e.g. dry weight and caloric content of eggs and females, ingestion rates/h for the different concentrations of food -- energy budgets for juvenile, growing B. calciflorus are presented.>

Lewkowicz, M and Lewkowicz, S. 1981. Efficiency of zooplankton comsumption and production in ponds with large loads of allochthonous organic matter. Acta Hydrobiol 23,4.

Lomakina, L.V. 1980. Phytophilous microfauna: Rotatoria, Cladocera, and Copepoda of the Saratov Reservior, Russian-SFSR, USSR. Biol Nauki (Mosc) 0(8):44-48. <Language RUSSIAN> <Approximately 160 species of rotifera and crayfish (sic; yes my reference reads "crayfish" - it probably should be crustaceans) were observed, including: Testudinella patina, Euchlanis dilatata, and Sida crystallina - which had the highest indices of dominance.>

Lubzens, E., Fishler, R., and Berdugo-White, V. 1980. Induction of sexual reproduction and resting egg production in Brachionus plicatilis reared in sea water. Hydrobiologia 73:55-58. <Brachionus plicatilis raised in our laboratory in sea water reproduces asexually even under high crowding conditions (at least 40 individuals per ml). Amictic females were induced to produce mictic females, males and resting eggs by reducing the concentration of the sea water culture medium. Mictic females and males appeared predominantly among the progeny produced by the amictic females during 4 days following their transfer into 25% sea water. Resting eggs appeared first, 5-12 days after the onset of the experiment. Following the disappearance of males, the culture consisted of amictic females. Resting eggs produced by the method described above may be preserbed for at least three months at -14 degrees C or by desiccation at room temperature. Under the appropriate experimental conditions, resting eggs hatch into amictic females. Since B. plicatilis is one of the most commonly used food sources of fish larvae in aquaculture, the methods reported here may offer an easy and versatile way of preserving rotifer culture stock to be used on demand.>

Lubzens, E. 1981. Rotifer resting eggs and their application to marine aquaculture. Eur. Mar. Soc. Spec. Publ. 6:163-179.

Martin, L.V. 1978. Rotifers in the sphagnum pools on Thursley Common. Microscopy 33(2):90-93.

Martin, L.V. 1978. Rotifers in the sphagnum pools on Thursley Common. Part 2. Microscopy 33(4):236-241.

Martin, N.A. and Yeates, G.W. 1975. Effect of four insecticides on the pasture ecosystem. 3. Nematodes, rotifers and tardigrades. New Zealand J agric Res 18(3):307-312.

de Maeseneer, J. and de Pauw, M. 1978. Morphological observations on Filinia spp. (Rotatoria, Monogononta) in the Watersportbann at Ghent in 1972 and 1973. Mededelingen Fac landb Rijksuniv Gent 43(3-4):1455-1463. <GERMAN summary>

Matveeva, L.K. 1979. Spatial overlap in the planktonic rotifer community and its dependence on abiotic and biotic factors. Dokladi Akadem Nauk SSSR 249(5):1270-1273.

May, L. 1980. Studies on the grazing rate of Notholca squamula Muller on Asterionella formosa Hass. at different temperatures. Hydrobiologia 73:79-81. <The grazing rate of Notholca squamula on Asterionella formosa has been estimated to be 3.2 cells per female per hour at 6 degrees C and 11.5 cells per female per hour at 10 degrees C.>

May, L. 1980.On the ecology of Notholca squamula Muller in Loch Leven, Kinross, Scotland. Hydrobiologia 73:177-180.<Notholca squamula was rarely found in Loch Leven when the water temperature rose above 10 degrees C. Under favorable temperature conditions its abundance appeared to be closely related to that of Asterionella formosa. In the laboratory the animal was seen to feed on this diatom by breaking open the frustule and ingesting the cell contents.>

May, L. 1980. Ecology of planktonic rotifers at Loch Leven, Kinross-shire, Scotland. Ph.D. Thesis, Paisley College of Technology. 150 pp. <see Abstract above>

Mazzocchi, M.G. 1981. Variabilita a breve termine e transporto dello zooplancton in una laguna del Delta padano. Rivista di Idrobiologia (in press).

McClintock, N.L. and Wilhm, J. 1977. Effects of artificial destratification on zooplankton of two Oklahoma reservoirs. Hydrobiologia 54(3):233-239.

Mires, J.M., Soltero, R.A., and Keizur, G.R. 1981. Changes in the zooplankton community of Medical Lake, Washington, USA, subsequent to its restoration by whole lake alum treatment and establishment of a trout fishery. J Freshwater Ecol 1(2):167-178. <Address:

Dept. Biology< Eastern Washington University, Cheney, WA, USA 99004.>

Mitsyanina, I.F. 1980. Changes in the caloric values of Daphnia and rotifers during acclimatization to constant temperatures. Vyestsi Akad Navuk BSSR Syer Biyal Navuk. 0(5):88-90. <Language: BELORUSSIAN.>

Moore, J.W. 1980. Seasonal cycles of zooplankton and related phytoplankton development in three shallow mesotrophic lakes in northern Canada. Int Rev Gesamten Hydrobiol 65(3):357-378.<The importance of food in regulating zooplankton populations in 3 Canadian lake is considered.>

Moore, J.W. 1980. Zooplankton and related phytoplankton cycles in a eutrophic lake. Hydrobiologia 74(2):99-104. <Seasonal cycles of zooplankton, including rotifers, are presented.>

Naef, J. and Martin, P. 1980. Plankton from the Lake Geneva, Switzerland: Characteristics for the year 1979. C R Seances Soc Phys Hist Nat Geneve 15(1): 38-56.

Nalepa, T.F. and Robertson, A. 1981. Screen mesh size affects estimates of macro benthos and meio benthos abundance and biomass in the Great Lakes. Can J Fish Aquat Sci 38(9):1027-1034. <Address: Great Lakes Environmental Research Lab, NOAA, Ann Arbor, Mich, USA> <The efficiencies of screens with mesh openings of 595 and 106 micrometers in retaining, respectively, the macro- and meio-bethos were measured for samples taken in southeastern Lake Michigan. The use of these screens provides adequate estimates of dry weight biomass for both the macro- and meio-benthos, but serious underestimates of the numbers of many taxa, including rotifers, can result.>

Nasar, S.A.K. 1978 Diurnal movements of zooplankton in a freshwater pond in Bhagalpur, India. Bangladesh J Zool 6(2):91-96.

Nogrady, T. 1980. Canadian rotifers II. Parc Mont Tremblant, Quebec. Hydrobiologia 71:35-46.

Nogrady, T. 1982. Correlation of rotifer associations in a chain of lakes fed by reclaimed sewage. Hrdrobiologia 89:277-284. <Keywords: Rotifers, population dynamics, Shannon index of diversity, Bray and Curtis index of similarity, cluster analysis, sewage reclamation, California.> <The quantitative composition of the rotifer fauna of seven interconnected lakes located in southern California was studied in a preliminary investigation. The lakes are fed by reclaimed sewage, and the water quality increases rapidly from the first, barely able to support life, to a series of lovely lakes stocked with fish and utilized for recreation. The Shannon index of rotifer population diversity showed an appropriate increase. Up to 24 -28 different rotifer taxa in each lake provided a rich community dominated by Brachionids, Keratella and

Trichocera. The diversity and quanity of the rotifer association then declined again in the last lake. Comparison of the lake using the Bray Curtis index of similarity and cluster analysis supported the picture of a lake-chain evolution, a biotic development showing a maximum curve.>

Nogrady, N. and Watanabe, T. 1978. Nota preliminar sobre os rotiferos (zooplancton) do Acude Epitacio Pessoa, Boqueirao, Paraiba. Rev. Nordestina Biol 1(1):31-39.

Oka, A., Suzuki, N., and Watanabe, T. 1980. Effect of fatty-acids in rotifers on growth and fatty-acid composition of larval Ayu, Plecoglossus altivelis. Bull Jpn Soc Sci Fish 46(11):1413-1418. <Language JAPANESE> <A comparison of the dietary value of rotifers cultured in various ways for Ayu larvae.>

Ovander, E.N. 1980. Use of indexes for the diagnosis of rotifer species from the genus Lecane (Rotatoria, Lecanidae). Vestn Zool 0(3):42-46. <Language RUSSIAN> <Biometeric study for species determination.>

Ovander, E.N. 1980. Rotifers of the genus Lecane (Rotatoria: Lecanidae) in the Ukrainian Fauna, USSR. Vestn Zool 0(6):34-41. <Language: RUSSIAN.>

Paggi, J.C. 1980. Compana limnologica Keratella. I. en el Rio Parana medio (Argentina): Zooplancton de ambientes lenticos. Ecologia 4:77-88. <language: SPANISH>

Paggi, J.C. 1981. The zooplankton of some lakes of Extra-andean Patagonia, Argentina. 1. Rotifers. Stud Neotrop Fauna Environ. 16(1):23-34. <Language: SPANISH> <Biogeographical study of 4 lakes of the Patagonian Tableland, Argentina.>

de Paggi, J.S. 1978. Observaciones sobre algunos rotiferos nuevos para la fauna Argentina. Neotropica 24(72):99-104. <ENGLISH summary>

de Paggi, J.S. 1978. Nota sobre las variaciones locales en Keratella cochlearis Gosse. Comparaciones entre poblaciones de ambientes loticos y leniticos de la Ilanura del Rio Parana. Neotropica 24(71):27-32. <language: SPANISH>

de Paggi, J.S. 1979 Contribucion al conocimiento de la fauna Argentina de Rotiferos. 2. Algunas especies de los generos Lecane Nitzch y Lepadella Bory de St. Vincent. Neotropica 25(73):37-44.

Parker, T.J. and Wallis, R.L. 1977. Limnology of a farm dam in Gippsland, Victoria. Victorian Nat 94(6):247-254.

Patil, S.G. 1978. New records of rotatoria from N.E. India. Sci Cult 44(6):279-281.

Pawlowski, L.K. 1970 (?). Les rotiferes de la riviere Grabia. Variations observees au cours d'un cycle de vingt-quatre heures dans la composition de la fauna des rotifers. Prace Lodz Tow Nauk (Wyd 3) No. 110 1970:1-127.

Pawloski, L.K. 1973 (?). Les Rotifers de la riviere Grabia dans le profil longitudinal. Prace Lodz Tow Nauk (Wyd 3) No. 116 1973:1-43.

Pejler, B. 1977. General problems on rotifer taxonomy and global distribution Archiv Hydrobiol (Beih) 8:212-220.

Pejler, B. 1977. Experience with rotifer cultures based on Rhodomonas. Archiv Hydrobiol (Beih) 8:264-266.

Pejler, B. 1980. Variation in the genus Keratella. Hydrobiologia 73:207-213. <The literature on variation in Keratella is reviewed. The older idea of a thorough endogenous control has to be rejected, but internal factors ought to play a certain role besides influences from current and previous environment. In certain cases there is probably a succession of genetically diffenent clones during the course of the year (cf. King, 1972, 1977), but the seasonal variation in lake populations of, e.g., K. cochlearis ought to be mainly non-genetical. There is some evidence that temperature and food exert an influence on morphology, via rate of growth, but probably other abiotic and biotic factors are at work as well. The existence of allometric relations is clearly demonstrated for several species. The variation in spine length has been suspected by some authors to consititute just the function of size variation which is thus considered primary. Some of the variation found is obviously non-adaptive. An attempt is made at explaining the existence of discontinuous variation within a single lake. Implications on taxonomy and speciation are briefly discussed.>

Person-Le Ruyet, J. 1976. Techniques d'elevage en masse d'un rotifere (Brachionus plicatilis Muller) et d'un crustace branchiopode (Artemia salina L). European mar Biol Symp 10:331-343. <language: FRENCH>

Plasota, K. and Plosta, M. 1980. Some problems in the embryogenesis of Habrotrocha rosa Donner 1949. Hydrobiologia 73:39-41. <Several parameters connected with the biology of H. rosa were investigated under laboratory conditions: average life span (20 days) divided into three characteristic stages, mean number of eggs laid (30 eggs) and average time of egg development (31.5 hours). Ontogenesis was studied (until the stage of early organogenesis) and a spiral type of cleavage and epibolic gastrulation were observed. The paper also presents data on the origin of the digestive system and sex cells.>

Plasota, K. and Plasota, M. 1980. The determination of the chromosome number of Habrotrocha rosa Donner 1949. Hydrobiologia 73:43-44. <The number of chromosomes in Habrotrocha rosa Donner 1949 has been

estimated at 2n(?)=14. Chromosomes were stained and photographed by the RVD method (acetocarmine + fast green). Observations were made on oocytes and cleavage eggs.>

Plasota, K., Plasota, M., and Kunicki-Goldfinger, W.J.H. 1980. Methods for obtaining an axenic culture of Habrotrocha rosa Donner 1949. Hydrobiologia 73:37-38. <A culture of the bacterivorous rotifer Habrotrocha rosa was separated from other Eucaryota in activated sludge and then purified by passages from most representatives of the bacterial microflora. A fully axenic culture was finally obtained by use of a lysing buffer and certain antibiotics.>

Pourriot, R. 1980. Workshop on culture techniques of rotifers. Hydrobiologia 73:33-35.

Pourriot, R., Rougier, C., and Bensest, D. 1980. Hatching of Brachionus rubens O.F. Muller resting eggs (rotifers). Hydrobiologia 73:51-54. <After a dormant period at low temperature (5 C) and darkness, hatching of Brachionus rubens resting eggs is induced by an increase of temperature (10-22 C) in the presence of light.>

Pourriot, R. et Clement, P. 1981. Action de facteurs externes sur la reproduction et le cycle reproducteur des rotifers. Acta Oecologica/Oecol. Gener. 2(2):135-151. <Language FRENCH, with ENGLISH summary> <Hypotheses are presented concerning the mechanism(s) which regulate mixis and fecundity: metabolic, senory/neural-hormonal, genetic, and cytoplasmic inheritance. The authors consider the significance of these factors which influence reproduction in the rotifers.>

Pourriot, R. et Zoppi de Roa, E. 1981. Dicranophoridae (Rotiferes Monogonontes) du Venezuela. Bull Soc Zool France 106(2):195. <Language FRENCH, with ENGLISH abstract> <This paper describes a new subspecies (D. claviger venezueliensis) and a new species (D. kostei) from Venezuela.>

Preissler, K. 1980. Field experiments on the optical orientation of pelagic rotifers. Hydrobiologia 73:199-203. <'Avoidance of shore' by pelagic rotifers is considered to be the result of an optical orientation. Field experiments show that the spatial light distribution in the shore region determines the preferred direction of migration. The behavior of Eudiaptomus gracilis was tested in comparison to that of rotifers.>

Radwan, S. 1976. Planktonic rotifers as indicators of lake trophy. Annales Univ Mariae Curie-Sklodowska (biol) 31:227-235. <POLISH and RUSSIAN summaries>

Radwan, S. 1978. Dynamics of production of the pelagic rotifers in three lakes of different trophism. Verh Internat Verein Limnol 20:1017-1021.

Radwan, S. 1980. The effects of some biotic and abiotic factors on the fertility of planktonic rotifer species. Hydrobiologia 73:59-62. <The influence of some biotic and abiotic factors on the fertility of some planktonic rotifers was studied. Trophic factors, such as community structure and the amount of nannoplankton food available was of considerable influence to rotifer fertility, especially among sedimentors, while abiotic factors had a much smaller influence.>

Radwan, S. (in press). The influence of some abiotic factors on the occurrence of rotifers in the LecznáWlodawa Lake district. Hydrobiologia.

Radwan, S. and Popiolek, B. 1977. Comparison of biomass and production of some species of rotifers (Rotatoria) in spring and summer in the pelagic zone of three lakes in the Leczna-Wlodawa region. Annales Univ Mariae Curie-Sklodowska (Biol) 32:277-291. <Language: POLISH with ENGLISH and RUSSIAN summmaries>

Ricci, C. 1978. Curve di popolazioni di Philodina roseola (Rotifera, Bdelloidea). Bollettino Zool 45(Suppl):43. <Abstract> <language: ITALIAN>

Ricci, C. M. 1978. Fertilitae sopravvivenza in Philodina roseola (Rotatoria). Bollettino Zool 45(2):227. <Abstract> <language: ITALIAN>

Ricci, C. and Zullini, A. 1978. Indagine su rotiferi bdelloidei e nematodi di un ruscello presso Parma. Bollettino Zool 45(Suppl):44. <Abstract> <language: ITALIAN>

Ricci, C. and Pozzoli, E. 1979. Life tables of Philodina roseola (Rotifera) under conditions of chronic cadmium and zinc stress. Boll Zool 46:209-216.

Ricci, C. 1979. Tasso Intrinseco Di Accrescimento Naturale in Esperimenti su Coorti e su Colture di Masse. Mem Ist Ital Idrobiol 37:223-232. <language: ITALIAN>

Ricci, C., Argentesi, F., and De Bernardi, R. 1979. A simple parameter estimation technique for single species population models. Mem Ist Ital Idrobiol, Suppl. 37:201-212.

Ricci, C. 1980. Experimental observations on maternal reproductive rate and offspring characteristics. Hydrobiologia 73:21-25. <Starting from a clone of Philodina roseola (Rotifera, Bdelloidea) six homogeneous animals have been reared. From them three different age cohorts have been studied in order to determine their life tables. Cohorts and parental life schedules are compared and discussed. A sort of correlation of egg production could be established.>

Rippingale, R.J. 1981. The ecology of plankton fauna in saline river pools. International Symposium on Athalassic (inland) salt lakes. Adelaide, S. Aust., Oct 1979. Hydrobiologia 81-81(0):223-232.

Robertson, J. Roy and Salt, G.W. 1981. Responses in growth, mortality, and reproduction to variable food levels by the rotifer Asplanchna girodi. Ecology 62(6):1585-1596.<Address: Robertson --> University of Georgia Marine Institute, Sapelo Island, Georgia, 31327, USA> <Changes in fecundity, mortality, and growth of the Ploimate rotifer Asplanchna girodi were studied in response to variations in food density. Fecundity, growth rates, and size of the parent at the time of birth of the first offspring varied directly with food level. Longevity and age at the birth of the first young varied inversely with food level. The size of offspring remained constant regardless of parental food intake. The authors conclude: In all resource environments, individual fecundity is adjusted to produce young with high chances of survival and reproduction.>

Rosen, P. Woodhead, A.D., and Thompson, K. H. 1981. The relationship between the Gompertz constant and maximum potential life span: Its relevance to theories of aging. Exp Gerontol 16(2):131-136. <Address: Hasbrouck Lab, Univ. Massachusetts, Amherst, Massachusetts, 01003, USA.> <Correlation between the two aging parameters, the Gompertz constant (alpha) and the maximum potential lifespan (T) is studied. Somatic mutations may play a lesser role than metabolism.>

Ross, P.E. and Munawar, M. 1981. Preference for nannoplankton size fractions in Lake Ontario, USA, by grazing zooplankton. J Great Lakes Res 7(1):65-67. <Address:Dept Sci Biol., Univ Montreal, C.P. 6128, Succursale A, Montreal, Quebec, CANADA H3C 3J7.> <In in situ zooplankton grazing experiments in Burlington Canal, smaller nannoplankton (1-20 microns) were greatly preferred over the larger (20-64 microns) fraction. The majority (94.4%) of the cells ingested by the rotifer Kellicottia longispina were from the smaller fractio. The 1-20 micron fraction accounted for 91.9% of the cells ingested by the cladoceran Bosmina longstris and 94.8% of those ingested by mixed copepod nauplii. The rotifer feeding rates were slower than those of the crustacean zooplankton studied. Contaminant (concomitant, Eds) transfer pathway studies should focus on smaller algae as being crucial in phytoplankton-zooplankton links in trophic models.>

Ruttner-Kolisko, A. 1980. The abundance and distribution of Filinia terminalis in various types of lakes as related to temperature, oxygen, and food. Hydrobiologia 73:169-175. <Although morphological variable, Filinia terminalis constitutes a well defined ecological unit living below 12-15 C, and forming large maxima up to several thousand ind./l at oxygen content < 2 mg/l. Field investigations and laboratory experiments indicate facultative anaerobiosis and food sources of chemosynthesizing or plankton decomposing bacteria. On the grounds of these physiological requirements a hypothetical schema is presented attempting to predict the occurrence of the two species, F. terminalis and F. longiseta in oligotrophic, eutrophic, meromictic, and polymicitc, shallow lakes.>

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Salvini-Plawen, L.V. and Mayr, E. 1977. On the evolution og photoreceptors and eyes. In (M.K. Hecht, W.C. Steere, and B. Wallace, eds.), Evolutionary Biology. Vol 10, pp 207-263. Plenum, New York.

Sauer, F. 1978. Ein Radertier als Parasit bei Volvox. Mikrokosmos 67(4):110-111.

Schaber, P. 1980. Die Radertiergattung Filinia in Tiroler Badeseen. Jber Abt Limnol Innsbruck 6:159-171. <Language: GERMAN with ENGLISH abstract> <Address: Abteil f. Limnologie, Institut fur Zoologie, Technikerstr. 13, A-6020, Insbruck, Austria.> <The rotifer genus Filinia in Tyrolean lakes.> <This paper describes the rotifer genus Filinia using material from 12 Tyrolean lakes and ponds. Three morphological different units were found, which are compared respecting the length of the bristles and the ecological behaviour.>

Schaden, R. 1976. Das Vorkommen von Brachionus Arten (Rotatoria) in Zentralamazonischen Gewassern. Biogeographica 7:137-141.

Scheden, R. 1977. Zur Zyklomorphose einiger Brachioniden (Rotatoria) Zentralamazoniens. Amazonia 6(2):257-266. <Language: GERMAN with ENGLISH and PORTUGESE summaries>

Scheden, R. 1977. Jahreszeitliche Veranderungen in der Zusammensetzung des Rotatorienbestandes des Lago do Castanho, in Zentralamazonien. Amazoniana 6(2):267-273.

Scheden, R. 1978. Zur Diversitat und Identitat amazonischer green Rotatorienzoome. Amazoniana 6(3):347-371.

Schluter, M. 1980. Mass culture experiments with Brachionus rubens. Hydrobiologia 73:45-50. <In order to develop the optimum conditions for mass culture of Brachionus rubens, eight strains of phytoplankton were tested as food for the rotifers. The optimum food concentration as well as the concentration of the algal medium tolerated by R. rubens, and the influence of nitrite, sodium chloride, extreme pH-vluues and low oxygen concentrations on the reproduction of B. rubens were determined.>

Schluter, M. and Groeneweg, J. 1981. Mass production of freshwater rotifers on liquid wastes. I. The influence of some environmental factors on population growth of Brachionus rubens Ehr. 1838. Aquaculture 25:17-24. <Institut Biotechnol 3 Der Kernforschungsanlage Juelich GMBH PO Box 1913 D-5170 Juelich 1,DDR.> <To determine the extent to which B. rubens is affected by a number of environmental factors, the influences of nitrite (0-50 mg/l), NaCl (0-8mg/l), Oxygen concentrations as low as 0.72 mg/l,

and pH (3-11) on the population growth of B. rubens were tested. The green alga Scenedesmus costato-granulatus was used as food.>

Schramm, U. 1978. Studies on the ultrastructure of the integument of the rotifer Habrotrocha rosa Donner (Aschelminthes). Cell Tissue Res 189(1): 167-177.

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Sharma, B. K. 1977. A mutant form in the rotifer Brachionus calyciflorus. Newsletter zool Surv India 3(5):330-331.

Sharma, B. K. 1978. Two new lecanid rotifers from India. Hydrobiologia 60(2):191-192.

Sharma, J.P., Srivastava, J.B., and Chowdhary, S.K. 1978. Effects of physio-chemical factors on rotifer fauna of lentic water bodies of Jammu region. Indian J Anim Res 12(1):23-26.

Sharma, B.K. and Michael, R.G. 1980. Synopsis of taxonomic studies on Indian Rotatoria. Hydrobiologia 73:229-236. <Taxonomic studies of Indian rotifers have revealed the presence of 241 species which are listed in an appendix. The nature of the Indian rotifer fauna is discussed.>

Sharma, B.K. 1981. The rotifer fauna of Punjab State India. 1. Family Brachionidae. Hydrobiologia 76(3):249-254. <Biogeographical taxonomic study.>

Shiel, R.J. 1979. Rotifera recorded from Australia. Trans R Soc S A. 103(3):57-68.<Address: Department of Zoology, University of Adelaide, GPO Box 498, Adelaide, SA 5001, AUSTRALIA.>

Shiel, R.J. 1979. Synecology of the rotifera of the River Murrary, S.A. Aust J Mar Freshwater Res 30(2):255-263. <Ecological data are presented on the planktonic Rotifera of the lower tract of the River Murry in South Australia. Thirty-five species are recorded.>

Shiel, R.J. 1980. On Brachionus dichotomus Shephard 1911 (Rotatoria: Brachionidae) from the Australian region, with a description of a new subspecies, Brachionus dichotomus reductus. Proc R Soc Vict 91(2): 127-134.

Shiel, R.J. 1981. Planktonic Rotifera of the Murray-Darling river system: endemism and polymorphism. Verh internat Verein Limnol 21: 1523-1530. <Rotifers endemic to the Murray-Darling river system are discussed. There are 11 Australian endemics of the family Brachionidae. Polymorphism data are presented for several species of this family.>

Shiel, R.J. and Koste, W. 1979. Rotifera recorded from Australia. Trans R Soc S Aust 103(3):57-68. Three hundred and thirty-one taxa of Rotifera, in 73 genera are recorded from Australia. Species names, with published synonymy, are listed alphabetically. Locality records are also given.

Shiel, R.J. and Koste, W. 1980. Preliminary remarks on the rotifer fauna of Notogaea. Hydrobiologia. 73:221-227.

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Sladeckova, A. and Sladecek, V. 1977. Periphyton as indicator of the reservoir water quality. 2. Pseudoperiphyton. Archiv Hydrobiol (Beih) 9: 177-191. <GERMAN summary>

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Starkweather, P.L. 1980. Behavioral determinants of diet quantity and diet quality in Brachionus calyciflorus. In (Kerfoot, W.C. Ed.) Evolution and ecology of zooplankton communities. pp 151-157. Special symposium Volume 3 American Society of Limnology and Oceanography. University Press of New England, Hanover, New Hampshire, USA. <The feeding behavior of Brachionus calyciflorus varies, depending on the type of food cell available in suspension. When foods (cell types) are mixed, B. calyciflorus feeding activity may be modified to produce complex relationships between ingestion rate and food density. These relationships are dissimilar from those obtained when the rotifers are feed on single food types.>

Starkweather, P.L. 1980. Aspects of the feeding behavior and trophic ecology of suspension-feeding Rotatoria. Hydrobiologia 73(1-3):63-72. <Along with the earlier works of Dumont (1977) and Pourriot (1977) -- First International Rotifer symposium -- an excellent review of the current status of rotifer feeding biology.>

Starkweather, P.L. and Bogdan, K.G. 1980. Detrital feeding in natural zooplankton communities: descrimination between live and dead algal foods. Hydrobiologia 73(1-3):83-85. <Freshwater zooplankton species differ in their consumption of live and dead algal cells when tested in situ. Using isotopically-labeled living and heat-killed Chlamydomonas reinhardti as model for phytoplankton and detrital seston, respectively, they tested differential feeding on these foods by three rotifers and two microcrustaceans. Keratella cochlearis selectively feeds of 'detrital' materials while two sympatric rotifers species, Conochilus dossuarius and Kellicottia bostoniensis show no ability to discriminate between the living and

dead foods. Both the copepod Diatomus spatulocrenatus and a cladoceran, Bosmina sp., differentially consumed living cells.>

Starkweather, P.L. 1981. Trophic relationships between the rotifer Brachionus calyciflorus and the blue-green alga Anabaena flos-aquae. Verh Internat Verein Limnol 21:1507-1514. <address given above> <B. calyciflorus is fully capable of collecting and ingesting a broad size range of A. flos-aquae filaments. Furthermore, this blue-green algae supports normal individual maturation and reproduction as well as population growth in B. calyciflorus. Reduced and delayed fecundity, however, produces lower values for "r" relative to control animals fed Euglena gracilis. B. calyciflorus' capacity to utilize Anabaena may help explain the frequent association of rotifers with the cyanophytes (Lewis, W.M. 1979 Zooplankton community analysis: studies on a tropical system. Springer-Verlag, 163 p.) and may also relate to the success of rotifers in achieving high population densities relative to sympatric microcrustaceans in eutrophic waters.>

Starkweather, P.L. and Anderson, R.C. (in press). The Rotifera. In: R.C. Anderson (ed.), Invertebrate Biology and Diversity. McGraw Hill.

Stemberger, R.S. 1981. A general approach to the culture of planktonic rotifers. Can J Fish Aquat Sci 38(6):721-724. <Address: Great Lakes Research Division, Great Lakes Marine Waters Center, Univ. Michigan, Ann Arbor, MI, 48109, USA.> <A general method for establishing cultures of planktonic rotifers from natural waters is described. Algal isolates are tested for their suitability as food for rotifers collected from the same source and season. Rotifer clones displaying the highest reproductive rates under the given culture conditions are selected for the final culture system. This procedure yielded indefinite cultures for the eulimnetic species, Asplanchna priodonta, A. herricki, Polyarthra major, and Synchaeta pectinata, and appears to have a good probability of success when the diet of a species is unknown. Algal isolates from the same source as the rotifers produced better results than algae obtained from commercial sources. Cryptomonad species produced the most consistent positive responses in growth and reproduction of rotifers tested.>

Stirewalt, M. and Lewis, F.A. 1981. Schistosoma mansoni effects of rotifers on cercarial output, motility, and infectivity. Int J Parasitol 11(4):301-308. <Address: Biomedical Research Institute, 12111 Parklawn Drive, Rockville, MD, 20852, USA.> < Spontaneous colonization of rotifers on the shells of schistosome-infected Biomphalaria glabrata reduced the cercarial output of these snails and the motility and infectivity of the cercariea which emerged. The rotifer effect was observed in the actual presence of rotifers and in rotifer-conditioned water from which the rotifers had been removed by filtration. The significance of the rotifer effect to laboratory maintenance of S. mansoni is considerable. It may be

one of the many factors which reduce the infective index under field conditions.>

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Storms, S.E. 1981. Seasonal zoplankton distribution in Quantico Creek and the adjacent Potomac River, Virginia, USA. J Freshwater Ecol 1(3): 327-340.

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Thomassen, K. 1980. Eine neue tropische Unterart von Keratella cochlearis (Rotatoria). Int. Revue ges. Hydrobiol. 65(5):745-747. <Language: GERMAN> <A new subspecies of K. cochlearis, vis K. c. pachyacantha is described. It has been recorded from Africa and South America. Photographs and a line drawing.>

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Timokhina, A.F. 1980. Abundance, propagation, and production of 3 species of rotifera in the upper part of Saratov Reservoir, Russian-SFSR, USSR. Biol nauki (Mosc) 0(8):54-58. <Language: RUSSIAN> <From May to September in the years 1974-1977 the population dynamics of Euchlanis dialata Ehr, Brachionus calyciflorus Pallas and B. diversicornis (Daday) were studied.>

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Tzschaschel, G. 1980. Distribution, abundance, dynamics, and biology of marine rotifers. Akad Wiss Lit Mainz Math-Naturwiss Kl Mikrofauna Meresbodens 0(81):1-56. <Lanuage: GERMAN.> <Quantitative ecological studies were made (1975/1976) on a semilotic intertidal sandy beach at the east side of the island of Sylt in the North Sea, West Germany. Of the rotifers, 80% live in the damp sand of the beach slope; in the supralittoral zone and in the lentic wadden areas population density is less; in sublittoral sands no rotifers were found.>

Vanfleteren, J.R. and Coomans, A. 1976. Photoreceptor evolution and phylogeny. Z Zool Syst Evolutionforsch 14:157-169.

Vasil'eva, G.L. and Blokhima, N.P. 1980. Claculation of Brachionus rubens production by direct calculation and the Edmondson method. Gidrobiol Zh 16(3): 35-40. <Language: RUSSIAN> <Address: Res Inst Biol, Irkutsk State University, Irkutsk, USSR.> <Mass culture of this rotifer was used to show that the production calculated by Edmondson method is close to the empirical data obtained by means of direct calculation. This confirms the reliability of the Edmondson method.>

Vasisht, H.S. and Agarwal, P. 1978. Male of the rotifer Epiphanes senta (Ehrenberg). Current Sci 47(12):441-442.

Vasisht, H.S. and Agrawal, P. 1981. Functional morphology of the foot of the rotifer Rotaria rotatoria. Microscopy (Lond) 34(3):195-200.< A mechanism of extension and retraction of the foot of this rotifer is described in detail.>

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Waite, S.W. and O'Grady, S.M. 1980. Description of a new submersible filter pump apparatus for sampling plankton. Hydrobiologia 74(2):187-191. <Desciption of a new pumping device.>

Wallace, R.L. 1980. Ecology of sessile rotifers. Hydrobiologia 73:181-193. <A review of the biology and ecology of sessile rotifers from a view point that one of the keys to understanding the ecology of sessile rotifers lies in comprehending the relationships they have with their substrates. In any locality there are many surfaces on which larvae can settle, but each may

provide a different potential for reproductive success. This work considers: 1. larval biology (egg hatching, larval escape, feeding, substrate selection behavior, aging, and metamorphosis), 2. Distribution of adults on substrates (evidence for substrate selection, substrate selection mechanisms, significance of substrate selection, and substrate-dependent survivorship), and 3. Food and feeding habits.

Weglarska, B. 1980. Light microscope and electron microscope studies on the excretory system of Macrobiotus richtersi, Eutardigrada. Cell Tissue Res 207(1):171-182. <A micro-anatomical comparison is made between the excretory systems of a Tardigrade and Rotifera.>

Williamson, C.E. 1980. The predatory behavior of Mesocyclops edax: Predator preferences, prey defences, and starvation-induced changes. Limnol. Oceanogr. 25:903-909.

Williamson, C.E. and Gilbert, J.J. 1980. Variation among zooplankton predators: the potential of Asplanchna, Mesocyclops, and Cyclops to attack, capture, and eat various rotifer prey.In (Kerfoot, W.C. Ed.) Evolution and ecology of zooplankton communities. pp 509-517. Special symposium Volume 3 American Society of Limnology and Oceanography. University Press of New England, Hanover, New Hampshire, USA. <Observations of different freshwater invertebrate predators reveals the presence of a diversity of attack, capture, and ingestion behaviors. The rotifer prey in turn may have a wide variety of morphological and behavioral defense mechanisms. These complex interactions are largely overlooked by the "black-box" approach of enclosure experiments. Results of the interactions investigated suggest that: Cyclops bicuspidatus cannot be an important predator of Asplanchna; A. girodi can only rarely capture Polyarthra vulgaris; A. girodi is likely to be a more efficient predator of Keratella cochlearis than Mesocyclops edax; M. edax could be an important predator of P. vulgaris; M. edax readilty preys on A. girodi and so may greatly reduce predation by this rotifer on K. cochlearis.>

Wurdak, E.S. and Gilbert, J.J. 1980. Ultrastructure and histochemistry of the rudimentary gut of male Asplanchna sieboldi (Rotifera). Hydrobiologia 73:123-126. <The fine structure of the rudimentary gut of the male Asplanchna sieboldi in late stage embryos and at 0, 12 and 24 hours after birth is described. The results of histochemical tests for acid phosphatase and glycogen indicate that glycogen, mitochondria, endoplasmic reticulum, and nuclei are subject to autolysosomal breakdown, while glycogen remains as the major component of the gut in old males.>

Yasuda, K. and Taga, N. 1980. Culture of Brachionus plicatilis using bacteria as food. Bull Jpn Soc Sci Fish. 46(8):933-940. <Language JAPANESE> <Bacteria were screened for their suitability as food for B. plicatilis.>

Yousuf, A.R. and Qadri, M.Y. 1981. Seasonal abundance of rotifer in a warm monomictic lake. J Indian Inst Sci Sect C Biol Sci. 63(4):23-34. <The distribution of rotifers in Lake Manasbal, Kashmir, India, in relation to some physical and chemical characteristics of the water is considered.>

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Zurek, R. 1980. The effect of suspended materials on the zooplankton 1. Natural environments. Acta Hydrobiol 22(4):449-471. <The influence of suspension upon zooplankton populations in ponds and reservoirs was investigated and found to be significantly noxious for Keratella cochlearis, K. quadrata, and Trichocerca cylindrica.>

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