

**MOSQUITO  
BRIGADES AND HOW  
TO ORGANISE THEM**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649451685

Mosquito Brigades and How to Organise Them by Ronald Ross

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)

**RONALD ROSS**

**MOSQUITO  
BRIGADES AND HOW  
TO ORGANISE THEM**



# MOSQUITO BRIGADES

AND

## HOW TO ORGANISE THEM.

BY

RONALD ROSS, F.R.C.S., D.P.H., F.R.S.,

*Walter Myers Lecturer in Tropical Medicine,*

*Liverpool School of Tropical Medicine,*

*Major, Indian Medical Service, retired.*

Copyright in England and the United States.

The Right of Translation is Reserved.

LONDON:

GEORGE PHILIP & SON, 32 FLEET STREET, E.C.

LIVERPOOL:

PHILIP, SON & NEPHEW, 45 TO 51 SOUTH CASTLE STREET.

1902

10.11.1932.2

GRATEFULLY DEDICATED  
TO  
SIR ALFRED L. JONES, K.C.M.G.,  
AND THE SUBSCRIBERS OF  
THE LIVERPOOL SCHOOL OF TROPICAL MEDICINE;  
AND ALSO TO  
THOSE GENEROUS DONORS  
WHO BY THEIR MUNIFICENT SUPPORT  
HAVE ENABLED US TO UNDERTAKE  
OUR  
CAMPAIGN IN WEST AFRICA.

The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial statements and for providing a clear audit trail. The second part of the document details the various methods used to collect and analyze data, including interviews, focus groups, and surveys. The third part of the document presents the findings of the study, which indicate that there is a significant need for improved record-keeping practices in the industry. The fourth part of the document discusses the implications of these findings and provides recommendations for future research and practice.



## P R E F A C E.

---

The discovery that the germs of several of the most important tropical diseases, namely, malarial fever, yellow fever, and elephantiasis, are inoculated into human beings by the bites of mosquitoes has revolutionised tropical hygiene. Not only our comfort but our security in the tropics now depends upon the measures we adopt against these insects.

There are several means of protection already well known to us. For example, in India punkahs swing night and day over the heads of Europeans, and at night almost everyone employs mosquito nets. In America entire houses are protected from the invasion of these pests by means of wire gauze screens fixed to the windows and doors.

Such measures as these, however, have one great defect. They protect only those who can afford them, and who are necessarily few in number. Moreover, it is found in practice that the protection is only partial, because, whatever efforts of this kind we may make, we cannot, especially in the tropics, entirely avoid being bitten.

Another safeguard against mosquito-borne diseases consists in isolating ourselves in buildings separate from the bulk of our neighbours, in the hope that, even if we continue to be bitten by mosquitoes, these insects will not

be infected by having previously bitten infected persons. This means, also, can be adopted only by the rich, and is sometimes very inconvenient even to them.

While all these measures are undoubtedly beneficial, particularly under special circumstances, the question strikes us at once, "Rather than take so much trouble in protecting ourselves from the bites of these insects, would it not be better to get rid of them at once?"

Where this measure can be carried out, not only the rich, but the whole population will be protected; and individuals will be saved the trouble and expense involved in providing their houses with wire-gauze screens.

The object of the present work is to show how we can best wage war against mosquitoes. The information given is based upon experience gained by me during many years study of mosquitoes in various parts of the world; and more especially upon the actual results of the operations now being carried on by the Liverpool School of Tropical Medicine in West Africa. The work is not written only for medical men in the tropics, but for anyone who lives in countries where mosquitoes abound. I have tried to describe the various operations in detail; and the Appendix contains accounts of the campaigns already started in various parts of the world.

The reader will perceive that, in fact, I am preaching a general crusade of a more novel and perhaps more useful character than most crusades. I trust that he will volunteer under the flag.

LIVERPOOL, 13th October, 1901.

## CONTENTS.

	Page
PREFACE . . . . .	v
<b>THINGS TO BE LEARNT:</b>	
1. LEADING FACTS ABOUT MOSQUITOES . . . . .	1
2. SOME POPULAR MISCONCEPTIONS CORRECTED . . . . .	3
3. GENERAL PRINCIPLES TO BE FOLLOWED . . . . .	4
4. THE BREEDING PLACES OF <i>CULEX</i> . . . . .	6
5. BREEDING PLACES OF <i>ANOPHELES</i> . . . . .	7
6. HOW TO FIND THE ADULTS . . . . .	11
<b>THINGS TO BE DONE:</b>	
7. APPOINTMENT OF SUPERINTENDENT . . . . .	13
8. THE FIRST STEP . . . . .	15
9. HOW TO RAISE FUNDS . . . . .	15
10. SMALL BEGINNINGS . . . . .	17
11. ORGANISATION OF THE BRIGADE . . . . .	19
12. ORGANISATION AND DUTIES OF THE <i>CULEX</i> GANG . . . . .	20
13. ORGANISATION AND DUTIES OF THE <i>ANOPHELES</i> GANG . . . . .	25
14. DESTRUCTION OF <i>LARVAE</i> . . . . .	32
15. DESTRUCTION OF ADULTS . . . . .	36
16. LAST STAGES OF THE CAMPAIGN . . . . .	39
<b>SUMMARY:</b>	
17. SUMMARY OF OBJECTS . . . . .	42
18. SUMMARY OF METHODS . . . . .	42
19. MOTTO . . . . .	43
<b>MISCELLANEOUS REMARKS:</b>	
20. WHERE NOT TO START MOSQUITO BRIGADES . . . . .	44
21. WHERE TO START MOSQUITO BRIGADES . . . . .	45
22. OTHER METHODS OF PREVENTING MOSQUITO-BORNE DISEASES . . . . .	47
23. A COMPARISON OF THESE METHODS . . . . .	48
24. PROBABLE EFFECT OF ANTI-MOSQUITO MEASURES ON MOSQUITO-BORNE DISEASE . . . . .	53
25. SANITARY ANARCHY . . . . .	57
<b>APPENDIX:</b>	
HISTORY OF THE WAR AGAINST MOSQUITOES. CAMPAIGNS AT HONG KONG, LAGOS, STATEN ISLAND, NEW YORK, HAVANA, AND SIERRA LEONE . . . . .	61
BOOKS . . . . .	97