CONTENTS

List of Illustrations xvi

I. Introduction 1

II. Dispersal of the Giant African Snail 4

  BISMARCK ARCHIPELAGO / 6
  BONIN ISLANDS / 6
  BURMA / 7
  CAROLINE ISLANDS / 7
  CEYLON / 8
  CHINA / 8
  FORMOSA / 8
  HAWAIIAN ISLANDS / 8
  HONG KONG / 9
  INDIA / 9
  INDONESIA / 9
  JAPAN / 11
  MALAYA / 11
  MALDIVE ISLANDS / 11
  MARIANA ISLANDS / 11
  MAURITIUS / 13
  NEW GUINEA / 13
  NORTH BORNEO / 13
  PALAU ISLANDS / 14
  PHILIPPINE ISLANDS / 14
  RÉUNION / 14
  RYUKYU ISLANDS / 15
  SARAWAK / 15
  SEYCHELLES / 15
  SINGAPORE / 15
THAILAND / 15
VIETNAM / 16

III. Factors Favoring Dispersal and Survival / 17
MAN—THE PRINCIPAL AGENT OF DISPERSAL / 17
LONGEVITY / 21
REPRODUCTIVITY / 21
VARIABILITY / 24
ESTIVATION AND HIBERNATION / 25
HARDINESS / 28
PAUCITY OF NATURAL ENEMIES / 32
PERIOD OF ACTIVITY / 33
AVAILABILITY OF CALCIUM / 33
ESCAPE REACTION AND MIGRATION CYCLE / 34

IV. Economic Status / 36
CURRENT OPINION / 36
DAMAGE TO PLANTS / 39
EVALUATION OF DAMAGE / 49
INDIRECT DAMAGE / 52
NUISANCE FACTOR / 54
HEALTH FACTOR / 55
ROLE AS SCAVENGER / 57
UNJUST CHARGES / 59

V. Chemical Control / 61
CHEMICALS AND COMPOUNDS / 62
CHEMICAL CONTROL—AN EVALUATION / 84

VI. Control through Mechanical Devices / 92
BARRIERS / 92
BURNING-OVER / 94
CLEAN CULTURE / 95
DROWNING / 97
HAND COLLECTING AND DESTROYING / 98
SHIFTING CULTIVATION / 100
TRAPS / 100

VII. Biological Control / 102
AMPHIBIANS / 102
ANTS / 105
CONTENTS

BEETLES / 106
BIRDS / 113
CRABS / 116
FLIES / 118
HELMINTHS / 120
MAMMALS / 121
MICRO-ORGANISMS / 123
MITES / 125
REPTILES / 125
SNAILS / 126
MISCELLANEOUS / 136
BIOLOGICAL CONTROL—AN EVALUATION / 136

VIII. Control through Human Use 146
HUMAN CONSUMPTION / 146
REPUTED POISONOUS PROPERTIES / 155
EXPERIMENTS IN EATING THE GIANT SNAIL / 156
FOOD FOR POULTRY / 159
CHEMICAL ASSAY OF SNAIL MEAL / 160
VITAMIN ASSAY OF SNAIL MEAL / 164
AMINO ACID ASSAY OF SNAIL MEAL / 165
FOOD FOR LIVESTOCK / 167
FISH BAIT / 167
FERTILIZER / 167
PRODUCTION OF SNAIL MEAL / 168

IX. Control through Legislative Action 172

X. Population Decline 180

POPULATION SENILITY / 182
STERILITY / 182
STARVATION / 183
EXPOSURE / 183
TRAUMATIC BREAKS / 183
PREDATORS / 184
GENETICS / 184
DISEASE / 185
MULTIPLE FACTORS / 193
CONTENTS

XI. Outlook

   DISPERSAL / 195
   BIONOMICS / 199
   CONTROL / 199
   DECLINE / 203

Bibliography 205

Index 247