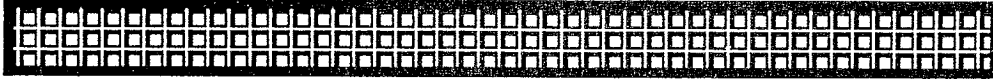


Number 15

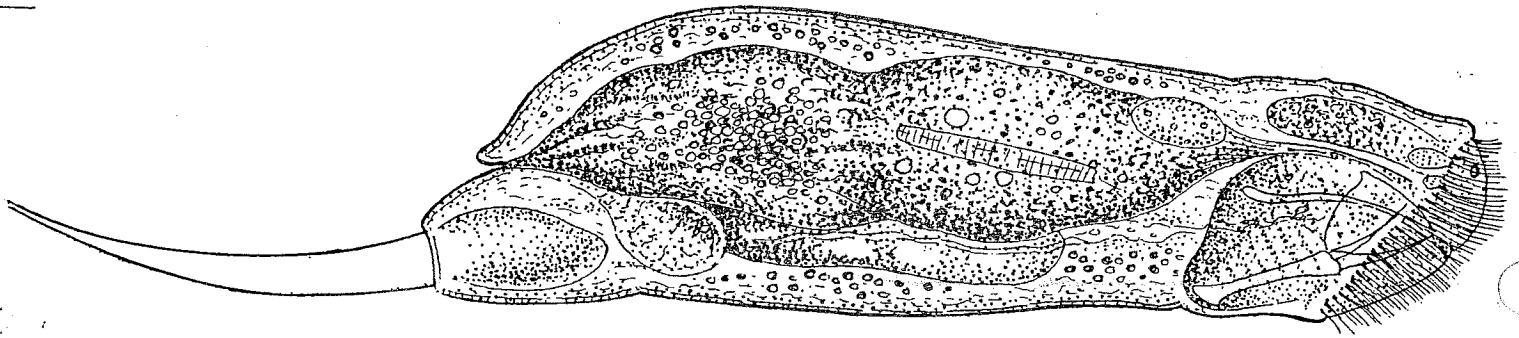
Winter 1988

# ROTIFER NEWS

A Newsletter for Rotiferologists Throughout the World.



*A newly fairly hard water - in annual Jennings unrooted  
in the Lake Erie Collections.*



*L. laschyi macrodactyla n. sp.*

*Original drawings by Frank J. Myers: From the collection  
of Paul N. Turner*

**Editors: Robert L. Wallace & Paul N. Turner**

Correspondance: R.L. Wallace, Biology Department,  
Ripon College, 300 Seward Street,  
Ripon, WI, USA, 54971-0248

This issue of Rotifer News has been reformatted to fit a standard 8.5" x 11" paper size (i.e., portrait layout). It was originally printed with two full pages reduced to fit sideways on US letter paper (i.e., landscape layout).

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ROTIFER NEWS is not part of the normal scientific literature (e.g., journals such as ECOLOGY, HYDROBIOLOGIA, LIMNOLOGY AND OCEANOGRAPHY, and VERH INTERNAT VEREIN LIMNOL); therefore, it should not be cited as such. ROTIFER NEWS is a newsletter that prints citations of recent published literature, abstracts, news, and notes about work in progress or papers being submitted for publication in regular scientific journals as a service to professional and amateur investigators of the phylum Rotifera. ROTIFER NEWS is usually printed twice a year (about June and December) at Ripon College. Please send reprints and/or references, news, notes, requests to: Robert L. Wallace, Biology Department, Ripon College, 300 Seward Street, Ripon, WI USA 54971-0248.

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). Although we have made considerable progress in the addition of accents and scientific notation, there are still some editing problems with the computer that we have not been able to correct. Readers should note that references cited by Biological Abstracts BIOSIS may be incorrect because of typing errors and because BIOSIS translates titles into ENGLISH. The editors encourage authors to send us reprints so that papers may be properly cited, abstracted, and annotated for the index. Some of the material printed below comes from the author's abstract and/or textual material. Other material was abstracted from listings such as the Zoological Record, Biological Abstracts BIOSIS, or specific information provided by the author(s).

### NEWS, NOTES, AND REQUESTS

Most (but not all) items received by either editor on or before 15 December 1987 have been included in this issue of ROTIFERS NEWS (No. 15), other items will be printed in issue No. 16 (I hope).

### NOTICE

Issue No. 16 is scheduled for printing in May or June 1988, BUT we see a potential problem that may delay its publication until after the next Rotifer Symposium. If a delay happens, issue No. 16 will be printed as a double issue with issue No. 17 in December-January of 1989!!!!

The editors are sorry to inform our readers that we must require support in the production of ROTIFER NEWS. As you are well aware, international and even domestic mailing costs are quite high. Production costs are also quite expensive. We are requiring that the readers of ROTIFER NEWS support us in this valuable endeavor by paying the annual dues (\$5.00 US dollars per year). PLEASE FIND ENCLOSED QUESTIONNAIRE/ORDER FORM !! Readers of ROTIFER NEWS who wish to may contributions beyond the dues are encouraged to do so !!!! Make all checks payable to ROTIFER NEWS. Rotiferologists who cannot pay the dues because of legal or other financial restrictions may request an exemption from these dues.

1. Back issues of ROTIFER NEWS are still available! If you need a back issue (1-12) of ROTIFER NEWS copies are available from Bob Wallace at a cost of \$3.00 per issue to cover mailing and reproduction. Your comments on any aspect of ROTIFER NEWS is requested by the editors!

#### WORK IN PROGRESS

1- Howard Taylor (2221 N.E. 123rd Street, N. Miami, FL, 33181, USA) writes: I have in my slide collection a mount of Floscularia ringens prepared in 1937. It is a colony of some 40 individuals collected in a Central park pond close to the Museum [Central Park, New York City, close to the American Museum of Natural History]. The mounting medium is glycol and the slide needs to be remounted. At present my photographic records are kept in the negative stage, in mounts and viewed on an Osram viewer. I will be adding a Polaroid printer for correspondence purposes since I have no plans for a dark room. I work entirely in Kodak #2415 tech pan 35mm, processing in a small tank. I like the routine because it keeps the record in the first generation and subtle forms can be traced on tracing paper overlaid on the Osram. [Perhaps other workers who work on photographing rotifers would like to add their comments about their photographic work. Howard also is working on developing a new type of microcompression slide. eds.]

2- David Kuczynski (Instituto de Ecologia, Universidad de Moron, Cabildo 134, 1708 MORON, ARGENTINA) writes: During the last Argentine Antarctic Expedition (Jan-March 1987), I found Brachionus havanensis var. trahea (Murray) and Brachionus bidentatus bidentatus Anderson in 25 de Mayo (King George) Island, South Shetland (62°14'S-58°38'W) and Brachionus bidentatus f. inermis (Rousselet) in Barry Is., Marguerite Bay (68°07'S-67°08'W). The three taxa are new for the Antarctic continent. These records represent an important support to Dumont's (1983) hypothesis that the genus Brachionus is of Gondwanian origin; the communication entitled "On the Gondwanian origin of the genus Brachionus and its record for the Argentine Antarctica" was discussed at the Annual Meeting of the Argentine Paleontological Association (Buenos Aires, August 1987), and will be published in the next number of "Bol. Asoc. Paleontol. Arg."

3- Paul Turner (Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institute, Washington, DC, 20560, USA) has begun to prepare a paper on his study of salt-water psammolittoral rotifers from the US. He writes: Studies of psammolittoral rotifers are uncommon. Salt- or brackish-water psammon rotifer studies are scarce or not present at all. The studies that are available are mostly of the freshwater psammon, which virtually always contains a different species list of rotifers than the salt water psammon.

American psammolittoral rotifers are even less studied than most. Only three limnological papers are of significance in psammolittoral rotifers research, and only four deal exclusively with rotifers found in this habitat. Two papers have been published after 1951, and they discuss the freshwater psammolittoral rotifers of Lake Erie and a stream in Ohio.

Salt- and brackish-water psammolittoral ecological studies only occasionally include rotifers. These papers are from Europe, however, and account for most of the rotifers known from the salt-water psammon. American salt- or brackish-water psammolittoral rotifers are not the topic of current

researchers, despite thousands of miles of accessible coastline. Thus, the rotifers of brackish or salt water psammon of the Americas are virtually undocumented.

My work will document rotifers found in the psammon of several sample areas in Florida. Notes on rare species and their known distribution and habitats will be covered.

Paul also has the following paper accepted for publication:

Reid, J. and Turner, P.N. 1988. Planktonic Rotifers, Copepoda and Cladocera from Lagos Acu and Viana, State of Maranhao, Brazil. *Revista Brasileira de Biologia* 48(3).

Turner, P.N. 1988. *Keratella* rotifers found in Brazil, and a survey of *Keratella* rotifers from the Neotropics. Amazoniana.

Turner, P.N. 1988. 25. Rotifers. Introduction to the Study of Meiofauna. B. Higgins and H. Thiel (eds.). Smithsonian Press, Wash. D.C.

#### DESCRIPTIONS OF NEW SPECIES & NEW FORMS

1- Abdullaev, KH.T. 1986. Species of rotatorians from reservoirs of Dagestan ASSR new to fauna of the USSR. *Zool Zh* 65(10):1573-1575. <Address: Biology Faculty, Moscow State University, Moscow, USSR> <Biosis number: 33-35624. SUMMARY: New records of rotifers are reported.> <KEYWORDS: *Lecane styrax*, *Notholca laurentiae*, *Anuraeopsis navicula*>

46- Koste, W. and Shiel, R.J. 1987. Tasmanian rotifera: Affinities with the Australian fauna. *Hydrobiologia* 147:31-44. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Ludwig-Brill-Strasse 5, Quakenbrueck D-4570, FRG.> <Biosis number: 33-83202> <KEYWORDS: *Aspelta tilba*, new species, *Lepadella tyleri*, new species, *Testudinella unicornuta*, new species, *Horaella brehmi*, Australia, taxonomy, morphology, biogeography>

47- Koste, W. and Tobias, W. 1987. Rotifers of man-made Sankarani Lake, tributary to the Niger River, Mali, West Africa. *Arch Hydrobiol* 108(4):499-516. <Address: Ludwig-Brill-Str. 5, D-4570 Quakenbrueck, FRG> <Biosis number: 83-118936. SUMMARY: Rotifers were identified in several plankton samples from the Selingue man-made Lake (river Sankarani, tributary to the Niger River), taken in the years 1982 and 1985. Only 12 taxa out of 54 are of tropical and subtropical origin, the remaining ones are considered to be cosmopolitan. Four rotifer taxa *Collotheca ornata natans* (Tschugunoff 1921), *Ptygura libera* Myers 1934, *Testudinella brevicaudata* Yamamoto 1951 including the newly described *Keratella maliensis* new species are new records for the African fauna. The community structure of rotifers reveals gradual changes which manifest themselves in the increasing diversity. Diversity differences were observed between the roots of the man-made lake and the deeper parts of the water body located closer to the dam-site. In the former location establishes now the swamp vegetation assuming locally the sudd formation.> <KEYWORDS: *Keratella maliensis* new species, *Collotheca ornata natans*, *Testudinella brevicaudata*, *Ptygura libera*, taxonomy, community structure, species diversity>

64- Morales-Baquero, R. 1987. Rotifer fauna of lakes and ponds over 2500m above sea level in the Sierra Nevada, Spain, with description of a new subspecies. *Hydrobiologia* 147:97-102. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department of Ecology, Faculty of Ciencias, University of Granada, Granada, SPAIN> <BIOSIS number: 33-83210> <KEYWORDS: alpine lake, biogeography, *Lepadella quinquecostata nevadensis*, new subspecies, taxonomy, morphology, SPAIN>

79- de Ridder. M. 1987. Contributions to the knowledge of African rotifers: Rotifers from Mauritania, West Africa. *Hydrobiologia* 150(2):123-132. <Address: Zoological Institute, State University of Ghent, BELGIUM> <Biosis number: 84-98853> <SUMMARY: The number of rotifer taxa known from Mauritania, is raised from 8 to 90; 61% of these are cosmopolitan, 1 is temperate - boreal, 18% are thermophilic and 20% are tropicopolitan. Most of them are widely distributed in Africa, but some species have limited distributions. The presence of Keratella testudo and Wolga spinifera is remarkable and is probably related to the unusual climatic conditions in the SW Sahara. One phenotype of 'forma' is new to science: Branchionus calyciflorus f. monstruosa new form. <KEYWORDS: Keratella testudo, Wolga spinifera, Branchionus calyciflorus f. monstruosa new form, taxonomy, geographic distribution, Africa>

94- Sharma, B.K. 1987. Indian Brachionidae, Eurotatoria: Monogononta, and their distribution. *Hydrobiologia* 144(3):269-276. <Address: Department Zool., North-Eastern Hill Univ., Shillong-793 014, INDIA> <Biosis number: 83-118942.> <SUMMARY: Brachionids (31 species) are reported from India. Brachionus bennini (Leissling) and Brachionus patulus macracanthus (Daday) are new records from this country; 2 new synonyms are proposed.> <KEYWORDS: Brachionus bennini, Brachionus patulus macracanthus, synonymy>

95- Sharma, B.K. and Sharma, S. 1987. On species of genus Lepadella, Eurotatoria: Monogononta: Colurellidae, from northeastern India, with remarks on Indian taxa. *Hydrobiologia* 147:15-22. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department Zool., North-Eastern Hill Univ., Shillong-793014, India> <Biosis number: 33-83200> <KEYWORDS: Lepadella nartiangensis new species, Lepadella patella f. elongata new form, taxonomy, morphology, biogeography, India>

#### RECENT LITERATURE

The literature cited below has been gleaned from several sources as noted above. We apologize for any incorrect citations which may follow! An attempt always is 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 16) which is scheduled for the spring of 1988 (but may be delayed, see above). 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. These references have been indexed at the end of RECENT LITERATURE section by using such keywords as the specific species names, predation, salinity, biogeography, etc. Suggestions concerning the index are welcome.

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\*A\*

- 1- Abdullaev, KH.T. 1986. Species of rotatorians from reservoirs of Dagestan ASSR new to fauna of the USSR. *Zool Zh* 65(10):1573-1575. <Address: Biology Faculty, Moscow State University, Moscow, USSR> <Biosis number: 33-35624. SUMMARY: New records of rotifers are reported.> <KEYWORDS: Lecane styx, Notholca laurentiae, Anuraeopsis navicula>
- 2- Arvola, L., Salonen, K., Bergstrom, I., Hainanen, A., and Ojala, A. 1986. Effects of experimental acidification on phytoplankton, bacterioplankton and zooplankton in enclosures of a highly humic lake. *Int Rev Gesamten Hydrobiol* 71(6):737-758. <Address: Lammi Biology Station, University of Helsinki, SF-16900 FINLAND> <Biosis number: 84-124751> <SUMMARY: In situ enclosure experiments were performed in a highly humic lake to examine the effects acidification (adjusted with H<sub>2</sub>SO<sub>4</sub> to pH 3.5, 4, and 5) on phyto-, bacterio- and zooplankton. (One enclosure and the lake served as a type of control.) The rotifers Keratella cochlearis, Kellicottia longispina, and Bosmina longispina were some of the most tolerant zooplankters to acidity.> <KEYWORDS: acid, toxic agent, environmental toxicology, pollution, Keratella cochlearis, pH, Kellicottia longispina, acid precipitation, primary production>

3- Arvola, L., Salonen, K., Jones, R.I., Heinanen, A., and Bergstrom, I. 1987. A three day study of the diel behavior of plankton in a highly humic and steeply stratified lake. Arch Hydrobiol 109(1):89-106. <Address: Lammi Biology Stn., Univ. Helsinki, SF-16900 Lammi, FINLAND> <Biosis number: 84-44618> <SUMMARY: Diel interactions between vertical distribution of different plankton components and physical and chemical characteristics of water were studied through three consecutive diel cycles (54h) in a highly humic and steeply stratified small lake. *Polyarthra* was present in the epilimnion by day and descended to deeper layers by night.> [The editors are sorry, but we cannot confirm the correct title of this paper. Readers of ROTIFER NEWS who know the correct title are requested to inform us. eds.] <KEYWORDS: *Polyarthra* sp., diel, migration, light vertical distribution, vertical migration>

\*B\*

- 4- Ben-Amotz, A., Fishler, R., and Schneller, A. 1987. Chemical composition of dietary species of marine unicellular algae and rotifers with emphasis on fatty acids. Mar Biol (Berl) 95(1):31-36. <Address: Israel Oceanographic and Limnological Res., Tel-Shikmona, POB 8030, Haifa 31080, ISRAEL> <Biosis number: 84-106786> <SUMMARY: The lipid profiles of a few species of marine unicellular algae and yeast were studied with emphasis on fatty acids as part of a search for the nutritonal value of plankton to the diet of marine fish larvae commonly used in marine hatcheries. Chemistry of rotifers was closely related to chemistry of the diet organism. Major lipids in all algae, yeast, rotifers comprised mono-, di-, and tri-glycerides and polar lipids.> <KEYWORDS: rotifers as food for fish, diet, nutrition, lipids, composition>
- 5- Bateman, L.E. 1987. A bdelloid rotifer living as an inquiline in leaves of the pitcher plant, *Sarracenia purpurea*. Hydrobiologia 147:129-134. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Biology Department, Sir Wilfred Grenfell College, Memorial University of Newfoundland, Corner Brook, Newfoundland, A2H 6P9, CANADA> <Biosis number: 33-83214> <KEYWORDS: *Habrotrocha rosa*, Bdelloida, inquiline>
- 6- Bengtsson, J. 1987. Smaller zooplankton species are not superior in exploitative competition: A comment on Persson. Am Nat 129(6):928-931. <Address: Department Zool., Uppsala Univ., Box 561, S-751 22 Uppsala, SWEDEN> <BIOSIS number: 33-67428> <KEYWORDS: temperature, food, feeding, competition>
- 7- Berner-Fankhauser, H. 1987. The influence of sampling strategy on the apparent population dynamics of planktonic rotifers. Hydrobiologia 147:181-188. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Zoology Institute, University of Baltzerstrasse 3, CH-3012 Bern, SWITZERLAND> <Biosis number: 33-83219> <KEYWORDS: *Synchaeta* sp., competition, sampling, population dynamics>
- 8- Berzins, B. and Pejler, B. 1987. Rotifer occurrence in relation to pH. Hydrobiologia 147:107-116. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Limnological Institute, Box 65, 221 00 Lund, SWEDEN> <Biosis number: 33-83212> <KEYWORDS: indicator species, acid, toxic agent, environmental toxicology, water chemistry, pollution>
- 9- Bogdan, K.G. and Gilbert, J.J. 1987. Quantitative comparison of food niches in some freshwater zooplankton: A multi-tracer-cell approach. Oecologia (Berl) 72(3):331-340. <Address: Department of Biological Sciences, Dartmouth College, Hanover, NH, 03755, USA> <Biosis number: 84-64924. <SUMMARY: The ability of rotifers to ingest different sizes and kinds of food cells were quantified by determining the relative efficiencies with which they ingested nine tracer-cell types (labelled with <sup>32</sup>P- & <sup>32</sup>P-labeled) ranging from a coccoid bacterium (0.45µm<sup>3</sup>) to the alga *Cryptomonas erosa* (300-920µm<sup>3</sup>). *Polyarthra vulgaris* and *Keratella crassa* ate the smallest cells (<4µm diameter). *Conochilus unicornis* and *Keratella cochlearis*

differed in having uniformly high efficiencies on all the small cells as well as the larger ones.> <KEYWORDS: Polyarthra vulgaris, Keratella crassa, Keratella cochlearis, Conochilus unicornis, development, ingestion efficiency, food, diet, guilds, population>

- 10- Buchner, H. 1987. Studies on the control of heterogonous reproduction in rotifers: III. The loss of mictic potential in Brachionus urceolaris. Arch Hydrobiol 109(3):333-354. <Address: Zoologisches Inst. der Universitaet, Luisenstr. 14, 8000 Muenchen 2, FRG> <Biosis number: 84-77606> <SUMMARY: The degree to which rotifers react to mixis-inducing enviromental conditions, shows a wide range of variation between individuals of the same clone. The aim of this study was to determine the causes of this variation using 2 clones of Brachionus ureolaris that had been isolated from each of two ponds a few km apart. To test whether genetically identical individuals react identically to the same conditions, the clones were split into new lines and then were subjected to different environmental conditions. It is probable that the mictic potential has a definite genetic basis.> <KEYWORDS: clones, culture, temperature, mixis, parthenogenesis, reproduction, heterogonous reproduction, mictic, Brachionus urceolaris>

\*C\*

- 11- Chengalath, R. and Koste, W. 1987. Rotifera from northwestern Canada. Hydrobiologia 147:49-56. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Invertebrate Zoology, Division, National Museum Natural Science, Ottawa, CANADA K1A 0M8> <Biosis number: 33-83204> <KEYWORDS: Notholca caudata, Notholca lapponica, Wolga spinifera, species composition, biogeography, Canada>
- 12- Clement, P. 1987. Movements in rotifers: Correlations of ultrastructure and behavior. Hydrobiologia 147:339-360. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Equipe Neuro-Ethology, Batiment 401-C University of Lyon 1, 69622 Villeurbanne Cedex, FRANCE> <Biosis number: 33-83243> <KEYWORDS: trajectometry, behavior, neuro-ethology, ethology, feeding, muscle, ultrastructure>
- 13- Cruz-Pizarro, L. and Morales, R. 1987. Taxonomic and ecological notes on Hexarthra bulgarica from high mountain lakes and ponds in the Sierra Nevada, Spain. Hydrobiologia 147:91-96. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department Ecol., Fac. Ciencias, Univ. Granada, Granada, Spain> <Biosis number: 33-83209> <KEYWORDS: taxonomy, ecology, Hexarthra bulgarica, mountain lakes, mountain ponds, Sierra Nevada, Spain>

\*D\*

- 14- Dawes, C.J., Cowell, B.C., Gardiner, W.E., and Sveda, S.M. 1987. Limnological characteristics of two eutrophic and four mesotrophic lakes in west-central Florida. Int Rev Gesamten Hydrobiol 72(2):171-203. <Address: Department of Biology, University of South Florida, Tampa, FL, 33620, USA> <Biosis number: 84-117293> <SUMMARY: Limnological characteristics of 6 subtropical lakes were monitored. Rotifers density in the hypereutrophic lakes were greater than in the mesotrophic lakes.> <KEYWORDS: dominant, biomass, population dynamics, eutrophic, mesotrophic, chlorophyll a>
- 15- Dendrinos, P. and Thorpe, J.P. 1987. Experiments on the artificial regulation of the amino acid and fatty acid contents of food organisms to meet the assessed nutritional requirements of larval, post-larval and juvenile Dover sole. Aquaculture 61(2):121-154. <Address: Department Marine Biology, University of Liverpool, Marine Biology Station, Port Erin, Isle Man, UK> <Biosis number: 84-23925. SUMMARY: Amino acid and fatty requirements of



larval Dover sole, Solea solea (L.) were assessed & compared to that of the brine shrimp (Artemia salina) and Brachionus plicatilis.> <KEYWORDS: Brachionus plicatilis, aquaculture, rotifers as food for fish>

- 16- Drenner, R.W., Hambright, K.D., Vinyard, G.L., Gophen, M., and Pollinger, U. 1987. Experimental study of size-selective phytoplankton grazing by a filter-feeding cichlid and the cichlid's effects on plankton community structure. Limnol. Oceanogr. 32(5):1138-1144. <Address: Department of Biology, Texas Christian University, Fort Worth, TX, 76129, USA.> <Abstract: Laboratory and outdoor tank experiments were conducted to investigate feeding rates of Galilee Saint Peter's fish, (Tilapia galilaea) on zooplankton. Rotifers were one of the food types studied.> <Keywords: size-selection, community structure, rotifers as food for fish>
- 17- Dumont, H.J. and de Ridder, M. 1987. Rotifers from Turkey. Hydrobiologia 147:65-74. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Zoology Institute, State University Gent, BELGIUM> <Biosis number: 33-83206> <KEYWORDS: taxonomy, biogeography, Turkey>

\*E\*

- 18- Ebert, T.A. and Balko, M.L. 1987. Temporary pools as islands in space and in time: The biota of vernal pools in San Diego, southern California, USA. Arch Hydrobiol 110(1):101-124. <Address: Department of Biology, San Diego State University, San Diego, CA, 92182-0057, USA> <Biosis number: 84-117291> <SUMMARY: Organisms of temporary pools respond to factors related both to space and time. Numbers of species of rotifers are more sensitive to factors associated with length of water duration. The equilibrium theory of island biogeography can be extended to include frequency and duration of habitats that are suitable for groups of species.> <KEYWORDS: habitat, island biogeography, biogeography, temporary pond/pool>
- 19- Edmondson, W.T. and Litt, A.H. 1987. Conochilus in Lake Washington. Hydrobiologia 147:157-162. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department of Zoology, NJ-15 Univ. Wash., Seattle, WA, 98195, USA> <Biosis number: 33-83217> <KEYWORDS: Conochilus unicornis, Conochilus hippocrepis, population dynamics, colony, predation, community structure>
- 20- Erben, R. 1987. Rotifer fauna in the periphyton of Karst rivers in Croatia, Yugoslavia. Hydrobiologia 147:103-106. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department of Zoology, Faculty of Natural Sciences, University of Zagreb, YUGOSLAVIA> <Biosis number: 33-83211> <KEYWORDS: river, Yugoslavia>

\*F\*

- 21- Fairchild, W.L., Eidt, D.C., and Weaver, C.A.A. 1987. Effects of fenitrothion insecticide on inhabitants of leaves of the pitcher plant, Sarracenia purpurea L. Can Entomol 119(78):647-652. <Address: Department of Biology, University of New Brunswick, Fredericton, New Brunswick, CANADA> <Biosis number: 84-124796> <SUMMARY: By injecting fenitrothion into fluid in leaves of pitcher plants, Sarracenia purpurea, it was determined that the insects present there are under some risk from fenitrothion forest sprays. Rotifers were not affected by initial concentrations of fenitrothion in the fluid (up to 9.6ug/L) that did affect the insects.> <KEYWORDS: toxic agent, environmental toxicology, forest, pest spray control, non-target organism, pitcher plants, Sarracenia purpurea>

- 22- Finlay, B.J., Curds, C.R., Bamforth, S.S., Bafort, J.M., 1987. Ciliated protozoa and other microorganisms from two African soda lakes, Lake Nakuru and Lake Simbi, Kenya. Arch Protistenkd 133(12):81-91. <Address: Freshwater Biological Association, Ferry House, Ambleside, Cumbria, LA22 0LP, UK> <Biosis number: 84-13349. SUMMARY: Micro-fauna in two alkaline-saline (soda) lakes in tropical Africa (Lake Nakuru and Lake Simbi, Kenya) have been examined. The diet of the ciliate Holophrya was varied and included the rotifers Brachionus and Hexarthra. The jaws of consumed rotifers remained visible within Holophrya after the soft parts had been digested. In some ciliates several sets of rotifer jaws were observed. Because of their abundance and their efficient and voracious grazing activities they must play a significant role in the relatively short and simple food chains in these lakes.> <KEYWORDS: ciliates, predator-prey, rotifers as food for ciliates, Brachionus sp., Hexarthra sp.>
- 23- Fukusho, K., Yamamoto, T., Seikai, T. 1986. Influence of various amount of aeration during larval development of hatchery-reared flounder Paralichthys olivaceus on the appearance of abnormal coloration. Bull Natl Res Inst Aquacult 0(10):53-56. <Address: National Research Institute of Aquaculture, Nansei, Mie 516-01, JAPAN> <Biosis number: 84-96925> <SUMMARY: Larval flounder were initially reared with only the rotifer Brachionus plicatilis as food to a size of 6.9mm in total length (20 days old). Then, they were introduced to six tanks supplied with various amounts of aeration and reared to juvenile (21-23mm; 59-63 days old) fed on a combination of Artemia nauplii and the rotifer.> <KEYWORDS: Brachionus plicatilis, rotifers as food for fish>
- 24- Fulton, R.S., III, and Paerl, H.W. 1987. Effects of colonial morphology on zooplankton utilization of algal resources during blue-green algal, Microcystis aeruginosa blooms. Limnol Oceanogr 32(3):634-644. <Address: Department of Biology, George Mason University, 4400 University Drive, Fairfax, VA, 22030, USA> <Biosis number: 84-106683. Experiments were conducted to test the following proposed mechanisms whereby blooms of colonial blue-green algae (Microcystis aeruginosa) may more negatively affect large-bodied cladocerans than other zooplankton taxa. Experiments were conducted with both colonial and unicellular M. aeruginosa, in order to distinguish the effects of coloniality from chemical inhibitory factors associated with blue-green algae. Some small-bodied species associated with blue-green algal blooms did not conform to the proposed mechanisms, showing relatively strong reductions in clearance rates in the presence of colonial M. aeruginosa (Bosmina longirostris, Ceriodaphnia quadrangula) or relatively high consumption of colonial M. aeruginosa (Brachionus calyciflorus, Brachionus longirostris). Our results indicate that, contrary to earlier proposals, neither body size, taxonomic position, nor association with blue-green algal blooms are good predictors of the response to colonial M. aeruginosa.> <KEYWORDS: Brachionus calyciflorus, inhibition, food, feeding, clearance rates, Brachionus longirostris, toxic agent, bluegreen bacteria/algae>
- \*G\*
- 25- Galkovskaja, G.A. 1987. Planktonic rotifers and temperature. Hydrobiologia 147:307-318. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Institute of Zoology, Byelorussian Acad. Science, Akademytcheskaya 27, Minsk 220072, USSR> <Biosis number: 33-83238> <KEYWORDS: development, Keratella cochlearis, Brachionus calyciflorus, Hexarthra mira, food, temperature, respiration, population dynamics>
- 26- Gilbert, J.J. 1987. The Polyarthra escape response: Defense against interference from Daphnia. Hydrobiologia 147:235-238. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department Biol. Sci., Dartmouth College, Hanover, N.H. 03755, USA> <Biosis number: 33-83227> <KEYWORDS: Polyarthra sp., behavior, escape behavior, interference, competition>

- 27- Green, J. 1987. Keratella cochlearis Gosse, in Africa. Hydrobiologia 147:3-8. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Sch. Biol. Sci., Queen Mary College, Mile End Rd., London E1 4NS, UK> <Biosis number: 33-83198> <KEYWORDS: biogeography, morphometry, Africa, Keratella cochlearis>
- 28- Grundström, R. 1987. Changes in the population dynamics of Keratella cochlearis (Gosse), Kellicottia longispina Gosse, and Polyarthra vulgaris Carlin in a fertilized enclosure. Hydrobiologia 147:215-220. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Inst. Limnol., Box 557, S-751 22 Upsala, SWEDEN> <Biosis number: 33-83224> <KEYWORDS: feeding, predation, competition, population dynamics, Keratella cochlearis, Kellicottia longispina, Polyarthra vulgaris, enclosures>
- 29- Gulati, R.D., Rooth, J., and Ejsmont-Karabin, J. 1987. A laboratory study of feeding and assimilation in Euchlanis dilatata lucksiana. Hydrobiologia 147:289-296. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Limnological Institute, Vijverhof Laboratory, Rijksstraatweg 6, 3631 AC Nieuwersluis, NETHERLANDS> <Biosis number: 33-83235> <SUMMARY: <KEYWORDS: clearance rate, food, feeding, assimilation Euchlanis dilatata lucksiana>
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- 30- Hagvar, S. 1987. What is the importance of soil acidity for the soil fauna? Fauna (Oslo) 40(2):64-72. <Address: Norwegian Forest Research Institute, N-1432 As-NLH, NORWAY> <Biosis number: 84-106578> <SUMMARY: Field and laboratory experiments with artificial acid rain and liming have shown that many species and groups of soil animals (including rotifers) are affected when the soil acidity is changed.> <KEYWORDS: soil rotifers, distribution, competition, Norway, pH, soil>
- 31- Hawkins, P.R. and Griffiths, D.J. 1987. Copper as an algicide in a tropical reservoir. Water Res 21(4):475-480. <Address: Botany Department, James Cook University, North Queensland, Townsville, Queensland 4811, AUSTRALIA> <Biosis number: 84-34125. SUMMARY: CuSO<sub>4</sub> added at the surface, was retained in the epilimnion of a stratified tropical reservoir (Queensland, Australia). There was an immediate decline in algal density after copper addition, followed by an increase in numbers of the more copper-tolerant chlorophyte species. Zooplankton also were affected by the treatment: 2 forms of the rotifer Brachionus calyciflorus recovered first, followed by Hexarthra mira, copepods, and cladocerans.> <KEYWORDS: Brachionus calyciflorus, Hexarthra mira, copper sulfate, Australia, environmental toxicology, toxic agent, pollution>
- 32- Hare, L. and Carter, J.C.H. 1987. Zooplankton populations and the diets of three Chaoborus species, Diptera, Chaoboridae, in a tropical lake. Freshwater Biol 17(2):275-290. <Address: University du Quebec, INRS-Eau, C.P. 7500, Sainte-Foy, Quebec, Canada G1V 4C7> <Biosis number: 83-116515.> <SUMMARY: Zooplankton populations in a small, natural, tropical lake are dominated by a few, small-sized taxa including several rotifer species. The diets of Chaoborus larvae include other Chaoborus, cladocerans, copepods, rotifers, and the dinoflagellate Peridinium.> <KEYWORDS: Chaoborus sp. predator-prey, prey selection, lunar period, vertical migration, community structure>
- 33- Herzig, A. 1987. The analysis of planktonic rotifer populations: A plea for long-term investigations. Hydrobiologia 147:163-180. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Biology Stn. Neusiedlersee, A-7142 Illwitz, AUSTRIA> <Biosis number: 33-83218> <KEYWORDS: community structure, seasonality, competition>

- 34- Hewitt, D.P. and George D.G. 1987. The population dynamics of Keratella cochlearis in a hypereutrophic tarn and the possible impact of predation by young roach. Hydrobiologia 147:221-228. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Freshwater Biology Association, Ferry House, Ambleside, Cumbria, Engl. LA22 0LP, UK> <Biosis number: 33-83225> <KEYWORDS: population dynamics, Keratella cochlearis, hypereutrophic, predator-prey, rotifers as food for fish>
- 35- Hofmann, W. 1987. Population dynamics of hypolimnetic rotifers in the Pluss-see, North Germany. Hydrobiologia 147:197-202. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Max-Planck-Inst. Limnol., Abt. Mikrobiöekol., Postfach 165, D-2320 Ploen, FRG> <Biosis number: 33-83221> <SUMMARY: <KEYWORDS: Keratella hiemalis, Filinia terminalis, Filinia hofmanni, population dynamics>
- 36- Hirata, H. and Yamasaki, S. 1987. Effect of feeding on the respiration rate of the rotifer Brachionus plicatilis. Hydrobiologia 147:283-288. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Faculty of Fisheries, Kagoshima University, Kagoshima, JAPAN> <Biosis number: 33-83234> <KEYWORDS: respiration, oxygen consumption, feeding, Brachionus plicatilis>
- 37- Hirayama, K. 1987. A consideration of why mass culture of the rotifer Brachionus plicatilis with baker's yeast is unstable. Hydrobiologia 147:269-270. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Faculty of Fisheries, Nagasaki University, Nagasaki 852, JAPAN> <Biosis number: 33-83232> <KEYWORDS: culture, mass culture, Brachionus plicatilis>
- 38- Hyslop, E.J. 1987. The growth and feeding habits of Clarias anguillaris during their first season in the floodplain pools of the Sokoto-Rima river basin, Nigeria. J Fish Biol 30(2):183-192. <Address: Department of Biology, University of Swaziland, Private Bag, Kwaluseni, SWAZILAND> <Biosis number: 83-116676. SUMMARY: Growth and feeding habits of juvenile Clarias anguillaris during their residence in the floodplain pools of the Sokoto-Rima river basin are described. The diet of C. anguillaris is relatively unspecialized and includes rotifers.> <KEYWORDS: rotifers as food for fish>
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- 39- James, C.M., Dias, P., and Salman, A.E. 1987. The use of marine yeast, Candida sp., and bakers' yeast, Saccharomyces cerevisiae, in combination with Chlorella sp. for mass culture of the rotifer Brachionus plicatilis. Hydrobiologia 147:263-268. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Kuwait Inst. Sci. Res., Maricult. Fisheries Department, P.O.Box 1638, Salmiya, Kuwait> <Biosis number: 33-83231> <KEYWORDS: Aquaculture, Brachionus plicatilis, culture, mass culture>
- 40- Johansson, S. 1987. Factors influencing the occurrence of males in natural populations of Synchaeta spp. Hydrobiologia 147:323-328. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Asko Lab., Inst. Marine Ecol., S-106 91 Stockholm, SWEDEN> <Biosis number: 33-83240> <KEYWORDS: sex, males, reproduction, Baltic Sea, populations dynamics, Synchaeta sp.>
- \*K\*
- 41- Kaplin, V.G. and Ovezova, A.Kh. 1986. Characteristics of the invertebrate complexes of the desert moss Tortula desertorum Broth. Byull Mosk O-Va Ispyt Priir Otd Biol 91(6):49-58. <Address: Moscow, University, Moscow, USSR> <Biosis number: 84-64874. <SUMMARY: Several taxa including rotifers were found associated with the desert moss Tortula desertorum.> <KEYWORDS: moss>

- 42- Keshmirian, J., and Nogrady, T. 1987. Rotifer neuropharmacology: III. Adrenergic drug effects on Brachionus plicatilis. Comp Biochem Physiol C Comp Pharmacol Toxicol 86(2):329-332. <Address: Concordia University, Montreal, CANADA> <Biosis number: 84-5111. SUMMARY: Norepinephrine (NE) induces 3 pharmacological effects in Brachionus plicatilis. As a result of excitation the rate of ciliary motion and swimming increases, and the animals flip their foot constantly at a rapid rate. This behavior was used as a specific model to measure adrenergic effects in B. plicatilis. Phenylephrine induces the same effect at identical efficacy, while isoproterenol and salbutamol, two beta-agonists, show one-half and one-tenth NE efficacy. The beta blocker propranolol and the alpha blocker tolazoline both antagonize foot flipping induced by NE. However, propranolol shows antagonist because it causes foot paralysis by itself. Timolol, another beta blocker but without the membrane effect of propranolol, does not antagonize the alpha receptor mediated NE effect, nor does it cause foot paralysis. Propranolol, timolol, and tolazoline also show agonist activity, inducing foot flipping. NE does not antagonize the foot paralysis induced by propranolol, only its anesthetic effect by delaying its onset. These results indicate that the foot flipping induced by NE is a receptor-mediated alpha adrenergic effect, while the foot paralysis is caused by membrane phenomena.> <KEYWORDS: drug effects, pharmacology, behavior, swimming, neurophysiology>
- 43- King, C.E. and Zhao, Y. 1987. Coexistence of rotifer, Brachionus plicatilis clones in Soda Lake, Nevada. Hydrobiologia 147:57-64. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department Zoology, Oregon State Univ., Corvallis, OR, 97331, USA> <Biosis number: 33-83205> <KEYWORDS: population genetics, genetics, isozyme, Brachionus plicatilis, clones, Soda Lake>
- 44- Kinner, N.E. and Curds, C.R. 1987. Development of protozoan and metazoan communities in rotating biological contactor biofilms. Water Res 21(4):481-490. <Address: Department of Civil Eng., University of New Hampshire, Durham, NH, 03824, USA> <Biosis number: 84-40871.> <KEYWORDS: sewage treatment>
- 45- Koste, W. and Shiel, R.J. 1986. Rotifera from Australian inland waters: I. Bdelloidea, Rotifera: Digononta. Aust J Mar Freshwater Res 37(6):765-792. <Address: Ludwig-Brill-Str. 5, Quakenbrueck, FRG> <Biosis number: 84-16079. SUMMARY: This paper, the 1st in a series that will provide a systematic revision of all Rotifera now known from Australian inland waters, will review the common bdelloid rotifers. Bdelloids are epiphytic or epibenthic in habit, but some species commonly occur in open water of billabongs, lakes and rivers, particularly in association with algal blooms. Frequent occurrence of bdelloids in plankton collections necessitates diagnostic keys to their identification. For the common species only, morphological features of taxonomic significance are described and figured to facilitate further study.> <KEYWORDS: morphology, taxonomy, Bdelloidea, Australia>
- 46- Koste, W. and Shiel, R.J. 1987. Tasmanian rotifera: Affinities with the Australian fauna. Hydrobiologia 147:31-44. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Ludwig-Brill-Strasse 5, Quakenbrueck D-4570, FRG.> <Biosis number: 33-83202> <KEYWORDS: Aspelta tilba, new species, Lepadella tyleri, new species, Testudinella unicornuta, new species, Horaeella brehmi, Australia, taxonomy, morphology, biogeography>
- 47- Koste, W. and Tobias, W. 1987. Rotifers of man-made Sankarani Lake, tributary to the Niger River, Mali, West Africa. Arch Hydrobiol 108(4):499-516. <Address: Ludwig-Brill-Str. 5, D-4570 Quakenbrueck, FRG> <Biosis number: 83-118936. SUMMARY: Rotifers were identified in several plankton samples from the Selingue man-made Lake (river Sankarani, tributary to the Niger River),

taken in the years 1982 and 1985. Only 12 taxa out of 54 are of tropical and subtropical origin, the remaining ones are considered to be cosmopolitan. Four rotifer taxa Collotheca ornata natans (Tschugunoff 1921), Ptygura libera Myers 1934, Testudinella brevicaudata Yamamoto 1951 including the newly described Keratella maliensis new species are new records for the African fauna. The community structure of rotifers reveals gradual changes which manifest themselves in the increasing diversity. Diversity differences were observed between the roots of the man-made lake and the deeper parts of the water body located closer to the dam-site. In the former location establishes now the swamp vegetation assuming locally the sudd formation.> <KEYWORDS: Keratella maliensis new species, Collotheca ornata natans, Testudinella brevicaudata, Ptygura libera, taxonomy, community structure, species diversity>

- 48- Kratz, T.K., Frost, T.M., and Magnuson, J.J. 1987. Inferences from spatial and temporal variability in ecosystems: Long-term zooplankton data from lakes. *Am Midl Nat* 129(6): 830-846. <Address: Center for Limnology, University of WI, Madison, WI, 53706, USA> <Biosis number: 84-64988> <SUMMARY: We examined an unpublished zooplankton data set collected by Birge, Juday, and coworkers in the summers of 1929 through 1941 from five neighboring northern Wisconsin lakes; 8 taxa were common to the 5 lakes, including 2 rotifers (Keratella cochlearis and Kellicottia sp.). We inferred that variation in weather was an important determinant of seasonal timing for all eight taxa and of the maximum abundance and depth of maximum abundance of the two rotifers. An ability to predict general site-specific and year-specific ecosystem parameters has significant practical and theoretical importance.> <KEYWORDS: Keratella cochlearis, Kellicottia, population density, sewage, vertical distribution, season>
- 49- Kuczynski, D. 1987. The rotifer fauna of Argentine Patagonia as a potential limnological indicator. *Hydrobiologia* 150(1):3-10. <Address: Inst. Ecology, Contam. Ambiental, Facultad Ciencias Exactas National University of Moron, Cabildo 134, Moron, ARGENTINA> <Biosis number: 84-85956> <SUMMARY: Plankton samples of rivers, lakes, pools, and minor water bodies were taken in the Patagonian Argentine provinces of Rio Negro, Chubut, Neuquen and the southern part of Buenos Aires. Relationships between physical and chemical characteristics of these waters and their rotifer fauna was analyzed; 60 taxa were identified, and their value as indicators of temperature, pH, conductivity, total alkalinity and chloride determined. Use of rotifers as indicator species of these variables is discussed. Lecane (=Monostyla) closterocerca closterocerca showed a rather wide tolerance to the 5 analyzed factors. A classification of water bodies based on conductivity, chloride and alkalinity is proposed.> <KEYWORDS: Lecane closterocerca closterocerca temperature, water chemistry, pH, conductivity, alkalinity, indicator species, Argentina>
- 50- Kumar, K. and Munshi, J.S.D. 1987. Food spectrum of major fishes in a dead ox-bow lake, beel, of West Bengal. *Indian J Anim Sci* 57(8):915-922. <Address: Central Inland Fisheries Res. Inst., Barrackpore 843 101, INDIA> <Biosis number: 84-86231> <SUMMARY: Rotifers were eaten by fish; food selectivity is discussed.> <KEYWORDS: rotifers as food for fish>

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- 52- Lay, J.P., Muller, A., Peichl, L., Lang, R., and Korte, F. 1987. Effects of delta-BHC, lindane, on zooplankton under outdoor conditions. *Chemosphere* 16(7):1527-1538. <Address: Gesellschaft fuer Strahlen-und Umweltforschung mbh, Inst. Okologische Chemie, Ingolstaedter Landstr. 1, D-8042 Neuherberg, FRG> <Biosis number: 84-103853> <SUMMARY: Toxicity screening tests in microcosms in a experimental pond were performed using delta-BHC. Zooplankton taxa showed sensitive reactions to the chemical perturbation even at 20 µg·L<sup>-1</sup>.> <KEYWORDS: environmental toxicology, microcosm, toxic agent, pollution>
- 53- Laxhuber, R. 1987. Abundance and distribution of pelagic rotifers in a cold, deep oligotrophic alpine lake, Koenigssee. *Hydrobiologia* 147:189-196. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Zool. Inst. Univ. Muenchen Seidlstr. 25 8000 Muenchen 2 FRG> <Biosis number: 33-83220> <KEYWORDS: oligotrophic, Polyarthra vulgaris, Polyarthra dolichoptera, Kellicottia longispina, Keratella cochlearis, succession>
- 54- Litton, J.R., Jr. 1987. Specificity of the alpha-tocopherol, vitamin E, effect on lifespan and fecundity of bdelloid rotifers. *Hydrobiologia* 147:135-140. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department of Biology, Saint Mary's College, Notre Dame, Indiana, 46556, USA> <Biosis number: 33-83215> <KEYWORDS: vitamin-E, lifespan, aging, fecundity, reproduction, Bdelloida>
- 55- Lubzens, E. 1987. Raising rotifers for use in aquaculture. *Hydrobiologia* 147:245-256. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Israel Oceanographic and Limnological Res. Tel-Shikmona, P.O. Box 8030, Haifa 31080, Israel> <Biosis number: 33-83229> <KEYWORDS: Brachionus plicatilis, rotifers as food for fish, culture, aquaculture>
- 56- Lubzens, E., Rothbard, S., Blumenthal, A., Kolodny, G., Perry, B., Olund, B., Wax, Y., Farbstein, H. 1987. Possible use of Brachionus plicatilis, O.F. Mueller, as food for freshwater cyprinid larvae. *Aquaculture* 60(2):143-156. <Address: Israel Oceanographic Limnological Res. Tel-Shikmona, P.O.B. 8030, Haifa 31080, ISRAEL> <Biosis number: 84-2804.> <SUMMARY: The euryhaline rotifer Brachionus plicatilis was used as food in raising freshwater fish larvae in the Japanese ornamental carp, koi (Cyprinus carpio) and a breed of bait fish (Carassius sp.). Providing rotifers in addition to granulated food improved significantly the growth rate of fish larvae and also, in the case of ornamental koi, their survival. Preliminary results indicate that yeast-fed rotifers were superior to algae-fed ones when supplied to bait fish larvae in equal quantities, in addition to granulated food.> <KEYWORDS: Brachionus plicatilis, aquaculture, rotifers as food for fish>
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- 57- Magnien, R.E. 1983. Analysis of zooplankton dynamics: case studies of temporal succession controlled by the predator Asplanchna and of diet cycles in Keratella. Ph.D. dissertation, Dartmouth College, Hanover, NH, USA. <KEYWORDS: Asplanchna sp. Keratella sp., diet, predatory-prey, diel>
- 58- Mangalo, H.H. and Akbar, M.M. 1986. Seasonal variation in population density of zooplankton in the lower reaches of Diyala River, Baghdad, Iraq. *J Biol Sci Res* 17(3):99-114. <Address: Sci. Res. Council, Biology Res. Center, Department Hydrobiology, Box 34038, Rashidiyah, Baghdad, IRAQ> <Biosis number: 84-23622. SUMMARY: The population density of zooplankton (including rotifers) was studied for one year in two stations, before and after Al-Rustamiyah sewage treatment plant.> <KEYWORDS: pH, conductivity, oxygen, food, temperature, water chemistry>

- 59- Mark, W., Hofer, R., and Wieser, W. 1987. Diet spectra and resource partitioning in the larvae and juveniles of three species and six cohorts of cyprinids from a subalpine lake. *Oecologia (Berl)* 71(3):388-396. <Address: Inst. Zoologie, Univ. Innsbruck, Technikerstrasse 25, A-6020 Innsbruck, AUSTRIA> <Biosis number: 83-105975.> <SUMMARY: Larvae of L. cephalus are distinguished from those of the other 2 species by the absence of rotifers and nauplii in their diet, and by their greater ability to handle both adult copepods and chironomid larvae. <KEYWORDS: predator-prey, rotifers as food for fish>
- 60- May, L. 1987. Effect of incubation temperature on the hatching of rotifer resting eggs collected from sediments. *Hydrobiologia* 147:335-338. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Institute of Terrestrial Ecology, Bush Estate, Penicuik, Midlothian EH26 0QB, SCOTLAND> <Biosis number: 33-83242> <KEYWORDS: seasonality, temperature, culture, hatching, resting eggs, sediments>
- 61- Miracle, M.R., Serra, M., Vicente, E., and Blanco, C. 1987. Distribution of Brachionus sp. in Spanish Mediterranean wetlands. *Hydrobiologia* 147:75-82. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department Ecology, University of Valencia, Burjassot, SPAIN> <Biosis number: 33-83207> <KEYWORDS: water chemistry, discriminant analysis, Brachionus sp.>
- 62- Mitchell, S.A. and Richmond, A. 1987. The use of rotifers of the maintenance of monoalgal mass cultures of Spirulina. *Biotechnol Bioeng* 30(2):164-168. <Address: Botany Department, UOFS, PO Box 339, Bloemfontein 9300, SOUTH AFRICA> <Biosis number: 84-91711> <SUMMARY: Zooplankton were used for the biological control of unicellular algal contaminants in Spirulina mass cultures. Brachionus plicatilis was the most successful species of zooplankton used.> <KEYWORDS: Brachionus plicatus, culture, aquaculture, rotifers as lawn mowers>
- 63- Moore, M.V. and Gilbert, J.J. 1987. Age-specific Chaoborus predation on rotifer prey. *Freshwater Biol* 17(2):223-236. <Address: Zoology Department, Miami University, Oxford, OH 45056, USA> <Biosis number: 83-116516. SUMMARY: Predator-prey interactions between Chaoborus instars and rotifer prey were examined. The predatory behaviour of instars I-III of Chaoborus punctipennis and the diet selectivity of instars I-IV feeding on rotifers were examined in the laboratory. Prey used in direct observations of predatory behavior included a variety of rotifers (Synchaeta pectinata, Synchaeta oblonga, Polyarthra remata, Asplanchna girodi, Keratella crassa spined and unspined forms of Keratella cochlearis) and 2 crustaceans (Bosmina longirostris, Mesocyclops edax nauplii). Strike efficiencies were calculated for a given instar, mean prey handling times varied among prey species more than strike efficiencies. Mean handling times for small, soft-bodied rotifers were lowest and those for wide, hard-bodied prey were highest. Rotifer vulnerability to Chaoborus predation probably depended on rotifer cuticle texture, body width, and hydrodynamic disturbances. Spined rotifers were not necessarily protected from Chaoborus predation because Chaoborus can manipulate and swallow them. Giguere et al.'s (1982) encounter rate model must be modified to protect encounter rates of slow-moving rotifer prey with Chaoborus. <KEYWORDS: Chaoborus sp., Synchaeta pectinata, Synchaeta oblonga, Polyarthra remata, Asplanchna girodi, Keratella crassa, strike efficiency, Keratella cochlearis, predator-prey, spines, behavior, prey selection, morphology>
- 64- Morales-Baquero, R. 1987. Rotifer fauna of lakes and ponds over 2500m above sea level in the Sierra Nevada, Spain, with description of a new subspecies. *Hydrobiologia* 147:97-102. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department of Ecology, Faculty of Ciencias, University of Granada, Granada, SPAIN> <BIOSIS number: 33-83210> <KEYWORDS: alpine lake, biogeography, Lepadella quinquecostata nevadensis, new subspecies, taxonomy, morphology, SPAIN>



65- Muroga, K., Higashi, M., and Keitoku, H. 1987. The isolation of intestinal microflora of farmed red seabream, Pagrus major, and black seabream, Acanthopagrus schlegeli, at larval and juvenile stages. Aquaculture 65(1):79-88. <Address: Faculty of Applied Biological Sciences, Hiroshima University, Fukuyama 720, JAPAN> <Biosis number: 84-120121> <SUMMARY: This paper is a microbiological study of the gut flora of these fish. Apparently, rotifers are noted as part of the diet.> <KEYWORDS: rotifers as food for fish>

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66- Naesje, T.F., Jonsson, B., Klyve, L., and Sandlund, O.T. 1987. Food and growth of age-0 smelts, Osmerus eperlanus, in a Norwegian fjord lake. J Fish Biol 30(2):119-126. <Address: Directorate for Nature Management, Fish Research Division, Tungasletta 2, N-7000 Trondheim, NORWAY> <Biosis number: 83-116674. SUMMARY: Diatoms were the most important food items for smelts in Lake Mjosa during the first month of external feeding. Rotifers were eaten.> <KEYWORDS: rotifers as food for fish>

67- Nogrady, T. 1987. Neuropharmacology of rotifer feeding, oviposition, and anesthesia. Hydrobiologia 147:373-374. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department of Biology, Queen's University, Kingston, Ontario, K7L 3N6, CANADA> <Biosis number: 33-83245> <KEYWORDS: neuropharmacology, feeding, oviposition, anesthesia, behavior>

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68- Urabe, J. and Maruyama, T. 1986. Prey selectivity of two cyprinid fishes in Ogochi Reservoir (Japan). Bull Jpn Soc Sci Fish 52(12):2045-2054. <Address: Department of Biology, Faculty of Science, Tokyo Metropolitan University, Fukazawa, Setagaya, Tokyo 158, JAPAN> <Biosis number: 84-13316. SUMMARY: To evaluate predator impact on zooplankton, gut contents were examined on two dominant cyprinid fishes. Rotifers, were ingested.> <KEYWORDS: rotifers as food for fish>

69- Orsi, J.J. and Mecum, W.L. 1986. Zooplankton distribution and abundance in the Sacramento-San Joaquin Delta in relation to certain environmental factors. Estuaries 9(4B):326-339. <Address: California Department Fish, Game, 4001 N. Wilson Way, Stockton, CA. 95205, USA> <Biosis number: 83-116487.> <SUMMARY: The dominant members of the freshwater zooplankton in the Sacramento-San Joaquin delta (California, USA) were those typical of temperate zone rivers, including Keratella, Polyarthra, Trichocerca and Synchaeta. The estuarine or brackish rotifer Synchaeta bicornis was present. All zooplankton groups studied showed a long-term abundance decline from 1972 to 1978. In the case rotifers, this decline was significantly correlated with a decline in chlorophyll-a. <KEYWORDS: Synchaeta bicornis, Keratella trichocerca, Polyarthra sp., species abundance, estuary, brackish water, temperature>

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70- de Paggi, S.J. and Paggi, J.C. 1985. Zooplankton of preexisting bodies of water in the area of the Amutui Quimei Dam, Basin of Futaleufu River, Province of Chubut, Argentina. Neotropica (La Plata) 31(86):119-131. <Address: Inst. Nacional Limnol., Jose Macia 1933, 3016 Santo Tome, ARGENTINA> <Biosis number: 84-64928> <SUMMARY: Sampling trips to the reservoir area of Amutui Quimeri were undertaken during 1972 and 1973 to observe the composition of zooplankton in the local rivers and lakes before filling of the reservoir; 8 species of rotifer (Cephalodella mucronata, Conochilus unicornis, Keratella cochlearis, Keratella cochlearis tecta, Pompholix sulcata, Synchaeta stylata, Trichocerca porcellus, Polyarthra vulgaris), were recorded.> <KEYWORDS: Conochilus unicornis, reservoir, Keratella cochlearis tecta, Pompholix sulcata, Synchaeta stylata, Trichocerca porcellus, Polyarthra vulgaris, Argentina>

- 71- Petrovic, G., Jankovic, D., and Pujin, V. 1987. Some hydrochemical, hydrobiological and ichthyological features of Yugoslav part of the Danube lasting for several years. Arch Hydrobiol Suppl 68(34):257-268. <Address: Institute za bioloska istrazivanja, 29. Novembra 142, Yu-11000 Beograd, YUGOSLAVIA> <Biosis number: 84-75295> <SUMMARY: Effects of urbanization and industry development on the levels of heavy metals (lead, cadmium, zinc, nickel and copper) and eutrophication in the Danube river was considered. Rotifers dominate the zooplankton; the number species varied depending on the year, season, and locality.> <KEYWORDS: enviromental toxicology, toxic agents, heavy metals, toxic waste, pollution, eutrophication, community structure, season, species composition, Yugoslavia>
- 72- Plinski, M. and Wiktor, K. 1987. Contemporary changes in coastal biocenoses of the Gdansk Bay, South Baltic): A review. Pol Arch Hydrobiol 34(1):81-90. <Address: Department of Biological Oceanography, Inst. Oceanography, Gdansk University, Czolgistow 46, 81-378 Gdynia, POLAND> <Biosis number: 33-58534> <KEYWORDS: Poland, marine, eutrophication, pollution, sewage>
- 73- Pinto-Coelho, R.M. 1987. Seasonal and short-term fluctuations in the zooplankton community of Paranoa Reservoir, Brasilia, Federal District, Brazil. Rev Bras Biol 47(12):17-30. <Address: Department of Biology Geral, ICB, UFMG-Caixa Postal 2486, 31270-Belo Horizonte-MG, BRAZIL> <Biosis number: 84-117158> <SUMMARY: Composition and seasonal variation of zooplankton in Paranoa Reservoir (Brasilia, DF) were studied from August 1982 through July 1983. Short-term variations of the zooplankton community were observed during two intensive sampling programs in the dry season (August-September 1982) and the rainy season (November-December, 1982). Sampling revealed that short-term coefficients of variations of the populations of some plankters, especially rotifers and cladocerans were similar or even greater than the long-term annual coefficients of variation.> <KEYWORDS: population dynamics, season, species composition, community structure>
- 74- Pourriot, R., Rougier, C., and Benest, D. 1986. Food quality and mictic female control in the rotifer Brachionus rubens Ehr. Bull Soc Zool Fr 111(12):105-112. <Address: Ecole. Norm. Super., Lab. Zool., 46, rue d'Ulm, 75005 Paris, FRANCE> <Biosis number: 84-77609> <SUMMARY: 2 clones of Brachionus rubens were fed on three algal species. The fertility (Ro) was similar when the clones are fed on Chlorella or Ankistrodesmus. With Phacus as food, fertility was significantly higher for one clone. The mixis rate observed in the two clones at a population density of 1 female ml-1 was influenced by the diet: the highest values were obtained with Ankistrodesmus and Phacus pyrum as food whereas Chlorella provided the lowest rates. No relation was found between fertility and mixis.> <KEYWORDS: fertility, food, mixis, Brachionus rubens>
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- 75- Rezeq, T.A. and James, C.M. 1987. Production and nutritional quality of the rotifer Brachionus plicatilis fed marine Chlorella sp. at different cell densities. Hydrobiologia 147:257-262. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Kuwait Institute of Sci. Research, Maricult. Fisheries Department, PO Box 1638, Salmiya, Kuwait> <Biosis number: 33-83230> <KEYWORDS: aquaculture, Brachionus plicatilis, rotifers as food for fish>
- 76- Ricci, C.N. 1987. Ecology of bdelloids: How to be successful. Hydrobiologia 147:117-128. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Dip. Biol., Sez. Ecol., Via Celoria 26, 20133 Milano, ITALY> <BIOSIS number: 33-83213> <KEYWORDS: biogeography, Bdelloida, parthenogenesis, anhydrobiosis>

- 77- de Ridder, M. 1986. Supplementary data on the presence of Rotifera in Belgium. *Natuurwet Tijdschr* 68(1):21-33. <Address: Lab. Morfologie Systematiek Dieren, Rijksuniversiteit Gent, K.L. Ledeganckstr. 35, 9000-Gent, BELGIUM> <Biosis number: 84-109167> <SUMMARY: New records are discussed concerning the occurrence of rotifers in Belgium. Since our Atlas provisoire was published (de Ridder, 1973), more than 30 papers appeared, mentioning taxa of the phylum under consideration; 37 species, subspecies and formae are not recorded in the Atlas and are consequently new to our country. They have been marked with an asterisk. This paper has to be considered as a complement to the "Atlas".> <KEYWORDS: Belgium, biogeography, distribution>
- 78- de Ridder, M. 1987. Distribution of rotifers in African fresh and inland saline waters. *Hydrobiologia* 147:9-14. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Inst. Ecol., State Univ. Gent, BELGIUM> <Biosis number: 33-83199> <KEYWORDS: Africa, saline waters, biogeography>
- 79- de Ridder, M. 1987. Contributions to the knowledge of African rotifers: Rotifers from Mauritania, West Africa. *Hydrobiologia* 150(2):123-132. <Address: Zoological Institute, State University of Ghent, BELGIUM> <Biosis number: 84-98853> <SUMMARY: The number of rotifer taxa known from Mauritania, is raised from 8 to 90; 61% of these are cosmopolitan, 1 is temperate - boreal, 18% are thermophilic and 20% are tropicopolitan. Most of them are widely distributed in Africa, but some species have limited distributions. The presence of Keratella testudo and Volga spinifera is remarkable and is probably related to the unusual climatic conditions in the SW Sahara. One phenotype of 'forma' is new to science: Branchionus calyciflorus f. Monstruosa new form. <KEYWORDS: Keratella testudo, Volga spinifera, Branchionus calyciflorus f. monstruosa new form, taxonomy, geographic distribution, Africa>
- 80- Robinson, J.V. and Dickerson, J.E., Jr. 1987. Does invasion sequence affect community structure. *Ecology* 68(3):587-595. <Address: University of Texas, Arlington, Department of Biology, Arlington, Texas 76019, USA> <Biosis number: 84-33956. SUMMARY: Effects of invasion sequence on community structures (including rotifers) were evaluated using 400ml aquatic microcosms. Significant differences in community structure and species richness could be attributed to both sequence of invasion and distance effects. <KEYWORDS: species diversity, colonization, island biogeography>
- 81- Roche, K.F. 1987. Post-encounter vulnerability of some rotifer prey types to predation by the copepod Acanthocyclops robustus. *Hydrobiologia* 147:229-234. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Lab. Ecol., Rijksuniv. Gent, K.L. Ledeganckstraat 35, B-9000 Gent, BELGIUM> <Biosis number: 33-83226> <KEYWORDS: selectivity, predator-prey>
- 82- Ryuntyu, Y.M. and Alexander, M. 1987. Independent origin of Gastrotricha with Nematoda by analysing early embryogenesis of Rotifer and Acanthocephala. *Cell Differ* 20(Suppl.):118S (abstract). European Developmental Biology Congress, Helsinki, Finland, June 14-18, 1987. <Address: Agronematol. Farm. Serv., Univ. N.S.W., Sydney, N.S.W. 2033, AUSTRALIA> <Biosis number: 33-106683> <KEYWORDS: evolutionary theory, evolution, embryo, aschelminthes>
- \*S\*
- 83- Sahai, R., Singh, R.R., and Saxena P.K. 1986. Effect of fertilizer factory effluent on the distributional pattern of zooplankton in Chilwa lake. *Indian J Bot* 9(1):80-84. <Address: Department Botany, Gorakhpur University of Gorakhpur, 273 009, U.P., INDIA> <Biosis number: 84-33820.> <SUMMARY: 'Chilwa' lake is a shallow waterbody, which receives effluent of Fertilizer Factory throughout the year. Rotifers (etc.) were common members of the

zooplankton community. Rotifers (18 genera) constituted the largest group in the zooplankton. Brachionus was present at all the study sites of the lake indicating its adaptability to a wide range of environment. > <KEYWORDS: Brachionus sp., eutrophication, pollution>

- 84- Saksena, D.N. and Sharma, S.P. 1986. Morphological form variation in a loricate rotifer, Keratella tropica Apstein from a perennial pond, Janaktal, Gwalior, India. Int Rev Gesamten Hydrobiol 71(2):283-288. <Address: Sch. of Studies in Zool., Jiwaji Univ., Vidya Vihar, Gwalior 47001, INDIA> <Biosis number: 83-108484.> <SUMMARY: Morphological form variation in a loricate rotifer, Keratella tropica Apstein is described. Form variation in this rotifer involves appearance and development of the left posterolateral spine. The right postero-lateral spine varies, too. It increases with increasing length of lorica and left postero-lateral spine; 3 morphological forms (reducta, asymmetrica, and heterospina) were recognized. <KEYWORDS: Keratella tropica f. asymmetrica, Keratella tropica f. heterospina, Keratella tropica f. reducta, development, form variation, morphology, new form, taxonomy>
- 85- Salt, G.W. 1987. The components of feeding behavior in rotifers. Hydrobiologia 147:271-282. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department of Zoology, University of California, Davis, CA, 94616, USA> <Biosis number: 33-83233> <KEYWORDS: Asplanchna sp. Brachionus sp., predator-prey, feeding, behavior>
- 86- Sarma, S.S.S. and Rao, T.R. 1986. Observations on the egg types and males of Collotheca tenuilobata Anderson, Rotifera: Collotheceidae. Proc Indian Natl Sci Acad Part B Biol Sci 52(6):729-732. <Address: Department of Zoology, University of Delhi, Delhi 110 007, INDIA> <Biosis number: 84-98597> <SUMMARY: Different egg types and previously unreported males of the sessile rotifer Collotheca tenuilobata are described. Resting, mictic, and amictic eggs were observed in live individuals isolated from pond plankton, and males were obtained by hatching mictic eggs in the laboratory.> <KEYWORDS: egg size, reproduction, sessile rotifer, mixis, behavior, morphology, Collotheca tenuilobata>
- 87- Saunders-Davies, A.P. and Pontin, R.M. 1987. A centrifugation method for measuring the relative density (specific gravity) of planktonic rotifers, (Rotifera), with values for the relative density of Polyarthra major Burckhardt and Keratella cochlearis, (Gosse). Hydrobiologia 147:379-381. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department Zoology, Royal Holloway College, Egham, ENGLAND, UK> <Biosis number: 33-83247> <KEYWORDS: techniques, relative density, specific gravity, Polyarthra major, Keratella cochlearis>
- 88- Sawada, M. and Carlson, J.C. 1987. Association between lipid peroxidation and life-modifying factors in rotifers. J Gerontol 42(4):451-456. <Address: Department of Biology, University of Waterloo, Ontario, N2L 3G1, CANADA> <Biosis number: 84-77608> <SUMMARY: The rate of lipid peroxidation (LP) was measured in rotifers reared under conditions of continuous darkness (D:D), dietary restriction, vitamin E supplementation, or elevated temperatures. D:D, diet restriction, and vitamin E supplementation increased life span and caused a significant decline in LP; elevated temperatures decreased life span and increased LP. Results suggest that the LP process is inversely related to longevity in the rotifer and that it appears to be involved in the aging process.> <KEYWORDS: aging, diet, photoperiod, vitamin E, temperature, life span, survivorship, lipid peroxidation>
- 89- Schoenborn, W. 1986. Population dynamics and production biology of testate amoebae, Rhizopoda, Testacea, in raw humus of two coniferous forest soils. Arch Protistenkd 132(4):325-342. <Address: Akademie der Wissenschaften der DDR, Zentralinstitut fuer Mikrobiologie und experimentelle Therapie Jena, Abteilung Limnologie, Beutenbergstrasse 11, Jena, DDR-6900> <Biosis number:

- 84-2470. SUMMARY: Presence of rotifers in forest soils was discussed.  
<KEYWORDS: soil>
- 90- Schramm, U. and Becker, W. 1987. Anhydrobiosis of the bdelloid rotifer Habrotrocha rosa, Aschelminthes. Z Mikrosk-Anat Forsch (Leipz) 101(1):1-17.  
<Address: Institut fuer Anatomie, Medizinische Universitaet zu Luebeck, Ratzeburger Allee 160, D-2400 Luebeck 1, BRD.) <Biosis number: 84-56828>  
<SUMMARY: Boiled tap water has proved to be a suitable culture medium for the moss-dwelling rotifer Habrotrocha rosa. The rotifer can be controllably transferred to anhydrobiosis, raising the concentration of the culture medium with mannitol or with NaCl as osmotic effective agents. Adapted animals survive the procedure better than animals cultured permanently in water. In desiccated states all organs and cells get an electron dense appearance but preserve their integrity; no membrane ruptures were observed. Marked changes of the fine structure are described. Rehydration of the animal takes place through the cuticle and hypodermis, neither through the pores and hypodermal invaginations nor through the front and hind part of the desiccated animal. There is a lag phase between the outer activity of the animal and the rehabilitation of morphological structures after rehydration of anhydrobiosis states.> <KEYWORDS: TEM, culture, dehydration, rehydration, anhydrobiosis, diapause, dormancy>
- 91- Scott, J.M. 1987. Further nutritional studies on the marine rotifer Encentrum linnhei. Hydrobiologia 147:303-306. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Scottish Marine Biology Association, Dunstaffnage Marine Res. Lab., Oban, Argyll, SCOTLAND>  
<Biosis number: 33-83237> <KEYWORDS: nutrition, marine rotifer, Encentrum linnhei, culture>
- 92- Seikai, T., Watanabe, T., and Shimozaki, M. 1987. Influence of three geographically different strains of Artemia nauplii on occurrence of albinism in hatchery-reared flounder Paralichthys olivaceus. Bull Jpn Soc Sci Fish 53(2):195-200. <Address: Fisheries Research Station, Faculty of Agric., Kyoto University, Maizuru, Kyoto 625, JAPAN> <Biosis number: 84-44808> <SUMMARY: Rotifers were used in the diet until the flounders completed metamorphosis.> <KEYWORDS: rotifers as food for fish>
- 93- Serra, M. and Miracle, M.R. 1987. Biometric variation in three strains of Brachionus plicatilis as a direct response to abiotic variables. Hydrobiologia 147:83-90. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: see other references> <Biosis number: 33-83208> <KEYWORDS: size, temperature, salinity, Brachionus plicatilis, genetics, Spain>
- 94- Sharma, B.K. 1987. Indian Brachionidae, Eurotatoria: Monogononta, and their distribution. Hydrobiologia 144(3):269-276. <Address: Department Zool., North-Eastern Hill Univ., Shillong-793 014, INDIA> <Biosis number: 83-118942.> <SUMMARY: Brachionids (31 species) are reported from India. Brachionus bennini (Leissling) and Brachionus patulus macracanthus (Daday) are new records from this country; 2 new synonyms are proposed.> <KEYWORDS: Brachionus bennini, Brachionus patulus macracanthus, synonymy>
- 95- Sharma, B.K. and Sharma, S. 1987. On species of genus Lepadella, Eurotatoria: Monogononta: Colurellidae, from northeastern India, with remarks on Indian taxa. Hydrobiologia 147:15-22. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department Zool., North-Eastern Hill Univ., Shillong-793014, India> <Biosis number: 33-83200> <KEYWORDS: Lepadella nartiangensis new species, Lepadella patella f. elongata new form, taxonomy, morphology, biogeography, India>

- 96- Sharma, M.P. 1987. Ecological affinity of the zooplankton populations in their natural environment. *Curr Sci (Bangalore)* 56(7):328-329. <Address: Department Zoology, CRM Jat College, Hisar 125 001, INDIA> <Biosis number: 33-108516> <KEYWORDS: Brachionus calyciflorus>
- 97- Shevtsova, L.V., Zhdanova, G.A., Movchan, V.A., and Primak, A.B. 1986. Relationship between Dreissena and planktonic invertebrates under experimental conditions. *Gidrobiol Zh* 22(6):36-40. <Address: Institute of Hydrobiology, Academy of Sciences, Ukr-SSR, Kiev, USSR> <Biosis number: 84-64912> <SUMMARY: This aquatic insect (hemiptera) Dreissena (18-20mm long) apparently feeds by filtering the water of assorted zooplankton, including protozoa, rotifers (Euchlanis dilatata), cladocerans, & copepods. <KEYWORDS: Euchlanis dilatata, predator-prey>
- 98- Shiel, R.J., Merrick, C.J., and Ganf, G.G. 1987. The rotifera of impoundments in southeastern Australia. *Hydrobiologia* 147:23-30. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Botany Department, University of Adelaide, Box G.P.O. Adelaide, South Aust. 5001> <Biosis number: 33-83201> <KEYWORDS: species diversity, population dynamics, season, reservoirs>
- 99- Souza, C.P.D., Araujo, N., Jannotti, L.K., and Gazzinelli G. 1987. Factors that can affect the breeding and maintenance of infected snails and yield of cercariae of Schistosoma mansoni. *Mem Inst Oswaldo Cruz Rio J* 82(1):73-80. <Address: Cent. Pesquisas Rene Rachou, FIOCRUZ, C.P. 1743, 30161 Belo Horizonte, MG, BRAZIL> <Biosis number: 84-90377> <SUMMARY: Apparently during the mass production of Schistosoma mansoni cercariae rotifers and certain microcrustaceans were found to contaminate the cultures. The authors note that "rotifers were easily eradicated by washing the aquaria and lettuce with diluted solution of acetic acid." <KEYWORDS: rotifers as pests>
- 100- Starkweather, P.L. and Kellar, P.E. 1987. Combined influences of particulate and dissolved factors in the toxicity of Microcystis aeruginosa, NRC-SS-17, to the rotifer Brachionus calyciflorus. *Hydrobiologia* 147:375-378. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department Biological Sciences, University of Nevada, Las Vegas, NV, 89154, USA> <Biosis number: 33-83246> <KEYWORDS: feeding, toxic agent, bluegreen bacteria/algae, population dynamics, Brachionus calyciflorus, environmental toxicology, diet, food>
- 101- Stemberger, R.S. 1987. The potential for population growth of Ascomorpha ecaudis. *Hydrobiologia* 147:297-302. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Department Biological Sciences, Dartmouth College, Hanover, NH, 03755, USA> <Biosis number: 33-83236> <SUMMARY: <KEYWORDS: symbiosis, mucus, feeding, food, swimming, behavior, population, growth, Ascomorpha ecaudis>
- 102- Snell, T.W. and Childress, M. 1987. Aging and loss of fertility in male and female Brachionus plicatilis, Rotifera. *Int J Invertebr Reprod Dev* 12(1):103-110. <Address: Division of Science, University of Tampa, Tampa, FL, 33606, USA> <Biosis number: 84-109010> <SUMMARY: The decline with age of mictic female susceptibility to fertilization and male capacity for fertilization is characterized for the rotifer Brachionus plicatilis. All mictic females were susceptible to fertilization until age 4hr. Susceptibility then declined non-linearly according to a quadratic equation reported in the paper, and by age 24hr, sexual females no longer could be fertilized. Only 83% of newborn males were capable of fertilization. This level of fertility held until age 8hr, then declined linearly. The age when 50% of individuals were no longer fertile was termed the length of fertilizability 50(LF50) and is 7.9hr (16.7% of lifespan) and 18.8hr (26.1% of lifespan) for females and males, respectively.> <KEYWORDS: sperm, resting egg, aging, fertility, males, Brachionus plicatilis, reproduction>

- 103- Snell, T.W. and Hoff, F.H. 1987. Fertilization and male fertility in the rotifer Brachionus plicatilis. Hydrobiologia 147:329-334. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Division of Sciences, University of Tampa, Tampa, FL, 33606, USA> <Biosis number: 33-83241> <KEYWORDS: diet, sperm motility, fertilization, fertility, ageing, Brachionus plicatilis>
- 104- Stemberger, R.S. and Gilbert, J.J. 1987. Multiple-species induction of morphological defenses in the rotifer Keratella testudo. Ecology 68(2):370-378. <Address: Dartmouth College, Department Biol. Sci., Hanover, New Hampshire 03755, USA> <Biosis number: 84-5112.> <SUMMARY: Filtrates of culture of 10 of 12 common freshwater zooplankton species induced posterior spines in the rotifer Keratella testudo. Filtrates of cultures of Asplanchna spp. and those of crustacean zooplankton, including cladocerans and cyclopoid and calanoid copepods, generally produced the strongest induction responses. The filtrates of Daphnia pulex cultures, at densities as low as 0.4 individuals/L, promoted significantly posterior spine development. This is the first known case of a competitor - controlled developmental polymorphism in zooplankton. Spined individuals were significantly more protected than unspined ones against injury by mechanical interference by Daphnia. Direct observations showed that the spined phenotype was more rapidly rejected after entering the branchial chambers of Daphnia. This decreased the retention time in the branchial chambers, and, consequently, reduced the likelihood of injury by the filtering limbs and mouthparts of Daphnia. The ability of this rotifer to respond to many zooplankton species seems advantageous, because the spined phenotype is less vulnerable to predation and interference competition from a variety of larger, co-occurring zooplankton than is the unspined phenotype.> <KEYWORDS: Synchaeta pectinata, Asplanchna sp., Chaoborus sp. allelochemicals>
- 105- Stewart, L.J. and George, D.G. 1987. Environmental factors influencing the vertical migration of planktonic rotifers in a hypereutrophic tarn. Hydrobiologia 147:203-208. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Freshwater Biology Association, Ferry House, Ambleside, Cumbria LA22 0LP, UK> <Biosis number: 33-83222> <KEYWORDS: vertical migration, hypereutrophic, trophic level>
- 106- Stubbs, C.S. 1987. Corticolous lichen communities and their invertebrate associates. Am J Bot 74(5):603. Annual Meeting of the Botanical Society of America, Columbus, Ohio, USA, August 9-13, 1987. <Address: Department Botany Plant Pathology, University of Maine, Orono, ME, 04469, USA> <Biosis number: 33-71942> <KEYWORDS: semiaquatic habitats>
- 107- Sudzuki, M. 1987. Intraspecific variability of Brachionus plicatilis. Hydrobiologia 147:45-48. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Biology Lab., Nihon Daigaku-University, Omiya-shi, Saitama-Ken, JAPAN> <Biosis number: 33-83203> <KEYWORDS: Brachionus plicatilis, taxonomy, morphology>
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- 108- Tanaka, H. 1987. Gonadal sex differentiation in flounder, Paralichthys olivaceus. Bull Natl Res Inst Aquacult 0(11):7-20. <Address: National Research Institute, Aquaculture, Nansei, Mie 516-01, JAPAN> <Biosis number: 84-106802> <SUMMARY: The flounder, Paralichthys olivaceus was fed on rotifers, nauplii of Artemia and etc. This study is essentially a histological one on the fish.> <KEYWORDS: rotifers as food for fish>
- 109- Taub, F.B. and Kindig, A.C. 1986. Development and testing of a standardized aquatic microcosm protocol: Status. Eleventh Annual Aquatic Toxicity Workshop, Vancouver, British Columbia, Canada, November 13-15, 1984. Can Tech Rep Fish Aquat Sci 0(1480):307-308. <Address: Sch. Fisheries, College Ocean

- Fishery Sci., Univ. Washington, Seattle, Wash. 98195, USA> <Biosis number: 32-110033> <KEYWORDS: aquaculture, community, culture, environmental toxicology, pollution, toxic agent>
- 110- Teshima, S-I., Kanazawa, A., Horinouchi, K., Yamasaki, S., and Hirata, H. 1987. Phospholipids of the rotifer, prawn, and larval fish. Bull Jpn Soc Sci Fish 53(4):609-616. <Address: Faculty of Fisheries, University of Kagoshima, 50-20 Shimoarata-4, Kagoshima 890, JAPAN> <Biosis number: 84-100838> <SUMMARY: To define the nutritional role of dietary phospholipids (PL) in larval fish, the PL classes and possible fatty acid combinations of phosphatidylcholine (PC) were investigated on the food organisms such as the rotifers Brachionus plicatilis. PC and phosphatidylethanolamine were the major PL classes in a variety of organisms including the rotifers. <KEYWORDS: Brachionus plicatilis, rotifers as food for fish>
- 111- Theilacker, G.H. 1987. Feeding ecology and growth energetics of larval northern anchovy, Engraulis mordax. US Natl Mar Fish Serv Fish Bull 85(2):213-228. <Address: Southwest Fisheries Cent. La Jolla Lab., National Marine Fisheries Service, NOAA, 8604 La Jolla Shores Drive, La Jolla, CA, 92038, USA> <Biosis number: 84-85879> <SUMMARY: The relation between prey consumption and gross growth efficiency was determined for northern anchovy, Engraulis mordax, fed rotifers and copepods.> <KEYWORDS: rotifers as food for fish>
- 112- Threlkeld, S.T. and Choinski, E.M. 1987. Rotifers, cladocerans and planktivorous fish: What are the major interactions? Hydrobiologia 147:239-244. Fourth International Rotifer Symposium, Edinburgh, Scotland, UK, August 18-25, 1985. <Address: Biology Station, Department Zoology, University of OK, Kingston, OK, 73439, USA> <Biosis number: 33-83228> <KEYWORDS: community structure, rotifers as food for fish, interaction>
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- \*V\*
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- 120- Walz, N., Elster, H.-J., and Mezger, M. 1987. The development of the rotifer community structure in Lake Constance during its eutrophication. *Arch. Hydrobiol. Suppl.* 74(4):452-487. <Address: Zoological Institute der University Muenchen, Seidlstrasse 25, D-8000, Muenchen 2, FRG> <Biosis number: 84-23643.>  
<SUMMARY: In the course of the eutrophication of Lake Constance an increase of rotifer abundance of  $>10^2$  was found. Whereas this increase took place between 1920 and 1963 as a direct effect of eutrophication, since that time no quantitative changes were found. The altered structure manifested itself in a totally different seasonal development for which predatory-prey interactions with *Cyclops vicinus* and *Asplanchna priodonta* and competition relationships to *Daphnia galeata* are responsible.> <KEYWORDS: *Asplanchna priodonta*, competition, predator-prey, season, Lake Constance>
- 121- Williamson, C.E. 1987. Predator-prey interactions between omnivorous diaptomid copepods and rotifers: The role of prey morphology and behavior. *Limnol. Oceanogr.* 32(1):167-177. <Address: Department of Biology, Lehigh University, Bethlehem, Pennsylvania 18015, USA> <Biosis number: 83-105948.>  
<SUMMARY: Suspension-feeding diaptomid copepods feed selectively on several rotifer species. Predator-prey interactions between *Diaptomus pallidus* and 7 species of rotifers were quantified and behavioral probabilities computed. Prey size was a good predictor of the probability of *Diaptomus* avoiding a prey following an encounter but had little or no predictive value in subsequent levels of interaction (capture, ingestion).> <KEYWORDS: behavior, escape response, evolution, predator-prey, rheotaxis, size-selection>
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\*Y\*

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\*Z\*

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