

APPLIED MICROBIOLOGY

VOLUME 17 • NUMBER 3 • MARCH 1969

EDITORIAL BOARD

J. C. Sylvester, *Editor-in-Chief*
Abbott Laboratories, North Chicago, Ill.

Marvin P. Bryant, *Editor (1971)*
University of Illinois, Urbana

Ralph N. Costilow, *Editor (1970)*
Michigan State University, East Lansing

Oldrich K. Sebek, *Editor (1969)*
The Upjohn Co., Kalamazoo, Mich.

R. F. Acker (1969)
Milton J. Allison (1971)
Albert Balows (1971)
Nestor Bohonos (1970)
E. Arnold Branch (1969)
Alex Ciegler (1971)
Herald R. Cox (1969)
Marjorie A. Darken (1970)
R. N. Doetsch (1969)
John Ehrlich (1971)
James D. Fenters (1970)
Maxwell Finland (1969)
E. M. Foster (1969)
Anthony F. Gaudy, Jr. (1970)
T. C. Grubb (1970)

H. Orin Halvorson (1970)
William L. Hewitt (1969)
Marvin J. Johnson (1969)
Alfred G. Karlson (1969)
Lloyd L. Kempe (1970)
George E. Kenny (1970)
William M. M. Kirby (1969)
W. A. Konetzka (1970)
Hubert Lechevalier (1970)
Joseph Lein (1969)
Mark H. Lepper (1969)
Warren Litsky (1969)
Joseph L. Melnick (1970)
William I. Metzger (1971)

C. F. Niven, Jr. (1970)
David Paretsky (1970)
John B. Routien (1971)
Carl P. Schaffner (1969)
Warren S. Silver (1970)
Christian Stoll (1970)
Welton I. Taylor (1970)
M. J. Thirumalachar (1970)
Joseph P. Truant (1970)
Hamao Umezawa (1970)
Selman A. Waksman (1969)
George H. Warren (1969)
Eugene D. Weinberg (1969)

Robert A. Day, *Managing Editor, 4715 Cordell Ave., Bethesda, Md. 20014*

EX OFFICIO

Dennis W. Watson, *President (1968-1969)*

E. M. Foster, *Vice-President (1968-1969)*

Donald E. Shay, *Secretary*

H. B. Woodruff, *Treasurer*

Applied Microbiology, a publication of the American Society for Microbiology, 4715 Cordell Ave., Bethesda, Md. 20014, is devoted to the advancement and dissemination of applied knowledge concerning microorganisms. *Applied Microbiology* is published monthly, two volumes per year. The subscription price is \$26 (foreign, \$27) per year. Single copies are \$4.00 (foreign, \$4.25). Members of the American Society for Microbiology may receive *Applied Microbiology* as part of their dues. Correspondence relating to reprints, defective copies, availability of back issues, and lost or late proofs should be directed to the ASM Publications Office, 4715 Cordell Ave., Bethesda, Md. 20014.

Correspondence from ASM members relating to membership dues, member subscriptions, changes of address, incorrect address, incorrect journals, etc., should be directed to the American Society for Microbiology, 1913 I St., N.W., Washington, D.C. 20006. Nonmembers of the Society should write to The Williams & Wilkins Co., 428 E. Preston St., Baltimore, Md. 21202, regarding institution of nonmember subscriptions and nonreceipt of journals.

Second-class postage paid at Baltimore, Md. 21202, and at additional mailing offices. Made in the United States of America. Copyright © 1969, American Society for Microbiology. All Rights Reserved.

APPLIED MICROBIOLOGY

INSTRUCTIONS TO AUTHORS

Correspondence. Submit manuscripts in duplicate (original and one carbon) to ASM Publications Office, 4715 Cordell Ave., Bethesda, Md. 20014.

General policy. Any manuscript submitted must be a report of unpublished original research, which is not being considered for publication elsewhere. A manuscript accepted and published by *Applied Microbiology* must not be published again in any form without the consent of ASM.

A charge of \$20 per printed page is assessed for publication. Most institutions and granting agencies in the United States permit the payment of publication charges as a part of their general research support. It is recognized, however, that such funds are not always available to laboratories outside the United States. In such cases, the cost of publication will be borne by the American Society for Microbiology.

The "editorial style" of *Applied Microbiology* essentially follows the *Style Manual for Biological Journals* (2nd ed., AIBS, 1964). Genetics symbols should essentially follow the recommendations of Demerec et al. (*Genetics* 54:61, 1966). Biochemical abbreviations should essentially follow the rules of the IUPAC-IUB (*J. Biol. Chem.* 241:527, 1966). Enzyme activity should be expressed in terms of international units (*Enzyme Nomenclature*, Elsevier Publishing Co., 1965), and the EC number should be given parenthetically at first use in the text. In expressing lengths, weights, and volumes, the prefixes nano (n) and pico (p) should be used instead of millimicro (m μ) and micromicro ($\mu\mu$). Express lengths in nanometers (nm; 10⁻⁹ m) or in micrometers (μ m; 10⁻⁶ m) instead of millimicrons (m μ ; 10⁻⁹ m), microns (μ ; 10⁻⁶ m), or Angstroms (A; 10⁻¹⁰ m). Express parts per million (ppm) as micrograms per milliliter (μ g/ml), micrograms per gram (μ g/g), or microliters per liter (μ liters/liter), as appropriate. *Applied Microbiology* reserves the privilege of editing manuscripts to make them conform with the adopted style.

Form of manuscript. Manuscripts should be typed on bond paper (8½ by 11 inches). All parts of the manuscript should be typed double-space or, preferably, triple-space, with margins of at least 1½ inches at the top, bottom, and both sides of each page. Most manuscripts can and should be divided into the following sections: Abstract, Introduction, Materials and Methods, Results, Discussion, Acknowledgments, and Literature Cited.

Abstract. An Abstract appears at the beginning of each paper. The Abstract should not exceed 250 words.

Literature Cited. In the text, references are cited by number. The Literature Cited section should be typed in alphabetical order, by first author, and numbered. Names of journals are abbreviated according to the *Biological Abstracts 1968 List of Serials with Title Abbreviations*. Literature citations should be restricted to closely pertinent papers. Citations of abstracts, theses, "unpublished data," "personal communication," and "in press" will not be accepted in the Literature Cited, but may be used parenthetically in the text.

Tables. Each table should be typed on a separate page. The data should be arranged so that columns of

like material read down, not across. The headings should be sufficiently clear so that the meaning of the data will be understandable without reference to the text. Explanatory footnotes are permitted, but detailed descriptions of the experiments are not. The materials and methods used to gain the data should properly remain in the section of that name.

Figures. A complete set of figures, preferably glossy photographs, should accompany each of the two copies of the manuscript. Graphs (*submit as photographs*) should be finished drawings not needing further artwork or type-setting. Figures and graphs should not exceed 8½ by 11 inches. Absolutely no part of a graph should be typewritten (except the legend, which should be typed on a separate page). Each figure should be numbered and should include the name of the author, either in the margin or on the back (marked lightly with a soft pencil). All lettering should be done with a lettering set. Most graphs will be reduced to 2½ inches in width, and all elements in the drawing should be prepared to withstand this reduction. The legend of the figure should provide enough information so that the figure is understandable without reference to the text. Experimental details from Materials and Methods should not be repeated in figure legends.

Nomenclature of microorganisms. In general, the nomenclature for bacteria presented in *Bergey's Manual of Determinative Bacteriology* (7th ed., 1957) is used. If an author challenges this nomenclature, his own judgment will be followed, but the name in *Bergey's Manual* should follow in parentheses the first time the name is used in the text and in the Abstract. When a new bacterial name is proposed in a manuscript, an international authority on nomenclature will be consulted for an opinion. When a new species, or a new variety of a species, is proposed, an acceptable photomicrograph or electron micrograph of the cells should be submitted. If the cells are motile, the photomicrograph or electron micrograph should show the nature and arrangement of flagella. As one of the requirements for description of a new species, we require deposition of the type culture in a recognized culture collection and designation of the accession number.

Notes. The accepted form for Notes is somewhat different from the foregoing. Contributors should consult a recent issue of *Applied Microbiology* for style. Notes should not exceed 500 words. The Abstract should not exceed 25 words.

Copyright. Once a paper has been published in *Applied Microbiology*, which is a copyrighted publication, the legal ownership of all parts of the paper, including the illustrations, has passed from the author to ASM. If the same author, or any author, wishes to republish material previously published in *Applied Microbiology*, he must first receive written permission from ASM.

Reprints. Reprints (in multiples of 100) may be purchased by contributors. A table showing the cost of reprints, and an order form, will be sent with the proof.