

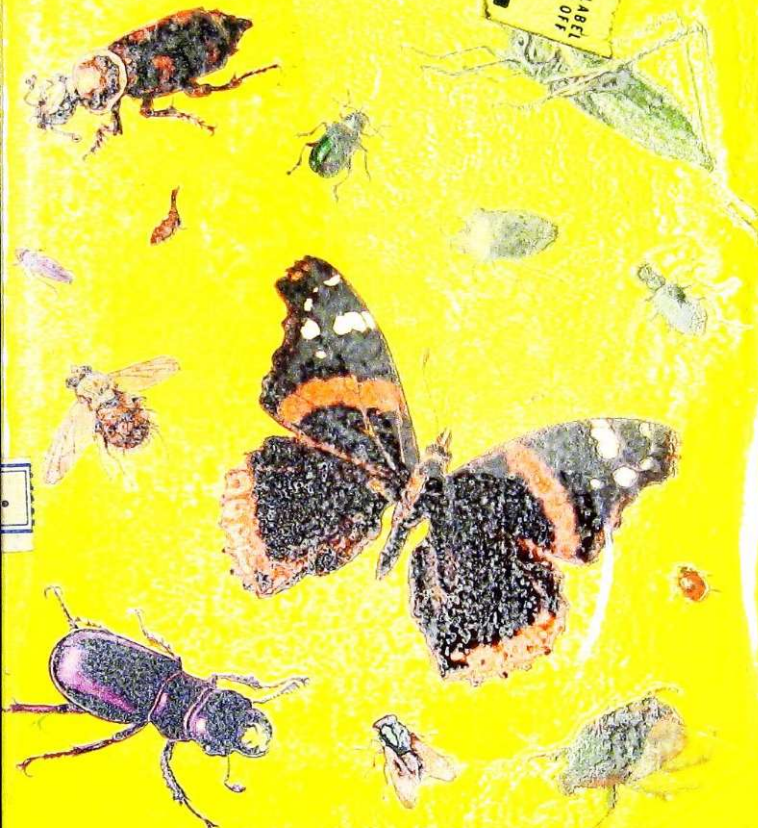
I

225 SPECIES IN FULL COLOR

INSECTS

A GUIDE TO FAMILIAR AMERICAN INSECTS

THIS LABEL
PEELS OFF
100



A GOLDEN NATURE GUIDE

2279 ~~2279~~



76-

INSECTS

A GOLDEN NATURE GUIDE

225 SPECIES IN FULL COLOR

INSECTS

A GUIDE TO FAMILIAR AMERICAN INSECTS

by

HERBERT S. ZIM, Ph.D.

College of Education, University of Illinois, and
Educational Consultant, U.S. Fish and Wildlife Service

and

CLARENCE COTTAM, Ph.D

Assistant Director, U.S. Fish and Wildlife Service

ILLUSTRATED BY

JAMES GORDON IRVING



Sponsored by
The Wildlife Management Institute

A GOLDEN NATURE GUIDE

SIMON AND SCHUSTER · NEW YORK



FOREWORD

This book is the most ambitious yet attempted in the Golden Nature Series. Because of its scope, problems had to be solved all along the way, from the first selecting of the insects to be included to the last checking of proofs. The end was achieved because of the whole-hearted cooperation of many people who felt it important to have a beginner's guide to insects. The authors want to express their appreciation and thanks to all who have participated.

The artist, James Gordon Irving, has made a superb contribution. His wife, Grace Crowe Irving, has helped in field studies, collecting, and in general research. The contribution of Robert T. Mitchell has been invaluable—in compiling lists from which the original selections were made; in checking data; in preparing the maps. Specimens have been obtained for study and illustration from the Patuxent Research Refuge, the U. S. National Museum, and Melville W. Osborne of Rahway, N. J. A large group of specialists have generously offered comment and suggestions on the plates—William D. Field, Edward A. Chapin, William H. Anderson, Austin H. Clark, George B. Vogt, Reece I. Sailer, Hahn W. Capps, O. L. Cartwright, Paul W. Oman, Ashley B. Gurney, Barnard D. Burks, Karl V. Krombein, Ross H. Arnett, Jr., Marion R. Smith, Alan Stone, John G. Franclemont, Arthur B. Gahan, Curtis W. Sabrosky, Grace B. Glance, C. F. W. Muesebeck, and others.

H.S.Z.
C.C.

Copyright 1951 by Simon and Schuster, Inc., and Artists and Writers Guild, Inc. All Rights Reserved, Including the Right of Reproduction in Whole or Part in Any Form. Designed and Produced by the Sandpiper Press and Artists and Writers Guild, Inc. Printed in the U.S.A. by Western Printing and Lithographing Company

Published by Simon and Schuster, Inc., Rockefeller Center, New York 20.

- Question mark, 68
 Range maps, use of, 7
 Red admiral, 70-71
 Regal moth, 93
 Rhinoceros beetle, 130-131
 Robber fly, 105
 Rose chafer, 110
 Rove beetles, 112-113

 Satyrs, 72-73
 Sawflies, 136
 Scale insects, 15, 40-41*
 Scarab beetles, 110, 111, 128,
 130-131
 Scorpionflies, 16, 56*
 Sheep tick, 151
 Shieldbugs, 42-43
 Silk moth, 86
 Silverfish, 152-153
 Skippers, 82
 Sphinx moths, 84-85
 Spider, 9
 Spittlebug, 38
 Squashbugs, 44
 Stag beetles, 132
 Stinkbugs, 42-43
 Stoneflies, 15, 52*
 Striped blister beetle, 120, 122*
 Sulphurs, 77
 Swallowtails, 59*, 78-81*
 Sweat bees, 148-149

 Tachinid fly, 44, 107*
 Tarnished plant bug, 47
 Tent caterpillars, 97, 115
 Termites, 30-31
 Thistle butterfly, 70-71
 Tick:
 sheep, 151
 wood, 152
 Tiger beetles, 109

 Tobacco worm, 84
 Tomato worm, 84
 Treehoppers, 33
 Trichoptera, 16, 57
 True bugs, 15, 42-49*
 Tumblebugs, 130-131
 Tussock moth, 95

 Underwing moths, 92
 Using this book, 7

 Velvet ants, 144
 Viceroy, 61
 Violet-tip, 68

 Walkingsticks, 17
 Wasps, 16, 41, 142-147*
 braconid, 84-85
 cuckoo, 142-143
 mud, 142-143
 paper, 146-147
 Water beetles, 126-127
 diving, 126-127
 whirligig, 126-127
 Water-boatmen, 48-49
 Water bugs, 48-49
 Water scavengers, 126-127
 Water strider, 48-49
 Water tigers, 126-127
 Webworm, fall, 97
 Weevils, 135
 Whirligig beetles, 126-127
 White ants, 30-31
 Wireworms, 114
 Wood nymph, 72-73
 Wood satyr, 72-73
 Wood tick, 152-153
 Woolly bear, 83

 Yellow jacket, 146-147

 Zebra swallowtail, 79-81