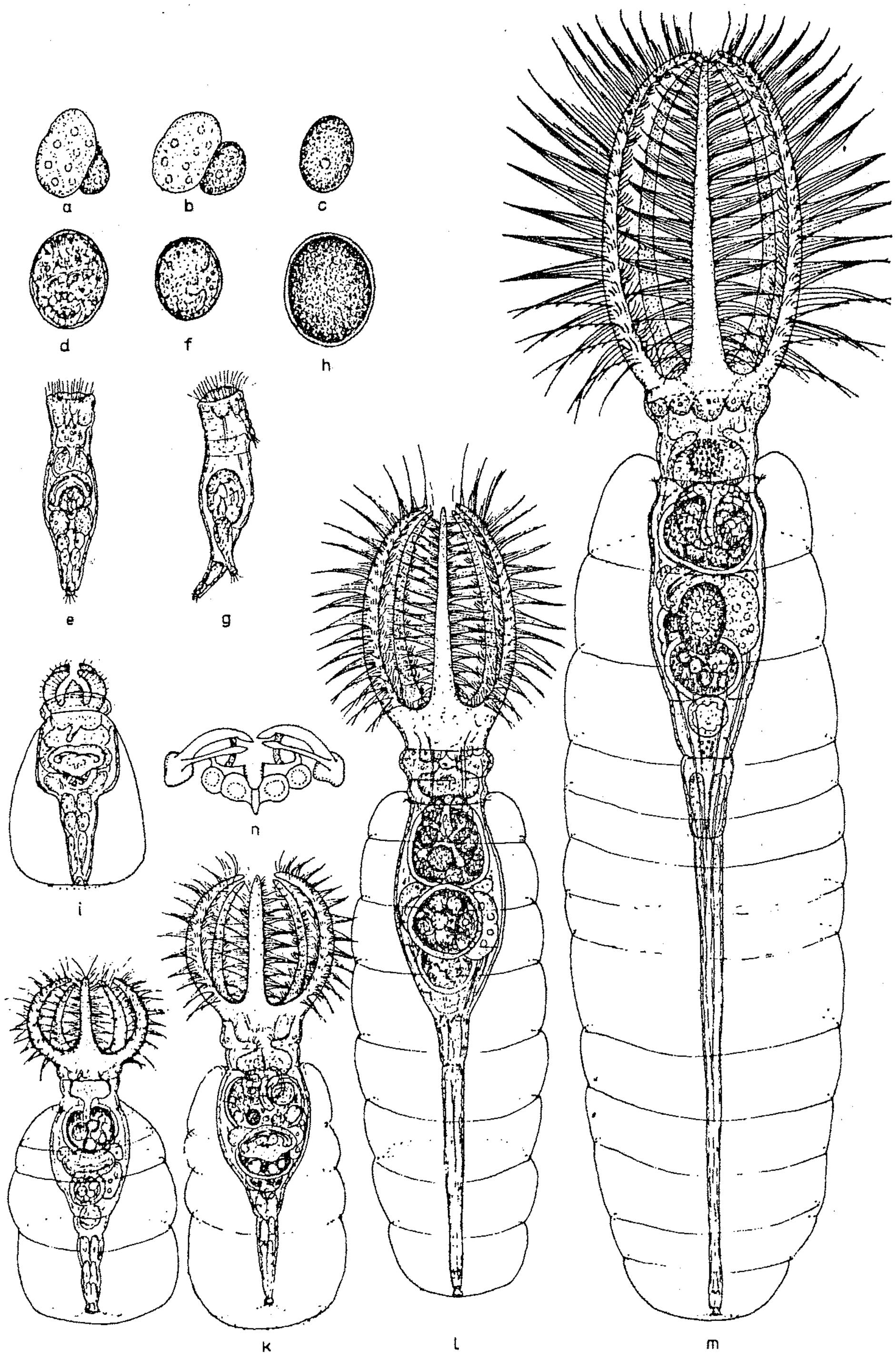
Number 7

Fall, 1983

ROTIFER NEWS

A Newsletter for Rotiferologists throughout the World



Stephanoceros fimbriatus. From: Voigt/Koste. 1978. Rotatoria. II. Tafelband.

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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 twice a year (each June and December). 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 correct in future issues (e.g., the lack of accents as found in French, German, Italian, Spanish, and etc., and splitting of references in the RECENT LITERATURE section.) A memograph reproduction of the copy is then made and printed at Saint Mary's College.

NEWS, NOTES, AND REQUESTS

Items received by either editor on or before 10 December 1983 have been included in this issue of ROTIFERS NEWS (No. 7), all other items we be published in issue No. 8 which is scheduled to be printed in late spring 1984.

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The editors are sorry to inform our readers that we must <u>request</u> help in the mailing 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 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. Please note that we request that you send your dues and requests for back issues to Jim Litton and materials to be included in the next issue of ROTIFER NEWS to Bob Wallace. This double mailing on your part will save Litton and Wallace about 30 (+) letters between our two institutions for each issue of ROTIFER NEWS that we produce. Readers of ROTIFERS NEWS who wish to may contributions beyond the dues are encouraged to do so !!!! Make all checks payable to ROTIFER NEWS.

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1. Back issues of ROTIFER NEWS are still available! If you need a back issue (1-6) of ROTIFER NEWS copies are available from Jim Litton at a cost of $2.00 per issue to cover mailing and reproduction. Your comments on any aspect of ROTIFER NEWS is requested by the editors! We thank those who have made suggestions and comments on the format and content of issues 5 and 6. We are especially appreciative of the favorable comments we have received. Your praise makes the production efforts more rewarding.

2. At the suggestion of W.T. Edmondson we are going to initiate a new section: DESCRIPTIONS OF NEW SPECIES. It will include only citations of published works which describe new rotifer species, redescribe species, or combine one or more taxa. Unpublished comments sent to the editors concerning such topics will be placed in the NEWS, NOTES, AND REQUESTS section. The editors request rotifer workers call our attention to relevant works on taxonomy for this section.

3. The editors have received notification of a new publication which may be of interest to some rotifer workers:

AQUATIC BIOTA OF LATIN AMERICA

Volume I. AQUATIC BIOTA OF SOUTHERN SOUTH AMERICA. Edited by

S.H. Hurlbert, San Diego State University, USA 342p (1977).

Volume II. AQUATIC BIOTA OF TROPICAL SOUTH AMERICA. Edited by S.H. Hurlbert, San Diego State University USA, G. Rodriguez, Instituto Venezolano de Investigaciones Cientificas, and N.D. Santos, Museu Nacional do Rio de Janeiro. PART 1. ARTHROPODA 323p (1981). PART 2. ANARTHROPODA 298p (1981).

Volume III. AQUATIC BIOTA OF MEXICO, CENTRAL AMERICA AND THE WEST INDIES. Edited by S.H. Hurlbert, San Diego State University, USA and A. Villalobos-Figueroa, Universdad Autonoma Metropolitana-Izapalapa, Mexico 529p (1982).

Following is text abstracted from the advertisement flier: A three-volume work produced through the collection of 150 of the world's foremost taxonomists. Each volume contains annotated taxonomic bibliographies treating all plant and animal groups found in the inland waters of the region. Each bibliography is preceded by an introduction (Spanish and English). These introductions summarize information on taxonomy, biogeography, and natural history. The introduction also guides the reader to the taxonomic literature. The volumes are valuable to all ecologists, limnologists, fishery biologists, parasitologists, public health biologists, and taxonomists with interest in the region.

Ordering information: <u>Payment must accompany all orders</u>. A check or money order payment to "Aquatic Biota -- SDSU Foundation" should be sent with your order to :

Stuart H. Hurlbert
Department of Biology
San Diego State University
San Diego, California
USA 92182

Volume I, $13.00 *
Volume II, Part 1, $14.00 **
Volume II, Part 2, $12.00 **
Volume III, $20.00

* Precio de Tomo I es $8.00 para pedidos que se originan en America Latina. Pedidos deben ser enviados a S. Hurlbert (direccion arriba). ** En America Latina, Tomo II puede comparase a un reducido (Parte 1, $11.20; Parte 2, $9.60). Cheque o giro bancario debe ser enviado a: Biblioteca, Instituto Venezolano de Investigaciones Cientificas, Caracas 101, Venezuele. El pago debe acompanar el pedido, y puedo efectuarse o en dolares norteamericanos o en bolivares venezolanos.

4. S.I. Dodson has been investigating the biology of the tube-building rotifer <u>Cephaldella forficula</u>. A manuscript on its ecology and behavior is in preparation. This rotifer is unusual because it builds and lives in a closed tube. The rotifer is easily maintained in culture in an aquarium if the aquarium also includes a crayfish which produces detritus to serve as a matrix

for the rotifer. This species is currently in culture and Stan informs us that he will gladly mail starter cultures to any one interested. His address is S.I. Dodson, Department of Biology, University of Wisconsin, Madison, WI, 53706, USA.

5. M. Yufera has two papers in press on the culture of a strain of *Brachionus plicatilis*. ROTIFER NEWS will print a complete citation when available.

6. W. Koste has three papers in press. They cover the species *Paradicranophorus hudsoni* and *Trichotria tetractis*, and specimens from some central Amazonian lakes. ROTIFER NEWS will print a complete citation when available.

7. ROTIFER NEWS has been asked to inform its readers that a new journal has been born: ZOOLOGICA ORIENTALIS. Further information may be obtained from Dr. M.K. Jyoti, Secretary, Association of Progressive Zoologists, c/o Department of Biosciences, University of Jammu (New Campus), Jammu-180 001, INDIA.

8. R.L. Wallace is interested in receiving preserved samples of sessile rotifers with any important collection information (i.e., species, locality, temperature, pH, etc.) if available. He will pay the cost of mailing. Send specimens to R.L. Wallace, Biology Department, Ripon College, 300 Seward Street, Ripon, Wisconsin, 54791, USA.

9. Several readers of ROTIFER NEWS have asked if we could reformat the RECENT LITERATURE section so that the references can be cut out and pasted onto small file cards. Unfortunately, with our current equipment this is not possible. We have also been asked if it is possible to print the references on only one side of a page. This is possible, but the production and mailing costs would be prohibitive.

10. D.R. Lenat (See Anderson and Lenat, 1978 in the RECENT LITERATURE section) reports the following additional information to that paper. (NB: the request for information at the end of this comment: This paper, combined with work conducted during 1976-1977, gave a good long-term (4 years) record of changes in rotifer populations. Zooplankton community structure usually showed only slight between-year changes. Rotifers comprised 81% of the zooplankton in "Year IV", 72% in "Year V", and 77% in "Year VI". However, in "Year VII" rotifers declined to only 35% of the zooplankton. This change (especially for *Keratella crassa*) occurred during a decline in water quality, particularly an increase in Selenium concentrations. This suggests a hypothesis the rotifer populations may be less tolerant then cladocera/copepoda to inputs of dissolved metals. I'd like to hear from anyone with evidence to confirm to dispute this hypothesis. Address: David R. Lenat, North Carolina Department of Natural Resources, Archdale building, POB 27687, Raleigh, North Carolina,

27611, USA.>

11. We have been asked to separate the references by category (i.e., Taxonomy only, ecology, distribution, etc.). This idea has merit and we are looking into a method of doing this, while still keeping the alphabetical order (e.g., letter codes, etc.). (see Note number 2 above.)

12. If anyone has the name and address of a North American based rental source for the Clement films please let the editors know. Several workers have requested such information.

13. David A. Egloff has recent presented a paper at the "First International Chrysophyte Symposium" held at the University of North Dakota, Grand Forks, North Dakota, USA, August 11-16, 1983. Following is an abstract of his paper:

EFFECTS OF <u>OLISTHODISCUS LUTEUS</u> CARTER (CHRYSOPHYCEAE) ON FEEDING AND SWIMMING PATTERNS OF THE MARINE ROTIFER <u>SYNCHAETA CECILIA</u> ROUSSELOT. D.A. Egloff, T.J. Cowles, and D. Stoecker. Oberlin College, Oberlin, Ohio, 44074 and Woods Hole Oceanographic Institution, Woods Hole, Massachusetts, 02543, USA. <u>Synchaeta</u> spp. are seasonally abundant with <u>Olisthodiscus luteus</u> in coastal marine ecosystems of New England. The growth and reproduction of <u>Synchaeta cecilia</u> can be sustained in laboratory cultures with many small flagellates, especially crypyophytes, dinoflagellates, and haptophytes, but not with <u>O. luteus</u>. In fact, <u>O. luteus</u> is not ingested by <u>S. cecilia</u> and its presence in a mixture of algae reduces the rotifer's grazing rate on other algal species. Furthermore, <u>O. luteus</u> alters <u>S. cecilia</u>'s swimming pattern from a sequence of right-hand spirals to a series of streaks. A quantitative video analysis of these differences in swimming behavior was presented.

14. Some "interesting literature" has been passed to the editors. Bayliss, Clara Kern. 1912. (copyright 1897). "In Brook and Bayou or, Life in the Still Waters." Appletons' Home Reading Books. Our reading will be taken up in the middle of Chapter 5 part III - Wheel-Bearers.

[Editor's note: Recent publications of equal scientific merit are not invited.]

"... you will feel new interest in the wheel animalcule, and will say, ' I'm glad to make your acquaintance, Uncle Rotifer,' when you learn that, way down in the scale of life, here in this fragile little creature, entirely invisible without a microscope, there is to be found a genuine brain and a true eye."

"(How far back we mortals must go to find the beginnings of us!)"

"In front of and above the mastax of brachionus is a large mass of diffuse nervous matter, a brain; and situated like a wart upon it is a crystalline lens, a square eye of crimson color and of high refracting power. That the rotifer uses this eye is shown by his [editor's note Her] bending his body in the direction of an approaching morsel of food [editor's note - feeding people take note] and plying his wheels with renewed energy."

"This also proves that he uses his brain; for the more energetic action of the wheels at the prospect or reward shows intelligence. So, too, does the fact that he will depress the rim of the funnel on the side nearest the object he is trying to secure. He does this with the evident purpose of making it easier for the food to slip over the rim into the funnel."

In the next issue of ROTIFER NEWS we may reprint selected parts of Chapter 5 part IV.

15. Agnes Ruttner-Kolisko has a paper in press from the SIL Proceedings (XXIII) 1983: Results of individual cross-mating experiments in three distinct strains of <u>Brachionus plicatilis</u>.

16. The next Rotifer Symposiium (4th) is scheduled for late August 1985 in Edinburgh, Scotland. Some details follow.

IV th International Rotifer Symposium

Time: Sunday 18 - Saturday 25 August 1985
Place: Edinburg, Scotland
Cost: Approximately 20 UK pounds per day;
Total cost ~140 UK pounds, accommodations and three meals per day.

Further details available from:
Dr. Linda May
Institute of Terrestrial Ecology
78 Craighall Road
Edinburg EH6 4RG
Scotland UK

In order to maintain the "workshop' atmosphere of the three preceeding Rotifer Symposia, the number of symposium participants will be strickly limited to 65. Arrangements for the scientific sessions will be similar to the previous meetings. Each half day will consist of a review paper (invited only we believe, Eds) followed by several short presentations of 10-15 minutes. Facilities for poster displays can be made available in the conference room if required. Accommodations (single rooms only) and meals will be available at the Conference Centre for all participants and accompanying persons. Direct air service to Edinburg is limited. However, special reductions in fares from London, Manchester, and Glasgow by British Rail and British Midland Airways should be available if required.

17. Anyone interested in developing a slide exchange should write either of the editors informing us of (1) your willingness to submit slides to such an exchange and (2) a list of species of which have color slides.

18. The complete biblography of the papers printed in the DEVELOPMENTS IN HYDROBIOLOGY - 14; Dr. W. Junk, publisher, BIOLOGY OF ROTIFERS (the proceedings of the third International Rotifer Symposium) will be included in our next issue of ROTIFER NEWS. Following we have reprinted the table of contents of this volume.

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DESCRIPTIONS OF NEW SPECIES

Boltovskoy, A. and Urrejola, R. 1977. Dos nuevas especies del genero Keratella (Rotatoria) de Tierra del Fuego, Argentina. Limnobios 1(6): 181-187. <Language: SPANISH with ENGLISH summary> <English title: Two new species of the genus Keratella (Rotatoria) form Tierra del Fuego, Argentina.> <Abstract: SEM observations on two new rotifer species from Sphagnum bogs near Ushuaia city were made. Both species (Keratella ona, n. sp. and Keratella yamana, n. sp.) show the anterior dorsal margin with six spines, parallel lateral margins and rounded posterior margin with a short median spine, although K. ona may lack it. The dorsal plate is characterized by well marked lines which enclose the plaques and by a network sculpture with wide alveoles; in K. yamana the median line is less conspicuous and the reticulum of marginal and posterocarinal plaques is former by smaller alveoles. The ventral plate has a V-shaped central sinus and is completely covered by pustules of different nature on each species. Twenty six facets are on K. ona dorsal plate including three frontal areas and the following plaques: three median, three lateral on each side, two posterocarinal, two posterocarinal accessory and five marginal on each side. There are twenty eight factes on K. yamana dorsal plate including three frontal areas and the following plaques: three median, four lateral on each side, one submarginal on each side, two posterocarinal and five marginal on each side. -Editors note: SEM photographs of each new species are presented.>

Koste, W. and Shiel, R.J. 1983. Morphology, systematics and ecology of new monogonont Rotifera (Rotatoria) from the Alligator Rivers region, Northern Territory. Transactions of the Royal Society of South Australia 107(2): 109-121. <Species: Brachionus falcatus Zacharias f. reductus n.f., B. urceolaris sericus n.f. and Macrochaetus danneeli n.sp.> <See RECENT LITERATURE for a complete abstract.>

de Ridder, M. and Verheye, H. 1981. Bijdrage Tot de Kennis van de Raderdierfanua van Brakke Wateren in de Belgische Kuststreek. Naturrwet Tijdschr 62: 129-138. <Notholca salina dumonti subsp. nov.> <see RECENT LITERATURE for a complete abstract.>

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 relevant 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 8) which is scheduled for late spring 1984. 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 caveat 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. We believe that most of the following papers will be of interest to rotiferologists. 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

Ali, A. and Stanley, B.H. 1982. Effects of a new carbamate insecticide Larvin UC-51762 on some nontarget aquatic invertebrates. Fla Entomol 65(4): 477-483. <Address: Univ of Florida, IFAS, Agric Research and Education Center, P.O. Box 909, Sanford, Fl 32771, USA.> <A portion of the BIOSIS ABSTRACT follows: The effects of a new carbamate (thiodicarb) insecticide, UC-51762 or Larvin, on some non target aquatic invertebrates in experimental

and sewage ponds were studied. The insecticide at 0.25, 0.5 and 1.0 Kg AI (active ingredient) per Hectare (i.e., 0.055, 0.11 and 0.22 ppm, respectively) in experimental ponds affected populations of rotifera, *Cyclops* spp., *Daphnia* sp. etc.>

Anderson, T.P. and Lenat, D.R. 1978. Effects of power plant operation on the zooplankton community of Belews Lake, North Carolina. *In:* J.H. Thorp and J.W. Gibbons (eds.). *Energy and environmental stress in aquatic systems* U.S. Department of Energy. CONF 771114. p 618-641. <Address: Dept. Environmental Sciences and Engineering, University of North Carolina, Chapel Hill, N.C., USA> < Abstract: The euphotic-zone zooplankton community of Belews Lake, North Carolina, was studied over a 3-year period. Belews Lake is a 1500-ha cooling reservoir for a 2200-NW coal-fired power plant. This study included 1 year of preoperational data and 2 years of postoperational data. A detailed examination of 19 taxa showed that three species may have responded to power-plant operation. Two warm stenotherms (*Hexarthra* and *Ptygura*) increased in density, and an increase in the winter density of *Polyarthra* was also noted. An analysis of variance indicated that circulation of surface water by the power plant resulted in greater spatial and seasonal homogeneity for most taxa. Other changes in the zooplankton community appeared related to natural causes.> <The following taxa were discussed: Hexarthra spp., Ptygura spp., Conochilus unicornis, Conochiloides spp., Synchaeta spp., Polyarthra spp., Ploesoma truncatum, Keratella earlinae, Keratella cochlearis, Keratella crassa, Asplanchna spp., and Collotheca spp. (see item number 10 in the NEWS and NOTES section above for more information.)>

B

Blanchot, J. and Pourriot, R. 1982. Influence de trois facteurs de l'environment, lumiere, temperature et salinitie, sur l'eclosion des oeufs de duree d'un clone de *Brachionus plicatilis* (O.F. Muller) Rotifere. C.R. Acad Sc Paris t. 295 Serie III 243-246. <Address: E.N.S. Laboratoire de Zoologie, L.A. 258, 46, rue d'Ulm, 75230, Paris, FRANCE.> <Language: FRENCH, with ENGLISH abstract> <DIALOG BIOSIS Abstract # 75088592> <Abstract: The authors studied the conditions which favor hatching of resting eggs in a laboratory population of *B. plicatilis*, and also the ones that maintain them in a dormant state. Although embryonic mortality is sometimes high, optimum hatching rates are observed only in the presence of light, at a temperature range of 14 to 20 degrees C and in a culture medium of average salinity. Storing resting eggs in darkness, at low temperature (<10 C), or at high salinity (~33 parts per thousand) keeps them dormant.>

Blanchot, J. and Pourriot, R. 1982. Effects de l'intensite d'eclairement et de la longueur d'omde sur l'eclosion des oeufs de duree de *Brachionus rubens* (Rotifere). C.R. Acad Sc Paris t 295 Serie III 123-125. <Address: see above> <Language: FRENCH, with ENGLISH Abstract> <DIALOG BIOSIS Abstract # 76072895> <Abstract:

In controlled conditions of temperature and medium, but varied white light intensity, the rate of resting eggs hatching decreases under an intensity near 1 Wm E-2. In a visible spectrum divided into narrow isoquantic bands, the short wavelengths (400-480 nm) are moree efficient for breaking dormancy>

Boltovskoy, A. 1976. Techica simple para la preparacion de microinvertebrados tecados y loricados labiles para su examen con el microscopio electronico de barrido. Limnobios 1(1): 21-26. <English title: Simple drying techique applicable to labile thecate and loricate microinvertebrates for examination with scanning electron microscope.> <Language: SPANISH with ENGLISH abstract> <Abstract: A rapid and simple method for drying microorganisms with half hard outer coverings that undergo deformation while being air dryed, is described. This is an ultrasimplified freeze drying technique which has given good results with Dinoflagellata of the genera Peridinium and Glenodinium as well as with rotifer of the genus Keratella. It is presumed that this method can be applied to another biological objects with outer coverings of similar consistence.>

Boltovskoy, A. and Urrejola, R. 1977. Dos nuevas especies del genero Keratella (Rotatoria) de Tierra del Fuego, Argentina. Limnobios 1(6): 181-187. <Language: SPANISH with ENGLISH summary> <English title: Two new species of the genus Keratella (Rotatoria) form Tierra del Fuego, Argentina.> <See section DESCRIPTION OF NEW SPECIES.>

Boraas, M.E. 1983. Population dynamics of food-limited rotifers in two-stage chemostat culture. Limnology and Oceanography 28(3): 546-563. <Address: Center for Great Lakes Studies, The University of Wisconsin - Milwaukee, Milwaukee, Wisconsin, 53201 USA> <Abstract: The population dynamics of Brachionus calyciflorus were studied in two-stage chemostat cultures. Chlorella pyrenoidosa was supplied continuously from steady state culture growing with constant illumination on limiting nitrate. Rotifer growth in the second stage (in the dark) was limited by the rate of supply of algea. The algae supply rate and rotifer specific growth rate, u, were determined by the second-stage dilution rate, D (u = D in the steady state). Population densities and size-age structures were determined with an electronic particle counter. Small body size and obligate amictic females apparently were selected in these chemostats. The growth rates observed were the highest yet recorded for any species of Brachionus. The chemostat system facilitated unambiguous determinations of rotifer growth and fecundity, since food was supplied and wastes were removed at continuous, controlled rates. Specific ingestion and loss rates, yield (net rotifers produced/algae ingested), production (rotifers produced per hour), and rotifer standing crop increased directly with u. Although most observations are qualitatively similar to data from heterotrophic microbial chemostat studies, a close fit to the rotifer steady state observations was obtained only when K was assumed to be variable (an inverse function of u) rather than

constant. Numerical simulations of the same model only approximately reproduced transient data. Microbial growth models may be useful to represent rotifer growth at or near steady state but are inadequate to explain moderate to large transient fluctuations of populations.>

Braioni, M.G. 1976. I Rotiferi interstiziali dell'Adige. In La fauna interstiziale iporreica del fiume Adige Rivista di Idrobiologia 15(1): 75-83.

Braioni, M.G. and Gelmini, D. 1978. Considerazioni sull'evoluzione della biocenosi dei Rotiferi provocata dalla distruzione del Fragmiteto nei laghi di Fimon e d;Ampola. St. Trent di Sc Nat 55: 107-152.

Braioni, M.G. and Gottardi, M. 1979. I Rotiferi dell'Adige: confronto tra il popolamento interstiziale e quello benticoperifitico. Boll Museo Civ St Nat Verona 6: 187-218.

Braioni, M.G. 1980. I Rotiferi interstiziali del Brenta. In Il fiume Brenta e la sua fauna Boll Museo Civ St Nat Verona 7: 257-260.

Braioni, M.G. 1981. The drift of rotifers in the River Adige: preliminary communication. Boll Zool 48(3-4): 305-310. <Address: Ist Biol Animale, Padova, Via Loredan 10, 35100 Padova, Italy> <DIALOG BIOSIS Abstract # 76063653: As part of research on the interstitial fauna and benthic and periphytic rotifers in the river Adige, the rotifers in the central flow of the river were studied. The incidence is given of the species found. A comparison between these data and those from an analysis of benthic-periphytic rotifers suggests that, in this stretch of the river, rotifers occurring in the flow represent a component of the drift.>

Braioni, M.G. and Gelmini, D. 1983. I Rotiferi Monogononti (Rotatoria: Monogononta). Guide per il riconoscimento delle specie animali delle acque interne italiane no. 23 Collana del Progetto finalizzato Promozione della qualita dell'ambiente CNR AQ/1/200: 1-180.

C

Chowdhury, S.H. 1977. Preliminary report on a new form of rotatoria from Bangladesh. Bangladesh Journal of Zoology 5(2): 129-130. <NB: The author has since established that this species is Brachionus doneri>

Chowdhury, S.H. and Bhouyain, A.M. 1981. The Rotatorian genera Brachionus Pallas and Platyias Harring from the river Karnaphuli. Bangladesh J Zool 9(2): 113-123. <Abstract: Regular monthly collections of plankton from six sampling stations along a six-mile stretch of the river Larnaphuli during a 17-month period were analysed for the different species of the rotatorian genera Brachionus and Pallas and Platyias Harring. The present paper

reports seven species of the former and two of the latter genera. Brief descriptions of these species are included.>

D

Dabrowski, K. and Rusiecki, M. 1983. Content of total and free amino acids in zooplankton food of fish larvae. Aquaculture 30(1-4): 31-42. <Address: Institute Ichthyobiol Fisheries, Academy Agriculture Technol, 10-957 Olsztyn-Kortowo.> <The following is from the DIALOG Abstract: The content of total and free amino acid in freshwater planktonic rotifers (Brachionus sp.), copepods (Eudiaptomus zachariasi) and groups of Daphnia pulex. Ceriodaphnia sp. was determined.>

Dodson, S.I. and Cooper, S.D. 1983. Trophic relationships of the freshwater jellyfish Craspedacusta sowerbyi. Limnology and Oceanography 28(2): 345-351. <Address: Dept Zoology, University of Wisconsin, Madison, WI 53706, USA.> <DIALOG BIOSIS Abstract # 76047945: The medusae of the hydrozoam C. sowerbyi appear in Sept in variety of ponds and lakes in Wisconsin (USA). Short-term laboratory feeding trials in ~ 1 liter of water indicate that the medusae (11.6 mm diameter) consume zooplankton ranging in size from ~ 0.2 - 2.0 mm and kill, but do not eat, nekton up to 8.8 mm long. Clearance rate coefficients are as high as 0.9/medusa/day for ingested prey and up to 64/medusa/day for larger nekton, which were killed but not ingested. Neither invertebrate planktonic predators nor fish eat the medusae. Crayfish readily eat medusae which are resting on the bottom of an aquarium. The medusae probably do not reduce zooplankton stocks enough to compete with fish. If Craspedacusta has an effect on zooplankton stocks, it is by reducing the density of other invertebrate predators such as the rotifer Asplanchna.>

Droop, M.R. and Scott, J.M. 1981. A steady state approach to some microplankton problems. Ann Inst Oceanogr, Paris 57:29-36.

E

Elmore, J.L. 1982. The influence of food concentration and container volume on life history parameters of Diaptomus dorsalis Marsh from subtropical Florda. Hydrobiologia 89: 215-223.

Elmore, J.L. 1983. The influences of temperature on egg development times of three species of Diaptomus from subtropical Flordia. American Midland Naturalist 109: 300-308.

Elmore, J.L. 1983. Factors infulencing Diaptomus distributions: An experimental study in subtropical Flordia. Limnology and Oceanography 28:522-532.

Elmore, J.L. and Bunting, D.l. 1979. Long-term changes in zoolpankton species composition and selected physiochemical parameters in Woods Reservior, Tennessee. Journal of the Tennessee Academy of Science

54(4): 132-136.

Eloranta, P.V. 1982. Zooplankton in the Vasikkalampi Pond, a warm water effluent recipient in central Finland. J Plankton Res 4(4): 813-838. <DIALOG BIOSIS Abstract # 76047979>

Eloranta, P.V. 1983. Physical and chemical properties of pond waters receiving warm water effluent from a thermal power plant. Water Res 17(2): 133-140. <DIALOG BIOSIS Abstract # 76048023>

F

Fukusho, K. and Okauchi, M. 1982. Strain and size of the rotifer Brachionus plicatilis being cultured in southeast Asian countries. Bull Natl Res Inst Aquacult 0 (3): 107-109. <Abstract: Variation in morphological and physiological characteristics of the rotifer, B. plicatilis, cultures as a food organism throughtout Japan should be clarified for further progress and spread of the culturing technique. Amoung the varieties, S-type and L-type are common and are considered as the genetically different strains. S-strain is small (lorica length, 140-220 microns) with round lorica and pointed anterior spines or lorica and shows favorable multiplication at $>$ 20 C. L-strain is large (230-320 microns) with long lorica and obtuse-angled spines of lorica and shows tolerance to temperatures $<$ 20 C. B. plicatilis is a cosmopolitan species, and the existence of the strains which are equivalent to the Japanese strains was also reported in Eurpoe and North America (Rylov 1935; Ito et al 1981). In south Asian countries where the rotifer is actively cultured and water temperatures is high all year (25 - 30 C), strains of the rotifer have not been investigated. The rotifers of the southeasyern Asian countries were compared with the domestic strains in the present study.>

G

Gabius, H-J., Graupner, G., and Cramer, F. 1983. Activity patterns of aminoacyl transfer RNA synthetases EC-6.1.1, transfer RNA methylases EC-2.1.1, arginyl transferase EC-2.3.2.8, and tubulin tryosine ligase EC-6.3.1 during development and aging of Caenorhabditis elegans. Eyr J Biochem 131(1): 231-234. <Address: ABT Chemie, Max Planck Inst, Exp Medizin, Hermann Rein Str 3, D-3400 Goettingen, FRG.> <DIALOG BIOSIS Abstract # 76065465> <This paper deals with aging in a nematode but may be of some interest to those concerned with aging in rotifers.>

Gibbons, M.V. and Funk, W.H. 1982. Seasonal patterns in the zooplankton community of a eutrophic lake in eastern Washington, USA, prior to multiphased restoration. J Freshwater Ecology 1(6): 615-628. <Address: Environmental Science Program, Washington State Univ, Pullman, WA 99164.> <From the DIALOG Abstract: The zooplankton community of eutrophic Liberty lake, Washington, was investigated at 2 pelagic stations for 1 year prior to the initiation of a multiphased lake restoration treatment. The

rotifers numerically dominated the community throughtout the study period with the species Keratella cochlearis, Kellicottia longispina and Polyarthra spp. making up the largest share of zooplankton density.>

Gilbert, J.J 1983. Rotifera. In Reproductive Biology of Invertebrates, Vol 1, Oogenesis, Oviposition, and Oosorption. eds K.G. Adiyodi and R.G. Adiyodi, John Wiley & Sons, Ltd. (Chichester, Sussex) ISBN: 0-471-10128-1

H

Hammer, U.T., Haynes, R.C., Heseltine, J.M., and Swanson, S.M. 1975. The saline lakes of Saskatchewan. Verh Internat Verein Limnol 19:589-598.

Hammer, U.T. 1981. A comparative study of primary production and related factors in four saline lakes in Victoria, Australia. Int Revue ges Hydrobiol 66(5): 701-743.

Hedgecock, E.M., Sulston, J.E., Thomson, J.N. 1983. Mutations affecting programmed cell deaths in the nematode Caenorhabditis elegans. Science (Wash, D.C.) 220(4603): 1277-1279. <address: MRC Lab Molecular Biology, Hills Road, Cambridge CB2 2QH, UK> <From the DIALOG BIOSIS Abstract # 76072196> <This paper may be of interest to those concerned with the biology of aging>

Hofmann, W. The coexistence of two pelagic Filinia spp, Rotatoria, in Lake Plusssee, West Germany. 1. Dynamics of abundance and dispersion. <Address: Max-Planck Institute fuer Limnologie, ABT Allgemeine Limnologie, Postfach 165, D-2320 Ploen, FRG.> <BIOSIS Abstract # 76009285: The dynamics of abundance in F. terminalis and F. hofmanni were characterized by alternations of population explosions and periods with permanently low abundance corresponding to gradations known from forest insects. Filinia terminalis showed growth phases in the epilimnion in April each year. During May, the population left the epilimnion. High abundance of F. hofmanni was only observed in the lower hypolimnion. With the exception of an overlapping in spring, 1972, the populations were temporally or spatially separated during periods of population growth.>

Holland, L.E., Bryan, C.F., and Newman, J.P., Jr. 1983. Water quality and the rotifer populations in the Atchafalaya river basin Louisiana, USA. Hydrobiologia 98(1): 55-70. <Address: U.S. Fish and Wildlife Service, Natl Fishery Research Lab, P.O. Box 818, La Crosse, WI 54601, USA> <DIALOG BIOSIS Abstract # 76071106: Distributional and ecological information on the class [SIC] Rotifera was compiled from both flood controlled and uncontrolled reaches of the Atchafalaya River basin, a large river-swamp in south-central USA. In the minimally altered lower basin a variety of aquatic habitats within a small area resulted in a very diverse rotifer community consisting of an average of 46 taxa. In contrast, only an average of 28 different taxa were collected in

leeved upper basin habitats. As a result of cluster analysis rotifer communities associated with areas of similar water quality were identified. Variations in suspended solids, total dissolved solids and organic C were most often significantly associated with variations in rotifer numbers from the lower basin. Seasonal flushing of backwater areas by mainstream waters is very important in maintaining the diversity of these lower basin rotifer communities.

Hudd, R. 1982. Feeding of Baltic herring, <u>Culpea harengus</u>, in the Gulf of Finland. Finn Fish Res 4(0): 27-34. <From the DIALOG BIOSIS Abstract # 75071081: The most important food is copepods of different stages, but in spring when the water is colder the larvae eat less motile organisms, such as rotifers and planktonic eggs.>

Hunt, G.W. and Chein, S.M. 1983. Seasonal distribution, composition, and abundance of the planktonic ciliata and testacea of Cayuga Lake, New York, USA. Hydrobiologia 98(3): 257-266. <Address: Environmental Service Group, P.O. Box 20400, Oklahoma City, OK, 73156, USA.> <From the DIALOG BIOSIS Abstract # 76032529: The planktonic protozoans (Ciliata and Testacea) of Cayuga Lake were studied from September 1974 - July 1975. Monthly collections were taken at 4 depths (surface, 15, 31, and 92 m) at each of 7 stations along the 125 m depth countour. Protozoans composed 69% or more of the total zooplankton density on 9 of 11 dates. Protozoan dominance was most evident during winter and spring , corresponding to the near absence of rotifers and microcrustaceans. Protozoans accounting for 30% or more of the zooplankton biomass from April through June, reaching 47% in May.>

Husmann, S. 1982. Activated carbon filters as artifical biotopes of stygophil and stygobiont ground water organisms. Arch Hydrobiol 95(0): 139-156. <Address: Limnologische Flussstation des Max-Planck Institute fuer Limnologie, D-6407, Schlitz.> <The author describes an carbon filter for sewage water which is an artificial biotope of rotifers, nematods, oligochaetes, etc.>

I

J

Jenkin, P.M. 1982. Temperature hydrochemistry and plankton in Wicken Brickpits UK 1930-1931. Hydrobiologia 97(1): 37-62. <From DIALOG BIOSIS Abstract # 76055762: Temperature, selected chemical constituents and plankton were analyzed from 3 depths, fortnightly, by day and occassionally by night, in 2 flodded brickpits, between May 1930 and Aug 1931. Planktonic rotifers and Crustacea differed in the two ponds.>

Jyoti, M.K. and Sehgal, H. 1979. Ecology of rotifers of Surinsar a subtropical fresh water lake in Jammu Jammu and Kashmir India. Hydrobiologia 65(1): 23- 32.

Jyoti, M.K. and Sehgal, H. 1980. Rotifer fauna of Jammu India 1. Loricates. Limnologica 12(1): 121-126.

K

Kokova, V.E., Trubachev, I.N., and Barashkov, V.A. 1982. Biochemical composition of some aquatic invertebrates. Gidrobiol Zh 18(4): 58-62. <Language: RUSSIAN> <From the DIALOG BIOSIS Abstract # 76001979: The biochemical composition of certain water invertebrates (rotifers) reared under running-water conditions and fed on different food was studied.>

Koste, W. and Shiel, R.J. 1983. Morphology, systematics and ecology of new monogonont Rotifera (Rotatoria) from the Alligator Rivers region, Northern Territory. Transactions of the Royal Society of South Australia 107(2): 109-121. <Abstract: Seventy-six rotifer taxa were recorded from eight billabongs of the Magela creek, a tributary of the East Alligator River, at the end of a six month dry season. Three new taxa are described and figured: <u>Brachionus falcatus</u> Zacharias f. <u>reductus</u> n.f., <u>B.</u> <u>urceolaris</u> <u>sericus</u> n.f. and <u>Macrochaetus</u> <u>danneeli</u> n.sp., with two new records for the continent. The species assemblage is compared to that of the same biotopes in the wet season, in which 174 taxa, including four new species and 25 new records, were identified. Differences in rotifer species assemblages are related to biotope heterogeneity; shallow floodplain billabongs are extreme biotopes with low species diversity, whereas deeper perennial channel billabongs are refuges for a diverse assemblage of periphytic taxa and resting eggs of monogonont and encysted eggs of bdelloid rotifers of ephemeral waters of the area.

Kowalczyk, C. and Radwan, S. 1982. Groups of pelagic zooplankton in 3 lakes of different trophy. Acta Hydrobiol 24(1): 39-52. <Address: Academy Agric Dept Zoology, Hydrobiol, UL, Akademicka 13, 20-934 Lublin, Poland> <DIALOG BIOSIS Abstract # 76063622: In the material collected from 3 lakes of the Leczna-Wlodawa Lakeland (Poland), 42 species and forms of rotifers, 12 species of Cladocera and 8 species of Copepoda were found. The predominating species indicate clearly the differentiation of those lakes, especially in the rotifers and cladocera groups. Indicators of ecological importance were calculated on the basis of the characteristic species-composition which was found. For lakes Bikce and Brzeziczno the species composition consisted of 4 species, and for lakes of the Piaseczno of 5 species.>

Kryuchkova, N.M. and Rybak, V.Kh. 1982. Nutrition of some representatives of lake zooplankton. Gidrobiol Zh 18(3): 36-40. <Language: RUSSIAN> <DIALOG BIOSIS Abstract # 76001700: Five abundant species of freshwater zooplankton (<u>Asplanchna</u> <u>priodonta</u>, <u>Daphnia</u> <u>cucullata</u>, <u>Sida</u> <u>crystallina</u>, <u>Eurycercus</u> <u>lamellatus</u>, and <u>Eudiaptomus</u> <u>graciloides</u>) were studied for their feeding on natural plankton from different trophic lakes. The species rations and filtration rates were determined.>

Kuznetsova, V.I. 1982. Zooplankton of the cooling reservior of Cherepetsk state regional electric power plant Tula Oblast Russian-SFSR, USSR. Gibrobiol Zh 18(5): 45-52. <Language: RUSSIAN> <DIALOG BIOSIS Abstract # 76055691: Data on species composition, seasonal dynamics quantity, biomass, and production of Rotifera, Copepoda, and Cladocera as well as on the thermal regime effect on zooplankton development are described.>

L

Langeland, A. 1982. Interactions between zooplankton and fish in a fertilized lake. Holarct Ecol 5(3): 273-310. <See also below> <From the DIALOG BIOSIS Abstract #76001782: The effects of fish predation on the zooplankton community in an oligotrophic lake, Langvatn, near Trondheim in central Norway, were investigated during a 6-year period (1973-1978), together with the added effects of changes produced by adding artificial fertilizer in 1975 and 1976. As a consequence of fish predation, the composition of the zooplankton changed, from a mainly large-sized to a mainly small-sized community dominated by <u>Bosmina longirostris</u> and rotifers.>

Langeland, A. and Reinerstein, H. 1982. Interactions between phytoplankton and zooplankton in a fertilized lake. Holarct Ecol 5(3): 253-272. <See also Reinerstein and Langeland this issue> <DIALOG BIOSIS Abstract # 76001829>

Lincoln, E.P., Hall, T.W., Koopman, B. 1983. Zooplankton control in mass algal cultures. Aquaculture 32(3-4): 331-338. <Address: Agric Eng Dept Univ Fla, Gainesville Fla 32611, USA> <From the DIALOG BIOSIS Abstract # 76071252: Infestations of rotifers <u>Brachiouns rubens</u> and cladocerans in a 0.1 ha high rate algal pond were eliminated by temporarily raising the un-ionized (free) [ammonium] concentration to approximately 20 mg/l (as N) by addition of ammonium hydroxide solution.>

M

Malakhov, V.V. 1982. The structure of nervous system of the posterior body end in a free living marine nematode <u>Pontonema vulgare</u> and the problem of the principal plan of the nervous system structure in nematodes. Zool Zh 61(10): 1481-1491. <Language: RUSSIAN> <Address: Inst Dev Biol Acad Sci USSR Moscow, USSR> <From the DIALOG BIOSIS Abstract # 76080766: The nervous system of nemadodes can be compared with that of the Gastrotricha under the assumption that the ventral nerve stem of nematodes is a product of the fusion of paired components, homologs of the ventrolateral stems of the Gastrotricha.>

Mathias, J.A. and Li, S. 1982. Feeding habits of Walleye, <u>Stizostedion vitreum</u>, larvae and juveniles comparative laboratory and field studies. Trans Am Fish Soc. 111(6): 722-735. <From the DIALOG BIOSIS Abstract # 75079219: Rotifers were not consumed

at noraml pond densities.>

Matveeva, L.K. 1983. Seasonal changes in numbers of planktonic rotifers and their vertical distributions. In Biocoenosises of the mesotrophic Lake Glulokoye. ed N.N. Smirov, Nauka, Moscow.

McConathy, J.R. and Stahl, J.B. 1982. Rotifera in the plankton and among filamentous algal clumps in 16 acid strip mine lakes. Trans Ill State Acad Sci 75(1-2): 85-90. <Address: MO Department of Natural Resources, Kansas City, MO, 64106 USA> <From the BIOSIS Abstract: Six species of rotifers were identified from the plankton and among clumps of filamentous algae in 16 acid (pH 2.4 to 3.2) strip-mine lakes in southern Illinois. Only two species of rotifers were widespread: Brachionus urceolaris (Muller) in the plankton of the 11 least acid lakes and Cephalodella hoodi (Gosse) in the plankton of 10 lakes and among algal clumps in the remaining 6 lakes.>

N

Nelson, F.K., Albert, P.S., Riddle, D.L. 1983. Fine structure of the Caenorhabditis elegans secretory excretory system. J Ultrastruct Res 82(2): 156-171. <Address: Div Biol Sci Tucker Hall Univ of Missouri, Columbia Missouri, 65211, USA.> <DIALOG BIOSIS Abstract # 76072896> <This paper may be of interest to those who are concerned with rotifer comparative ultrastructure.>

Nosov, V.N., Nikitna, O.G., Maksimov, V.N. 1981. Some characteristics of variations in activated sludge biological structure. Biol Nauki (Mosc) 0(6): 84-87. <Language: RUSSIAN> <From the DIALOG BIOSIS Abstract # 76006691: The taxa found in activated sludge included rotifers and other invertebrates.>

Novotny, J.F. and Hoyt, R.D. 1982. Seasonal zooplankton concentrations in Barren River Lake and Tailwater Kentucky, USA. J Freshwater Ecology 1(6): 651-662. <Address: US Fish Wildlife Service, East Central Reservior Investigations, Ferdral Build, Bowling Green, KY 42101.> <From the DIALOG Abstract: Microcrustacean plankton and rotifers were sampled semimonthly in Barren River Lake and at 3 stations in the Tailwater from August 1980 to August 1981.>

O

P

Pascual, E. y Yufera, M. 1983. Crecimiento en cultivo de una cepa de Brachionus plicatilis O.F. Muller en funcion de la temperatura y la salinidad. Inv Persq 47(1):151-159. <Address: Instituto de Investigaciones, Pesqueras de Cadiz, Puerto Pesquero, s/n Cadiz. SPAIN> <Language: SPANISH with ENGLISH summary> <English Summary: Growth of a strain of Brachionus plicatilis O.F. Muller in

culture, in relation to temperature and salinity. The influence of temperature and salinity on the population growth of a small-sized strain (Bs) of Brachionus plicatilis growing in culture has been studied. The ranges of values tested were 15 - 43 degrees C. for temperature and 0-80 g/l for salinity. The populations of rotifers grew between 20 and 40 degrees C. The highest instantaneous growth rates were obtained at 35 degrees C. Therefore, this strain can be considered as a warm-water form. In cultures carried out at 24 degrees C, the highest instanteous growth rates were found at salinities below 36 g/l, though gradually adapted rotifers can grow between 2 and 50 g/l of salinity. It confirms that, as other strains of this species, this rotifer is a euryhaline organism, with preference for mesohaline environments. The seasonal occurence of natural populations in local salt-ponds (SW Spain) during summer and the results obtained on laboratory populations, suggest the adaptability of this organism to tropical environments. This characteristic allows its outdoor culture in this region with high yields.>

Poltorak, T. 1982. Zooplankton of post gravel pit ponds and the zooplankton of Rzeszow Dam Reservior, Poland, covering their area now. Acta Univ Nicolai Copernici Pr Limnol 0(13): 65-94. <Address: Zaklad Oczyszczania I Ochrony Wod Poltiechniki Rzeszowskiej, Poland> <Language: ENGLISH> <Following is a portion of the BIOSIS Abstract# 76032536: Some physical and chemical properties of the post-gravel pit pond environment were discussed as well as the qualitative and quantitative composition of the Rotatoria, Cladocera, and Copepoda.

Pourriot, R. 1983. Strategies de reproduction chez les Rotiferes. C R Acad Sc Paris 296 serie III 1109-1111. <Language: FRENCH with ENGLISH abstract> <Abstract: Based on the data obtained in Brachionus and Notommata, the author proposes an interpretation of the reproductive strategies of rotifers which underlines the closed dependence between the food supply and the demographic character.>

Pourriot, R., Benest, D., et Rougier, C. 1983. Effect de la temperature sur l'eclosion d'oeuffs de duree provenant de populations naturelles de Brachionidae (Rotiferes). Bulletin de la Societe Zoologique de France 108(1): 59-66. <Language: FRENCH with ENGLISH abstract> <Abstract: Temperature is the main controlling factor for the hatching of resting eggs in Brachionus angularis and B. budapestinensis. Optimal temperatures related to high hatching rates agree with thermal preferences of these two populations; low temperatures stop hatching in the thermophilic B. budapestinesis, high temperatures act so in the B. angularis psychrophilic population. Light has no or little influence.>

Pourriot, R., Benest, D., et Rougier, C. 1982. Processus d'eclosion des oeufs de duree de Brachionus calyciflorus Pallas (Rotifere). Comparaaison de deux clones. Vie Milieu 32(2): 83-87. <Language: FRENCH with ENGLISH abstract> <Abstract: Two clones of B. calyciflorus show differences related to the conditions of keeping

dormancy and to the hatching patterns of resting eggs. The clonal characters constitute probably a response to the environmental conditions peculiar to each population (instability and unprevisibility>

Pourriot, R., Clement, P., and Luciani, A. 1981. Perception de la photoperiode par un Rotifere: hypotheses sur les mecanismes. Arch Zool exp gen 122: (4) 317-327. <Address: see above under J Blanchot> <Language: FRENCH, with ENGLISH abstract> <DIALOG BIOSIS Abstract # 76057557> <Abstract: In short photophase (LD<= 14:10), the rotifer Notommata copeus reproduces only by parthenogenesis. In long photoperiod, sexual (mictic) females appear: unfertilized females produce haploid males; fertilized females lay dormant eggs. In order to understand the mechanism by which Notommata copeus is sensible to the photoperoid, experimental observations are interpreted with the help of the analogic models used for insects. The hypothesis of an internal clock is rejected because 1) of the inhibiting effect of a long interruption in an optimal photophase; 2) of the inefficacy of the thermoperiod and 3) of the non-persistence of the mechanism in darkness. The "hour-glass" type [model] seems more adapted but its mechanism would be more simple and primitive than in insects. This model can be expressed by a simple system such as a "stimulus-response" mechanism, with a linear measure of the light duration. In natural photoperiods the mictic females rates increase linearly when the light period increases from 14 to 17 h. During a 24 h cycle with intermittent light, the processes would be interrupted by darkness, after a short period of inertia, and would resume with the following light phase.>

Q

R

Raffaelli, D. An assessment of the potential of major meiofauna groups for monitoring organic pollution. Mar Environ Res 7(2): 151-164. <Address: Dept Zool Univ Aberdeen, Aberdeen AB9 2TN, Scotland, UK> <DIALOG BIOSIS Abstarct # 75084418: Although rotifers are not mentioned in the abstract this paper may be of interest to those concerned with pollution monitoring --eds.>

Reinertsen, H. and Langeland, A. 1982. The effect of a lake fertilization on the stability and material utilization of a limnetic ecosystem. Holarct Ecol 5(3): 311-324. <Address: Univ Trondheim, Dept Botany, N-7000 Trondheim, NORWAY> <From the DIALOG BIOSIS Abstract # 76001830: The interaction between the phytoplankton, zooplankton and fish population and certain abiotic environmental factors, were investigated in an oligotrophic Norwegian lake during a 5-year period (1974-1978). The effects of adding artificial fertilizer in 1975 and 1976 were also studied. When Cladocera dominated, the zooplankton community was able to maintaina more-or-less constant phytoplankton biomass and a rather low phytoplankton production even when nutrient levels were raised.

In years when rotifers were dominant, algal biomass and productivity increased, despite the amount of added nutrients beening lower.>

Reiss, f., Burmeister, E.G., and Tiefenbacher, L. 1982. Gewasser des murnauer Mooses (Oberbayern) als Lebensraum fur aquatische Insekten, Gastropoden und sessile Rotatorien. Entomofauna Supplement 1 23-56. <Language: GERMAN>

de Ridder, M. 1981. Some considerations on the geographical distribution of rotifers. Hydrobiologia 85: 209-225. <From the Abstract: In the course of investigations on the systematics and zoogeography of rotifers, the author found that 48% of all taxa treated showed a limited distribution (most were periphytic or benthic species from shollow waters). The following species were discussed: *Brachionus falcatus*, *Brachionus forficula*, *Brachionus havanaensis*, *Brachionus trahea*, *Colurella dicentra*, *Colurella halophila*, *Colurella unicauda*, *Keratella cruciformis*, *Keratella eichwaldi*, *Keratella kamtchatica*, *Keratella quadrata*, *Keratella tropica*, *Keratella valga*, *Keratella wiretissi*, *Lecane harringi*, *Lecane leontina*, *Lecane monostyla*, *Lecane plesia*, *Lecane punctata*, *Lepadella latusinus*, *Notholca psammarina*, *Notholca (striata) bipalium*, *Notholca (striata) striata*, *Platyias leloupi*, *Synchaeta triophtalma*, *Synchaeta vorax*, *Synchaeta curvata*, *Testidinella elliptica*, *Testidinella clypeata*, and *Trichocerca chattoni*.>

de Ridder, M. and Verheye, H. 1981. Bijdrage Tot de Kennis van de Raderdierfanua van Brakke Wateren in de Belgische Kuststreek. Naturrwet Tijdschr 62: 129-138. <English title: Contribution to the knowledge of the rotifer fauna of the brackish water of the Belgian coastal area.> <Address: Laboratorium voor Systematische Dierkunde, Rijksuniversiteit-Gent, K.L. Ledeganckstraat 35, 9000-Gent, BELGIUM> <Language: FLEMISH with FRENCH and ENGLISH summaries> <ENGLISH summary: The authors studied the rotifers found in two series of brackisk-water samples taken in the vicinity of Bruges. There are 19 species present in the samples, including one species new for belgium; a new subspecies is described. All taxa met with are new for the regional fauna of Bruges, and one is new for the Flemish region of Belgium. The problem of the origin of Rotifera and other plankton is discussed.>

Robb, E.J. and Barron, G.L. 1982. Nature's ballistic missile. Science 218: 1221-1222. <Address: Dept. Botany and Genetics, Univ of Guelph, Guelph, Ontario, CANADA, N1G 2W1> <Abstract: The parasitic fungus *Haptoglossa mirabilis* infects its rotifer host by means of a gun-shaped attach cell. The anterior end of the cell is elongate to form a barrel; the wall at the mouth is invaginated deep into the cell to form a bore. A walled chamber at the base of the bore houses a complex, missile-like attack apparatus. The projectile is fired from the gun cell at high speed to accomplish initial penetration of the host.> <Light and TEM photographs; *Adineta* rotifers (bdelloid) were attacked - Eds.>

Romanosky, Y.E. and Polishchuk, L.V. 1982. A theoretical approach to calculation of secondary production at the population level. Int Rev Gesamten Hydrobiol 67(3): 341-359. <Address: Dept General Ecol, Hydrobiol, Biology Faculty, Moscow State Univ, Moscow, 117234, USSR> <Abstract: A common formula for calculating the secondary production of populations as well as a number of new ones can be derived from the well-known Boysen Jensen formula, a mathematically formalized defination of secondary production at the population level. Deducing equations for production calculations involves making some assumptions concerning natality and mortality patterns in the population and the approximation of individual growth curves and abundance or biomass alterations by simple functions. Application of certain formulae to different natural populations and the accuracy of production estimation depend on the degree of agreement between these assumptions and the natural dynamic processes. Total population production usually consists of both weight growth (somatic production) abd reproduction (germinated production) of individuals. If a natural population consists of minute individuals (bacteria, protozoa, small rotifers), whose growth increments can be neglected, total production is equal to germination production. In this case the production calculation is an evaluation of the population birth rate, and Paloheimo's formula is likely to give the most accurate estimation. The formula should be used to calculate the germinated production of populations of large multicellular individuals as well. The somatic production was expressed by the form of the general equation. On the basis of this expression 6 formulae for production calculation were derived. An average accuracy of each formula was analyzed in a set of experiments with a computer-constructed population. Four formulae, which did not assume a steady state of the population, gave the most accurate results.>

Ruppert, E.E. and Rice, M.E. 1983. Structure, ultrastructure, and function of the terminal organ of a pelagosphera larva, Sipuncula. Zoomorphology (Berl) 102(2):143-164. <Address: Dept Invertebrate Zoology, National Museum Natural History, Smithsonian Institute, Washington, D.C. 20560, USA> <From the DIALOG BIOSIS Abstract # 76057604: The terminal organ is compared to adhesive organs in other soft-bodied metazoans and although it approximates the structure found in some rotifers, it is considered to be independently evolved within the Sipuncula.>

S

Scott, J.M. and Marlow, J.A. 1982. A microcalorimeter with a range of 0.1 to 1.0 calories. Limnology and Oceanography 27(3): 585-590. <Address: J.M. Scott, Scottish Marine Biological Association, Dunstaffnage Marine Research Laboratory, Oban, Argyll, Scotalnd> < Abstract: Details are given of the construction of a microcalorimeter which measures samples with caloric values in the range of 0.1-1.0 (0.4-4.0 J). A printed circuit board, with the copper surface forming one side of a thermocouple array, porvided

the basis for the instrument. The potential difference produced across the thermocouples from the combustion of a sample is amplified a hundredfold and fed into any laboratory chart recorder within the range of 10-100mV fullscale deflection. The operation and calibration procedures are described together with linearity and repeatability experiments. A regression coefficient of 0.997 was obtained for the former and a standard deviation of <+/- 4% for repeatibility.>

Snell, T.W., Bieberich, C.J., and Fuerst, R. 1983. The effects of green and blue-green algal diets on the reproduction rate of the rotifer Brachionus plicatilis. Aquaculture 31(1): 21-30. <Address: Div of Science, Univ of Tampa, Tampa, Fla 33606, USA> <DIALOG BIOSIS Abstract # 76048224: The reproductive rate of the rotifer B. plicatilis cultured on a variety of diets was investigated. Unialgal and mixed diets of the green alga Chlorella and the blue-green alga Schizothriz were compared. The rotifer reproduction rate was an average of 2.7 times higher on a mixed diet of Chlorella and Schizothrix than on either Chlorella or Schizothrix as a unialgal diet. Enhancement of the rotifer reproduction rate was not observed on a mixed diet of Chlorella and Dunaliella compared with a unialgal diet of Chlorellla. Ingestion of Schizothrix was not required for enhancement of rotifer reproduction. The enhancement factor is a heat labile substance.>

Strel'nikova, A.P. and Ivanova, M.N. 1982. Smelt Osmerus eperlanus feeding in the Rybinsk Reservoir, RussianSFSR, USSR, during early ontogent Vopr Ikhtiol 22(3): 401-407. <Language: RUSSIAN> <Address: Inst Biol Inland Water Acad Sci USSR Borok USSR> <From the DIALOG BIOSIS Abstract # 76078744: On the first days of changing to external feeding smelt larvae used only rotifers and jubenile copepoda.>

T

Tiefenbacher, L. 1982. Zur Kenntnis sessiler Rotatorien des Murnauer Mooses in Oberbayern (Rotatoria). Entomofauna Supplement 1 89-96. <Language: GERMAN>

Tsunikova, E.P. 1982. Zooplankton consumption by young fish in the Kuban river spawning breeding fish farms, Russian-SFSR, USSR. Vopr Ikhtiol 22(2): 240-245. <Language: RUSSIAN> <From the DIALOG BIOSIS Abstract # 76055871: A great similarity of food composition was found between the several fish studied>

U

V

Verdone-Smith, C. and Enesco, H.E. 1982. The effect of temperature and dietary restriction on life span and reproduction in the rotifer Asplanchna brightwelli. Exp Gerontol 17(4):255-262. <Address See below> <Abstract: The effects of different

environmental temperatures and of dietary restriction on the lifespan, reproductive cycle and fecundity of the rotifer A. brightwelli were examined. When temperature effects were analyzed, it was observed that the mean lifespan and the times at which the reproductive cycle started and ended all increased as environmental temperatures decreased. When dietary restriction was imposed by increasing the interval between feeding times from 12-36 hours, there was an increase in the mean lifespan and in the length of the reproductive period in this rotifer.>

Verdone-Smith, C. and Enesco, H.E. 1982. Maternal age and lifespan do not influence longevity in the rotifer Asplanchna brightwelli. Exp Gerontol 17(4): 263-266. <Address: Dept. Biology, Sir George Williams Campus, Concordia Univ, Montreal, Quebec, H3G 1M8, Canada.> <ABSTRACT from BIOSIS An analysis of the mean lifespans among the progeny of the viviparous rotifer A. Brightwelli produced during 4 generations has revealed that longevity of the offspring is not affected by maternal age of the parent or by the parent's lifespan. The production of viable offspring at any time during the parent's reproductive period may be of importance in assuring the continuity of clones of this short-lived rotifer species.>

Verdone-Smith, C. and Enesco, H.E. 1982. The effect of dietary restriction on cell division potential, DNA content, and enzyme levels in the rotifer Asplanchna brightwelli. Exp Gerontol 17(6): 463-472. <Address see above> <DIALOG BIOSIS Abstract # 7606568: Dietary restriction in the rotifer A. brightwelli, carried out by lengthening the intervals between feedings, causes an increase in mean lifespan and in the length of the reproductive period. The rate of nuclear division in the gastric glands and vitellarium of the rotifer, as determined by daily nuclear counts, was retarded by dietary restriction. Spectro-fluorimetric measurements show that total DNA content remains constant from the beginning to the end of the lifespan, and is unaffected by dietary restriction. Lactic dehydrogenase and malic dehydrogenase activities were also measured throughtout the lifespan of the rotifer, and were not affected by dietary restriction.>

W

Watanabe, T, Tamiya, T., Oka, A., Hirata, M., Kitajima, C., Fujita, S. 1983. Improvement of dietary value of live foods or fish larvae by feeding them on Omega-3 highly unsaturated fatty acids and fat soluble vitamins. Bull Jpn Soc Sci Fish 49(3): 471-480. <Address: Lab Fish Nutrition, Tokyo Univ Fisheries, Konan 4, Minato, Tokyo 108, Japan> <From the DIALOG BIOSIS Abstrcat # 76079042: Experiments were conducted to improve the dietary value of live foods, such as rotifers, Artemia nauplii and Monia, by allowing them to feed on Omega-3 HUFA (highly unsaturated fatty acid) and fat soluble vitamins by the direct method. In experiments conducted on a small scale, rotifers were found to take up lipids very easily from the emulsion. The direct method was

effective for improving the dietary value of live foods in the same manner as the indirect method.>

Wyngaard, G.A., elmore, J.L., and Cowell, B.C. 1982. Dynamics of a subtropical plankton community, with emphasis on the copepod Mesocyclops edax. Hydrobiologia 89: 39-48.

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Y

Yufera, M. 1982. Morphometric characterization of a small-sized strain of Brachionus plicatilis in culture. Aquaculture 27:55-61.

Yufera, M. 1982. Aislamiento, caracterization, y puesta en cultivo de una cepa de pequeno tamano de Brachionus plicatilis O.F. Muller (1786). Tesis doctorales y tesinas de licenciatura (resumenes), curso 81/82. Universidad de Sevilla: 55-59.

Z

Zutshi, D.P. and Vass, K.K. 1982. Limnological studies on dal Srinagar India 3. Biological features. Proc Indian Natl Sci Acad Part B Biol Sci 48(2): 234-241. <Address: Cent Res Dev, Univ Kashmir, Srinagar 190006.> <From the DIALOG BIOSIS Abstract # 75086663: Zooplankton were mostly rotifers.>

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