

## THE ECDYSIAST

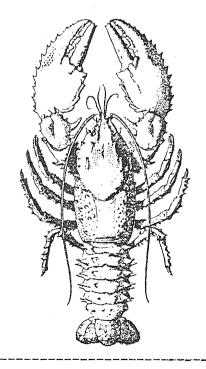
## Newsletter of the Crustacean Society

VOLUME 2 NUMBER 1

FEBRUARY, 1983

Change in Editor: Please note that the editorial duties of this newsletter, effective with this issue, are handled by the Secretary of the society. All newsletter input should henceforth be sent to Paul Haefner at the address listed below.

Three newsletter/year are planned: February, July and October. Input must be received no later than one month prior to issue to assure inclusion.





Honors: Professor Horton
H. Hobbs, Jr. did not only
have a symposium presented
in his honor at Louisville;
he was presented the Crustacean Society's Award of
Excellence at the luncheon
and he was granted Emeritus Membership in the
Society. Congratulations
and best wishes to Professor Hobbs.

Outstanding Paper Award:
The first award in this
category was announced at
Louisville. Congratulations
to Marjorie Reaka and Ray
Manning for "The behavior
of stomatopod Crustacea and
its relationship to rates
of evolution" published in
Volume 1(3):309-327 of the
journal.

Note: all papers published in the journal are eligivle, but the Awards Committee desire nominations from the membership. Contact Denton Belk, 840 E. Mulberry, San Antonio, TX 78222

Louisville: The crustacean sessions at Louisville were reasonably well attended in spite of the overall decline in attendence at the meeting. The Crustacean Society was well represented in the program with two symposia (J.F. Payne's Crayfish Distribution honoring Prof. H.H. Hobbs, Jr. and A. Wenner's Crustacean Growth), two contributed paper sessions (15 papers), the Crayfish Culture Workshop, the Luncheon and the Gala Shrimp and Crawfish Boil. The last item was immeasurably successful to the extent that we would like to sponsor a similar event at future meetings. SPECIAL THANKS GO TO DARRYL FELDER WHO PILOTED A REFRIGERATED TRUCK FOR 16 HRS THROUGH A MAELSTROM AND DARK OF NIGHT TO GET ALL THAT GOOD FOOD TO LOUISVILLE! And where did the crawfish come from? MR. DONALD GOOCH of the Crawfish Research Center at UNIV. SW LOUISI-ANA secured a donation of \$180 worth of that delectable decapod. MANY THANKS.

Addresses:

Ecdysiast Editor
Dr. P.A. Haefner, Jr.
Department of Biology
Rochester Institute of Technology
P.O. Box 9887
Rochester, New York 14623

Business Office The Crustacean Society IZ-NHB-W323 Smithsonian Institution Washington, DC 20560 T-Shirt Collectors: The Business Office would like to close out its inventory of the society-logo shirts. They will cost you \$6.00 and are still available in tan or blue, in adult S,M, L,XL. The Office would also like someone out there to volunteer to handle future design and sales of Society paraphernalia. Any takers?

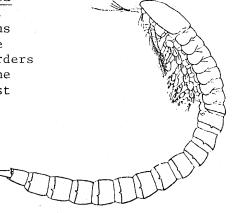
Other Newsletters: Ecdysiast readers have expressed an interest in getting on the mailing list of other newsletters. Out collection includes the list attached to this newsletter. A copy of the Ecdysiast is sent to the editors of those on the list.

Book Discounts: The Crustacean Society is able to offer members or subscribers to the Journal a discount of 25% on selected books, and we earn money in the process! These include (see ads - this issue):

- The Biology of Crustacea -10 volumes.
- 2. Synopsis and Classification of Living Organisms.
- 3. Crustacean Issues I: Phylogeny.
- 4. Crustacean Issues II: Growth.
- 5. Studies in Adaptation: The Behavior of Higher Crustacea, by S. Rebach and D. Dunham, John Wiley & Sons (early 1983). The volume will list for \$42.50. Orders may be placed through the Business Office at a cost of \$31.87.

Interested members should send a pre-paid order (check in the amount of the discounted price (list-25%) and payable to the Crustacean Society) to the Business Office. Remember - these purchases are tax deductible!

We are interested in receiving suggestions for items to be considered under our discount sales program. Alert the Business Office!





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### SYNOPSIS AND CLASSIFICATION OF LIVING ORGANISMS

Sybil P. Parker, Editor in Chief 2,100 pages • 1,500 illustrations \$149.50 • two volumes



Contact: Elyse Nevid — 35th Fl. McGraw-Hill Book Company 1221 Avenue of the Americas New York, NY 10020 Now biologists have a single reference which classifies and describes all living things — including viruses, here in a Linnean classification for the first time — from kingdom down to family level. Contributed by 174 of the world's leading taxonomists, its 8,300 articles provide concise summaries of the exact characteristics, life cycle, ecology, and geographic distribution of each group of organisms, as well as examples of representative species. Much of its information has never been published before, or has been confined previously to foreign or obscure journals. Additional essays introduce novices to the nomenclature and principles of classification, while up-to-the-minute references after most articles offer an excellent guide to the specialized literature on every taxon.

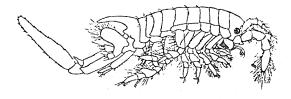
- Articles arranged in taxonomic order
- Contains 160 pages of detailed drawings and diagrams, 140 full-page photographic plates
- Includes 35,000-entry index with both scientific and common names of taxa
- Written to be clearly understandable to professionals and students alike

Journal Subscriptions/Memberships. Please check to see if your institution subscribes to the Journal. Increasing the number of institutional library subscriptions will help us reach the break-even point on journal operations.

You may wish to consider entering a gift membership for a colleague who may not otherwise be able to receive the Journal. We currently carry about 15 gift subscriptions.

Back issues of the Journal are available from the Business Office at \$25.00 per volume. Less than 500 of Volume I are on the shelf - so get your order in now.

Renewal notices will be sent as the mailing label for Volume 3(3) of the Journal. Please make a note of this and plan to pay your dues by 30 Nov 83. It is extremely expensive for the Society to send second and third notices of dues.



Symposium Topics. The Symposium Committee, chaired by Bob Gore is charged with planning future symposia. They are now looking at Denver in 1984 and ahead to Baltimore (?) in 1985. Members with suggestions should contact Bob at Acad. Natl. Sci., 19th and the Parkway, Philadelphia, PA 19103.

Meetings: It's too bad we don't have unlimited travel funds. There are several attractive meetings coming up in 1983. To name a few -Apr 13-16. Association of Southeastern Biologists, Lafayette, LA. Origins and Distributions of Caribbean-Gulf of Mexico Crustacean Fauna. For further info, registration and housing plication forms, contact Darryl Felder, Dept. of Biology, Box 42451, Univ. Southwestern LA, Lafayette,

Aug 13-17. Second Int.
Conf. on Copepoda.
Four Symposia: Biogeography, Behavioral
Ecology, Growth and
Culture, Morphology,
and a panel discussion
(Phylogeny). Ottawa,
Canada. Contact Ian
Sutherland, Natl. Mus.
Nat. Sci., Invert Zool.
Div., Ottawa, Ont.
Canada, KlA OM8, for
more information.

LA 70504, Tel (318)

Dec 27-30. Amer. Soc. Zool. Philadelphia. Three Symposia: Biogeography of the Crustacea, in honor of Paul Illg (2 sessions). The Crustacean Soc. Contact Bob Gore or Kenneth Heck, Acad. Nat. Sci., 19th and Parkway, Philadelphia, PA 19103. Frontiers in Crustacean Endocrinology in honor of Dorothy Bliss and Louis Kleinholz. (2 sessions). ASZ Div. Comp. Endocrin, Hydrothermal Vents of the East Pacific. (5 sessions). Biol. Soc. Washington. Write to the ASZ Business Office, Box 2739 Calif. Lutheran Coll., Thousand Oaks, CA

Aug 14-20. 18th European
Marine Biology Symposium. Effects of
Stress on Marine
Organisms, and Marine
biology of Polar
Regions. Univ. of
Oslo. Contact Prof.
J.S. Gray, Inst.
Marin biol. Limnol.
Univ. Oslo, P.B. 1064
Blindern, Oslo 3,
Norway.

Membership in ASZ. Members of the Crustacean Society may wish to support the ASZ and participate in its activities. An application form is included for your use. Each year Vol. 4 of the American Zoologist includes abstracts of the papers presented at the annual meeting. These are helpful in making your selection of sessions to attend at the meeting.

Authors: Are you the author of a text, lab manual, science fiction novelette, etc.? Let us know and we'll list it in the newsletter. I've never known an author to turn down free publicity.

Dorothy Bliss. 1982.
Shrimps, lobsters and crabs: Their fascinating life story. New Century, Piscataway, NJ.

Fred Schram. 1978. The myth of science or the fantasy of truth. Vantage, NY.

Roger Lincoln and Gordon Sheals. 1979. Invertebrate animals, collection and preservation. British Mus. Nat. Hist., London. Aquaculture Magazine
Ms. Teresa Lunch, Assoc. Ed.
P.O. Box 2451
Little Rock, AR 72203

Features & News Editor BIOSCIENCE 1401 Wilson Boulevard Arlington, VA 22209

Mysid Research Group Dr. Mark Morgan Biology Department Rutgers University Camden, NJ 08102

Stygo News Dan L. Danielopol Limnologisches Institut A-1090 Wien 9, Bergasse 18 AUSTRIA

Amphipod Newsletter Dr. Les Watling Ira C. Darling Center Univ. Maine Walpole, ME 04573

Animal Behavior Newsletter D.G. Kleiman, Sec. Animal Behavior Society National Zoological Park Washington, DC 20008

ASC Newsletter Assoc. Systematics Collections Museum of Natural History University of Kansas Lawrence, KS 66045

Dr. Carlo Heip Editor, PSAMMONALIA Zoology Institute State University of Ghent Ghent, BELGIUM

Newsletter, British Isopoda Study Group Paul T. Harding, Monks Wood Exp. Sta., Abbots Ripton Huntingdon PE17 2LS ENGLAND

Editor, Coral Reef Newsletter Marine Laboratory, Univ. Guam P.O. Box EK Agana, <u>GUAM</u> 96910 Crustacean Club Newsletter Dr. Mary K. Wicksten Dept. Biology Texas A&M University College Station, TX 77843

Newsletter, DIZ-ASZ John F. Pilger Biology Department Agens Scott College Decatur, GA 30030

Newsletter, European Mariculture Society H. Joncheere, Inst Mar Sci Res Prinses Elisabethlaan 69 B-8401 Bredene, BELGIUM

Isopod Newsletter
Dr. Robert Y. George
Inst. Mar. Biomed. Research
Univ. North Carolina
Wilmington, NC 28401

Monoculus-Copepod Newsletter H.K. Schminke Fachb. IV, Univ. Oldenburg Postf. 2503, D-2900 Oldenburg GERMANY

North American
Biospeleology Newsletter
S.A. Foster
P.O. Box 335
Gresham, OR 97030

Newsletter, North American Benthological Society Dr. J.B. Reynolds, Coop. Fish. Res. Unit, Univ. Alaska Fairbanks, AK 99701

Newsletter, National Shellfisheries Assoc. Michael Castagna VIMS, Eastern Shore Wachapreague, VA 23480

I.A.A. Newsletter c/o Dr. James F. Payne Department of Biology Memphis State University Memphis, TN 38152 Newsletter, Organization for Tropical Studies Dr. Donald Stone Dept. Biology Duke University Durham, NC 27706

Newsletter, Paleontol. Soc. Dr. David Meyer Department of Geology University of Cincinnati Cincinnati, OH 45221

North American Newsheet c/o The Secretary, Newsletter Soc. Bibliography Nat. Hist. c/o British Museum (Nat Hist) Cromwell Road, London SW7 5BD ENGLAND

Tanaidacean Newsletter Dr. J. Sieg Univ. Osnabruck, Abt. Vechta Postfach 1349, 2848 Vechta GERMANY

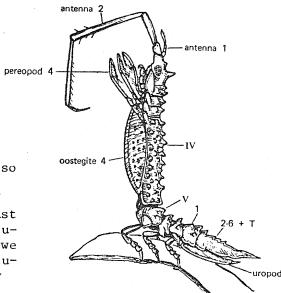
Newsletter, West. Soc. Natural David H. Montgomery Biological Sciences Dept. Calif. Poly. State Univ. San Luis Obispo, CA 93407

Ostracodologist Ephraim Gerry P.O. Box 5283 Jerusalem 91052 ISRAEL

Editor, Newsletter World Mariculture Society Inst. Coastal Mar. Resources East Caroline Univ. Greenville, NC 27834

Courrier du GEREM c/o Dr. Sulvie Secretan Institut de Paleontologie Museum national d'Histoire naturelle 8, rue de Buffon 75005 Paris, FRANCE

Deep-Sea Newsletter Editor: Torben Wolff Danmarks Akvarium DK-2920 Charlottenlund DENMARK



Change of Addresses: These are costly to the Society so please avoid unnecessary change of address. Many of the changes we received last year do not involve institutional changes. Therefore we ask you to use your institutional address for Society mailings and save us some expense.

Membership Directory: We hope to publish a directory of members in 1984 which will identify research discipline and include telephone numbers. Please fill out the form at the bottom of this page of this newsletter and send it to the Business Office.

Did you know--or do you care?

Ocean City, NJ has a Martin Z. Mollusk Day, in honor of a "pomp-crazed hermit crab". It's one of those gala events that includes crab races and the Miss Crustacean Beauty Pagent. The "Coveted Cucumber Rind Cup" goes to the most "comely" crab. If you want more information on this, don't write the editor. Contact Ocean City's Public Relation Division. How dare they challenge the Blue Crab Derby in Crisfield, MD?



#### CRUSTACEAN SOCIETY

#### MEMBERSHIP DIRECTORY

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Check if this is a new address.

#### Crustacean Issues 1: Crustacean Phylogeny

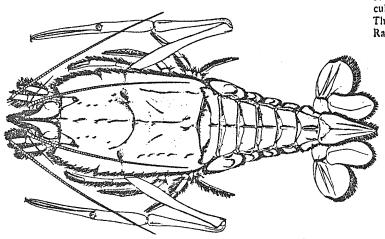
edited by
FREDERICK R.SCHRAM
San Diego Natural History Museum, California

1983, 25 x 18 cm, c.350 pp., 17 photos, 82 figs., tables Cloth, \$35.00-20% = \$28.00 90 6191 231 8 Publication date: March 1983

#### CONTENTS

Affinities and early evolution of Crustacea: the evidence of the Cambrian fossils (D.E.G.Briggs, Univ. of London, UK); Remipedia and Crustacean phylogeny (F.R.Schram, San Diego Natural History Museum, Calif., USA); Phylogeny of Ostracods (K.G.McKenzie, Riverina College, Wagga Wagga, Australia, K.J.Müller, Friedrich-Wilhelms Univ. & M.N.Gramm, Vladivostock Biology Res. Inst., USSR); Imperatives of copepod diversity (B.M.Marcotte, McGill Univ., Montreal, Canada); Ascothoracida and the unity of the Maxillopoda (M.J.Grygier, Scripps Inst. of Oceanography, La Jolla, Calif., USA); Origins of Maxillopoda; urmalacostracan ontogeny and progenesis (W.A.Newman, Scripps Inst. of Oceanography, La Jolla, Calif., USA); A comparative functional analysis of the major maxillopodan groups (G.A.Boxshall, British Museum, London, UK); A defense of caradoid facies (R.R.Hessler, Scripps Inst. of Oceanography, La Jolla, Calif., USA); Stomatopoda and the evolution of the Hoplocarida (J.C.Kunze, Scripps Inst. of Oceanography, La Jolla, Calif., USA); Malacostracan phylogeny and evolution (E.Dahl, Univ. of Lund, Sweden); Paracaridan disunity and its bearing on cumalacostracan phylogeny (L. Watling, Univ. of Maine, Walpole, USA); Evolution of Tanaidacea (J.Sieg, Univ. of Osnabrück, Germany); An updated phyletic classification and paleohistory of the Amphipoda (E.L.Bousfield, National Museum of Nat. Sciences, Ottawa, Canada); Natural classification of Dendrobranchiata (M.D. Burkenroad, San Diego Nat. History Museum, Calif., USA); Phylotic relationships among shrimp-like decapods (B.E.Felgenhauer & L.G. Abele, Florida State Univ., Tallahassee, USA); Zoel evidence for brachyuran phylogeny (A.L.Rice, Inst. of Oceanographic Sciences, Godalming, UK); Method and madness in phylogeny (F.R. Schram, San Diego Nat. History Museum, Calif., USA). Taxonomic index; Subject index.

## A.A.BALKEMA PUBLISHERS P.O.Box 1675, 3000 BR Rotterdam, Netherlands



#### Crustacean Issues 2: Crustacean Growth

edited by ADRIAN WENNER University of California, Santa Barbara

1984, 25 x 18 cm, c.350 pp., photos, figs., tables Cloth, \$35.00-20% = \$28.00 90 6191 294 6

#### CONTENTS

1. Larval and early postlarval growth and development. Larval growth and metamorphosis (R.Gore, Smithsonian Inst., Fort Pierce, Fl., USA); The effects of nutrition on larval growth (J.McConaugha, Old Dominion Univ., Norfolk, Virg., USA); Abbreviated development in decapods (N.Rabalais, Univ. of Texas, Port Aransas, USA); Patterns in early postlarval development of decapods (D.Felder, Univ. of Louisiana, LaFayette & J.W.Martin, Florida State Univ., Tallahassee, USA).

2. Special growth features. Control of the molt cycle (D.Skinner, Oak Ridge National Lab., Tenn., USA); Muscle growth (D.F. Houlihan & A.El Haj, Univ. of Aberdeen, Scotland); Morphogenetic fields and the control of form in the limbs of decapods (J.Mittenthal, Univ. of Illinois, Urbana, USA); Muscle atrophy and restoration during molting (D.Mykles, Oak Ridge National Lab., Tenn., USA); The relative duration of molt cycle stages (A.Kuris, Univ. of California, Santa Barbara, USA); Periodicity and phasing up of molt processes (G.Conan, Centre Occanologique de Bretagne, Brest, France); Seasonal and habitat variation in size at onset of egg production (A.Wenner, Univ. of California, Santa Barbara, USA); Growth, sexual maturity, and reproductive output (R.Hartnoli, Univ. of Liverpool, UK); Relative growth and non-growth (P.Hopkins, Univ. of Oklahoma, Norman, USA).

3. Factors influencing growth. Role of photoperiod, temperature, and social structure upon molt and reproductive cycles in palinurids and xanthids (R.Lipcius, Florida Agric. & Mechanical Univ., Tallahassee, USA); The effect of pressure on growth and molting in Juvenile crayfish (R.Roer, Univ. of North Carolina, Wilmington, USA); Effects of parasites on growth (J.O'Brien & P.Van Wyk, Univ. of California, Santa Barbara, USA); The effects of environmental pollution on growth (S.Fingerman, Tulane Univ., New Orleans, USA); Heavy metals and growth (J.Weis, Rutgers State Univ. of New Jersey, Newark, USA).

4. Special growth features in selected groups. Growth in Cladocera (D.G.Frey, Indiana Univ., Bloomington, USA & B.J.Hann, Univ. of Windsor, Canada); Artemia (F.Conte, Oregon State Univ., Corvallis, USA); Factors influencing growth and rhythms of growth in barnacles (E.Bourget, Univ. Laval, Quebec, Canada); Growth and population dynamics of amphipods, with emphasis on temperature and latitudinal effects (as exemplified by Pontoporeia) (J.Flanagan, Univ. of Manitoba, Winnipeg, Canada); Growth rates of freshwater mysids in different habitats (M.Morgan, Rutgers Univ., Camden, NJ, USA); Growth studies of mysids and euphauslids (J.Mauchline, Dunstaffnage Mar. Res. Lab., Oban, Scotland); Comparative patterns of growth from egg to maturity in brachyurans (A.Hines, Smithsonian Inst., Edgewater, Ma, USA).

5. General features. Estimation and description of growth: Aquaculture and fisheries (L.Botsford, Univ. of California, Davis, USA); The ontogeny of social structure in the freshwater prawn (Z. Ranaan, Aquaculture Prod. Technology, Jerusalem, Israel).

## Announcing from

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Editor-in-Chief:

Dorothy E. Bliss

Department of Invertebrates The American Museum of Natural History New York, New York

The Biology of Crustacea is planned as a comprehensive ten-volume publication which should become the standard reference in its field. Incorporating the contributions of a distinguished international group of scientists, it will encompass the significant findings - including methods - in three general areas of crustacean research: systematics, morphology, evolution, and the fossil record; physiology, ecology, and behavior; and applied biology, including fisheries, mariculture, and pathology.

Volume 3 **NEUROBIOLOGY:** STRUCTURE AND FUNCTION Edited by

H. L. Atwood

Departments of Zoology and Physiology University of Toronto

D. C. Sandeman

Department of Neurobiology Australian National University October 1982, 512 pp., \$59.00 ISBN: 0-12-106403-4 Subscription price: \$49.50\*

CONTENTS:

D. C. Sandeman, Organization of the Central Nervous System. C. K. Govind and H. L. Atwood, Organization of Neuromuscular Systems. H. L. Atwood, Synapses and Neurotransmitters. W. D. Chapple, Muscle. C. K. Govind, Development of Nerve, Muscle, and Synapse. I. Cooke and R. E. Sullivan, Hormones and Neurosecretion. S. R. Shaw and S. Stowe, Photoreception. B. W. Ache, Chemoreception and Thermoreception, B. M. H. Bush and M. Laverack, Mechanoreception. Each chapter contains references. Systematic Index. Subject Index.

Volume 1 SYSTEMATICS, THE FOSSIL RECORD, AND BIOGEOGRAPHY

Edited by

Lawrence G. Abele Department of Biological Science \$ 78.90 Florida State University September 1982, 336 pp., \$38.50 fm ISBN: 0-12-106401-8 Subscription price: \$32.50\*

CONTENTS:

Thomas E. Bowman and Lawrence G. Abele, Classification of the Recent Crustacea. Patsy A. McLaughlin, George T. Taylor, and Martin Tracey, Systematic Methods in Research. John L. Cisne, Origin of the Crustacea. Frederick L. Schram, The Fossil Record and Evolution of the Crustacea. Robert L. Hessler, Brian M. Marcotte, William A. Newman, and Rosalie F. Maddocks, Evolution within the Crustacea. Lawrence G. Abele, Biogeography of the Crustacea. Each chapter contains references. Systematic Index. Subject Index.

Volume 2 EMBRYOLOGY, MORPHOLOGY, AND GENETICS

Edited by

Lawrence G. Abele
October 1982, 432 pp., \$49.50
ISBN: 0-12-106402-6

\$ 7.15

frim t Subscription price: \$42.50\*

**CONTENTS:** 

Donald T. Anderson, Embryology. Donald I. Williamson, Larval Morphology and Diversity. Richard Hartnoll, Growth. Patsy A. McLaughlin, Functional Morphology of Crustacean Appendages. T. Ginsburger-Vogel and H. Charniaux-Cotton, Sex Determination. Dennis Hedgecock, Martin Tracey, and Keith Nelson, Genetics. Each chapter contains references. Systematic Index. Subject Index.

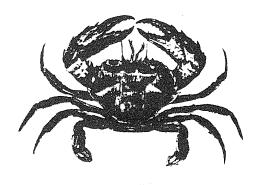
Volume 4 NEURAL INTEGRATION AND BEHAVIOR Edited by

D. C. Sandeman H. L. Atwood

1982, 352 pp., \$36.00 ISBN: 0-12-106404-2 Subscription price: \$31.00

CONTENTS:

C. A. G. Wiersma, J. Roach, and R. Glantz, Neural Integration in the Optic System. C. H. Page, Control of Posture. W. H. Evoy and J. Ayers, Locomotion and Control of Limb Movements. A. McVean, Autotomy. D. Neil, Compensatory Eye Movements. W. Wales, Control of Mouthparts and Gut. T. J. Wiens, Small Systems of Neurons: Control of Rhythmic and Reflex Activities. J. Wine and F. Krasne, The Cellular Organization of Crayfish Escape Behavior. P. Fraser, Views on the Nervous Control of Complex Behavior. Each chapter contains references. Systematic Index. Subject Index.



\*Subscription prices are valid only on purchase of all volumes ordered before the publication of the last volume. Subscription prices are not valid on orders from Australia or New Zealand.

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#### Volume 5 INTERNAL ANATOMY AND PHYSIOLOGICAL REGULATION Edited by

Linda H. Mantel

Department of Biology City College of the City University of New York

February 1983, 496 pp., \$57.00 ISBN: 0-12-106405-0 Subscription price: \$48.50\*

#### CONTENTS:

Patsy A. McLaughlin, Internal Anatomy. Linda H. Mantel and Linda Farmer, Osmotic and Ionic Regulation, David L. Claybrook, Nitrogen Metabolism. William Dall and David J. W. Moriarty, Functional Aspects of Nutrition and Digestion. Ernest S. Chang and John D. O'Connor, Metabolism and Transport of Carbohy drates and Lipids. B. R. McMahon and J. L. Wilkens, Ventilation, Perfusion, and Oxygen Uptake. Charlotte P. Mangum, Oxygen Transport in the Blood. J. P. Truchot, Regulation of Acid-Base Balance. Each chapter contains references. Systematic Index. Subject Index.

Volume 6 PATHOBIOLOGY Edited by

Anthony J. Provenzano, Jr. Department of Oceanography

Old Dominion University March 1983, in preparation ISBN: 0-12-106406-9

#### TENTATIVE CONTENTS:

Phyllis T. Johnson, Diseases Caused by Viruses, Rickettsiae, Bacteria, and Fungi. John A. Couch, Diseases Caused by Protozoa, Frederik B. Bang, Crustacean Disease Responses, Robin M. Overstreet, Metazoan Symbionts of Crustaceans. Roger F. Cressey, Crustaceans as Parasites of Other Organisms. Each chapter contains references. Systematic Index. Subject Index.

#### Volume 7 **BEHAVIOR AND ECOLOGY** Edited by

F. John Vernberg

Belle W. Baruch Institute for Marine Biology and Coastal Research University of South Carolina Columbia, South Carolina

#### Winona B. Vernberg

College of Health University of South Carolina Columbia, South Carolina May 1983, in preparation ISBN: 0-12-106407-7

#### TENTATIVE CONTENTS:

Michael Salmon and Gary W. Hyatt, Communication. William F. Herrnkind, Movement Patterns and Orientation. Patricia J. DeCoursey, Biological Timing. D. M. Ross, Symbiotic Relations. A. N. Sastry, Pelagic Larval Ecology. Bruce C. Coull and Susan S. Bell, Biotic Assemblages: Populations and Communities. Each chapter contains references. Systematic Index. Subject Index.

#### Volume 8 **ENVIRONMENTAL ADAPTATIONS**

Edited by

F. John Vernberg Winona B. Vernberg

May 1983, in preparation ISBN: 0-12-106408-5

#### TENTATIVE CONTENTS:

F. John Vernberg, Respiratory Adaptations. James N. Cameron and Charlotte P. Mangum, Environmental Adaptations of the Respiratory System: Ventilation, Circulation, and Oxygen Transport. John Grahame, Adaptive Aspects of Feeding Mechanisms. R. Gilles and A. Pequeux, Interactions of Chemical and Osmotic Regulation with the Environment. A. N. Sastry, Ecological Aspects of Reproduction. Lawrence Powers and Dorothy E. Bliss, Terrestrial Adaptations. F. John Vernberg and Winona B. Vernberg, Freshwater Adaptations. Each chapter contains references. Systematic Index. Subject Index.

#### ADVANCE ANNOUNCEMENTS... \_

#### Volume 9 INTEGUMENT, PIGMENTS, AND HORMONAL PROCESSES

Edited by Dorothy E. Bliss Linda H. Mantel In preparation

#### TENTATIVE CONTENTS:

J. Ross Stevenson, Dynamics of the Integument. Dorothy M. Skinner, Regeneration and Molting. Rita G. Adiyodi, Reproduction and Its Control. H. Chamiaux-Cotton and G. G. Payen, Sexual Differentiation. Walter Ghidalia, Structural and Biological Aspects of Pigments. K. Ranga Rao, Pigmentary Effectors. L. H. Kleinholz, Biochemistry of Hormones. Each chapter contains references. Systematic Index. Subject Index.

#### Volume 10 FISHERIES AND CULTURE

Edited by

Anthony J. Provenzano, Jr. In preparation

#### **TENTATIVE CONTENTS:**

Richard A. Neal, Fisheries Biology of Shrimp and Shrimp-Like Animals, J. Stanley Cobb and Denis Wang, Fisheries Biology of Lobsters and Crayfish. Paul A. Haefner, Jr., Fisheries Biology of Crabs. Anthony J. Provenzano, Jr., Culture of Crustaceans: General Principles. Anthony D'Agostino, Biology of Artemia and Its Role in Aquaculture. Anthony J. Provenzano, Jr., Commercial Culture of Decapod Crustaceans, Each chapter contains references. Systematic Index. Subject Index.

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