

# **THE STORY OF GERM LIFE**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649285600

The story of germ life by H. W. Conn

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.  
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

[www.triestepublishing.com](http://www.triestepublishing.com)

**H. W. CONN**

**THE STORY  
OF GERM LIFE**





VARIOUS KINDS OF BACTERIA.

A. To the left the common hay bacillus (*Bacillus subtilis*); to the right a *Spirillum*.  
 B. A Coccus form (*Pisumcoccus*). C, D, E. Species of *Pseudomonas*.  
 F, G. Species of *Bacillus*, F being that of typhoid fever. H. *Microspira*.  
 J, K, L, M. Species of *Spirillum*.—(After Engler and Praxel.)

# THE STORY OF GERM LIFE

BY

H. W. CONN

PROFESSOR OF BIOLOGY AT WESLEYAN UNIVERSITY,  
AUTHOR OF EVOLUTION OF TO-DAY,  
THE LIVING WORLD, ETC.



WITH ILLUSTRATIONS

UNIV. OF CALIFORNIA  
SOUTHERN BRANCH

NEW YORK

MCMXII

39682

COPYRIGHT, 1897,  
By D. APPLETON AND COMPANY.

UNIVERSITY OF MICHIGAN  
NONA 98 1897 1002  
Printed in the United States of America

123 6M 1-5-28  
4.95  
10 v.  
Dance

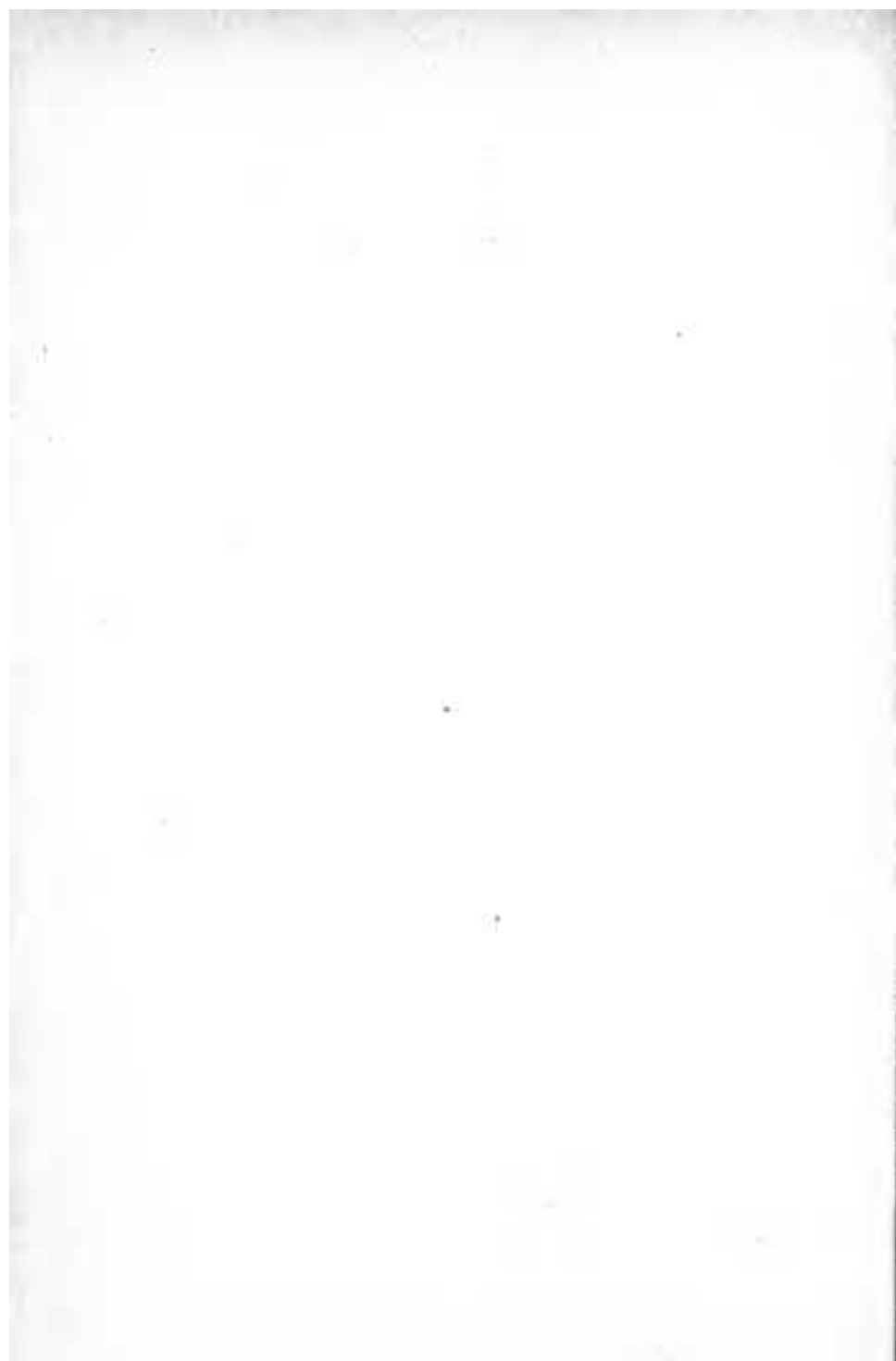
QR56  
C765  
1412

PREFACE.

THE rapid progress of discovery in the last few years has created a very general interest in bacteria. Few people who read could be found to-day who have not some little idea of these organisms and their relation to disease. It is, however, unfortunately a fact that it is only their relation to disease which has been impressed upon the public. The very word bacteria, or microbe, conveys to most people an idea of evil. The last few years have above all things emphasized the importance of these organisms in many relations entirely independent of disease, but this side of the subject has not yet attracted very general attention, nor does it yet appeal to the reader with any special force. It is the purpose of the following pages to give a brief outline of our knowledge of bacteria and their importance in the world, including not only their well-known agency in causing disease, but their even greater importance as agents in other natural phenomena. It is hoped that the result may be to show that these organisms are to be regarded not primarily in the light of enemies, but as friends, and thus to correct some of the very general but erroneous ideas concerning their relation to our life.

MIDDLETOWN, April 1, 1897.





## CONTENTS.

CHAPTER	PAGE
I.—BACTERIA AS PLANTS . . . . .	9
Historical.—Form of bacteria.—Multiplication of bacteria.—Spore formation.—Motion.—Internal structure.—Animals or plants?—Classification.—Variation.—Where bacteria are found.	
II.—MISCELLANEOUS USES OF BACTERIA IN THE ARTS	41
Maceration industries.—Linen.—Jute.—Hemp.—Sponges.—Leather.—Fermentative industries.—Vinegar.—Lactic acid.—Butyric acid.—Bacteria in tobacco curing.—Troublesome fermentations.	
III.—BACTERIA IN THE DAIRY . . . . .	66
Sources of bacteria in milk.—Effect of bacteria on milk.—Bacteria used in butter making.—Bacteria in cheese making.	
IV.—BACTERIA IN NATURAL PROCESSES . . . . .	94
Bacteria as scavengers.—Bacteria as agents in Nature's food cycle.—Relation of bacteria to agriculture.—Sprouting of seeds.—The silo.—The fertility of the soil.—Bacteria as sources of trouble to the farmer.—Coal formation.	
V.—PARASITIC BACTERIA AND THEIR RELATION TO DISEASE . . . . .	128
Method of producing disease.—Pathogenic germs not strictly parasitic.—Pathogenic germs that are true parasites.—What diseases are due to bacteria.—Variability	

CHAPTER	PAGE
of pathogenic powers.—Susceptibility of the individual. — Recovery from bacteriological diseases.— Diseases caused by organisms other than bacteria.	
<b>VI.—METHODS OF COMBATING PARASITIC BACTERIA</b>	<b>165</b>
Preventive medicine.—Bacteria in surgery.—Preven- tion by inoculation.—Limits of preventive medicine.— Curative medicine.—Drugs.— <i>Vis medicatrix nature</i> .— Antitoxines and their use.—Conclusion.	