

# THE BIOLOGICAL BULLETIN

PUBLISHED BY  
THE MARINE BIOLOGICAL LABORATORY

## Editorial Board

ROBERT B. BARLOW, JR., Syracuse University

WALLIS H. CLARK, JR., University of California at  
Davis

DAVID H. EVANS, University of Florida

C. K. GOVIND, Scarborough Campus, University  
of Toronto

JUDITH P. GRASSLE, Marine Biological Laboratory

HARLYN O. HALVORSON, Brandeis University

MAUREEN R. HANSON, University of Virginia

RONALD R. HOY, Cornell University

SAMUEL S. KOIDE, The Population Council,  
Rockefeller University

FRANK J. LONGO, University of Iowa

CHARLOTTE P. MANGUM, The College of  
William and Mary

MICHAEL G. O'RAND, Laboratories for Cell Biology,  
University of North Carolina at Chapel Hill

RALPH S. QUATRANO, Oregon State University at  
Corvallis

LIONEL I. REBHUN, University of Virginia

DOROTHY M. SKINNER, Oak Ridge National  
Laboratory

JOHN D. STRANDBERG, Johns Hopkins University

JOHN M. TEAL, Woods Hole Oceanographic  
Institution

J. RICHARD WHITTAKER, Boston University  
Marine Program and Marine Biological Laboratory

GEORGE M. WOODWELL, Ecosystems Center, Marine  
Biological Laboratory

SEYMOUR ZIGMAN, University of Rochester

*Editor:* CHARLES B. METZ, University of Miami

JUNE, 1984

Printed and Issued by  
LANCASTER PRESS, Inc.

PRINCE & LEMON STS.  
LANCASTER, PA.

# THE BIOLOGICAL BULLETIN

PUBLISHED BY  
THE MARINE BIOLOGICAL LABORATORY

## Editorial Board

- |  |  |
|--|--|
| ROBERT B. BARLOW, JR., Syracuse University                         | MICHAEL G. O'RAND, Laboratories for Cell Biology,<br>University of North Carolina at Chapel Hill |
| WALLIS H. CLARK, JR., University of California at<br>Davis         | RALPH S. QUATRANO, Oregon State University at<br>Corvallis                                       |
| DAVID H. EVANS, University of Florida                              | LIONEL I. REBHUN, University of Virginia   |
| C. K. GOVIND, Scarborough Campus, University<br>of Toronto         | DOROTHY M. SKINNER, Oak Ridge National<br>Laboratory   |
| JUDITH P. GRASSLE, Marine Biological Laboratory                    | JOHN D. STRANDBERG, Johns Hopkins University   |
| HARLYN O. HALVORSON, Brandeis University                           | JOHN M. TEAL, Woods Hole Oceanographic<br>Institution  |
| MAUREEN R. HANSON, University of Virginia                          | J. RICHARD WHITTAKER, Boston University<br>Marine Program and Marine Biological Laboratory       |
| RONALD R. HOY, Cornell University                                  | GEORGE M. WOODWELL, Ecosystems Center, Marine<br>Biological Laboratory                           |
| SAMUEL S. KOIDE, The Population Council,<br>Rockefeller University | SEYMOUR ZIGMAN, University of Rochester  |
| FRANK J. LONGO, University of Iowa                                 |  |
| CHARLOTTE P. MANGUM, The College of<br>William and Mary            |  |

*Editor:* CHARLES B. METZ, University of Miami

## JUNE, 1984

Printed and Issued by  
LANCASTER PRESS, Inc.

PRINCE & LEMON STS.  
LANCASTER, PA.