# STAINING PROCEDURES

**THIRD EDITION**

*Edited by*

Clark

*Contributors*

Bartholomew
Clark
Coalson
Mohr
Nordquist
Schneider

THE WILLIAMS & WILKINS CO.

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## used by the BIOLOGICAL STAIN COMMISSION

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METHODS FOR ANIMAL TISSUE
George Clark
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METHODS FOR BOTANICAL SCIENCES
Henry Schneider

METHODS FOR MICROBIOLOGY
James W. Bartholomew

METHODS FOR PROTOZOANS
John L. Mohr

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# PREFACE TO SECOND EDITION

This publication is sponsored by the Biological Stain Commission and is intended to represent staining methods used in microtechnic in the laboratories of Commission members. It is not intended to be a complete treatise in regard to staining, nor even to include the only way of getting good results with the various methods here included. Nor are the procedures given intended to be considered as *standard* or *official*. They are all put in a standardized *form*, but only for the convenience of users.

The first edition of this book was published in a loose-leaf form, the first leaflets thereof appearing in 1943. Eventually it consisted of nine leaflets. These leaflets were periodically revised during the period from 1943 to 1955, some of them going through 4 editions. The present publication, however, is the first in which all the material has been gathered together as a "hard-cover" book, and is regarded as only the 2nd edition of the entire contents.

Members of the stain Commission contributing to the first (loose-leaf) edition are listed in its introductory leaflet. When the senior author retires several years ago as an officer of the Commission, it was anticipated that this publication would be allowed to go out of print and that its revision would not be undertaken. However, a continuing steady demand for the material in it has resulted in a decision by the Commission Trusteed to sponsor a new and revised edition.

In the first edition the names of 28 collaborators are given on the page of Acknowledgements. On the title page of the current edition only those specially assisting in the revision are named; but acknowledgement is hereby given to the following whose assistance made the first edition possible (but who are not named on the present title page): C. E. Allen, Wanda Brentzel, Clyde Chandler, G. H. Chapman, E. V. Cowdry, A. B. Dawson, John Einset, J. O. Foley, M. F. Guyer, P. H. Hartz, Raphael Isaacs, M. W. Jennison, H. E. Jordan, R. R. Kudo, B. R. Nebel, L. F. Randolph, Ruth Rhines, L. W. Sharp, K. A. Stiles, W. D. Stovall, W. R. Taylor, J. M. Thuringer, W. F. Windle, Isidore Wodinsky, Conway Zirkle. Special mention should also be made of the fact that Chapter 4 (Neurological Methods) has been completely revised for the present edition by H. A. Davenport; while Chapters 6-8 (Plant Microtechnic) owe their new form largely to the valuable suggestions made by Frank H. Smith and Charlotte Pratt.

H. J. Conn, *Geneva, N. Y.*
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# PREFACE TO THIRD EDITION

The second edition of this book was published in 1960, and the preface to the second edition is reprinted below. The objectives of the book as stated there remain unchanged.

The authors of the third edition wish to acknowledge their dependence on and their thanks to all those who made possible the earlier editions. Much of the earlier textual material is included sometimes with minor emendations, sometimes with considerable change. The format remains, but in addition some descriptive material has been added. The most noteworthy additions have been in methods for study of the islet cells of the pancreas, a section on fluorescent microscopy, and an entirely new division on methods for protozoans. The divisions on botanical and microbiology techniques have been completely rewritten.

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## PART II: BOTANICAL SCIENCES

## CHAPTER6: PLANT ANATOMY AND GENERAL BOTANY

## PART III: MICROBIOLOGY