

# Contents

<b>Foreword</b>	5
<b>Author's preface</b>	7
<b>Chapter 1 - Methodologies and interpretations</b>	
Assessment of pollen samples	9
Handling of pollen mother cells	9
Interpretations of meiotic data	12
Chromosome counts of new hybrids	13
<b>Chapter 2 - Translocations and inversions in diploid <i>Musa acuminata</i></b>	
Plant materials studied in hybrid combinations	15
Hybrids within groups	17
Inter-group hybrids	19
Inheritance of translocations/inversions in AA	31
Structural hybridity and fertility	37
<b>Chapter 3 - <i>M. balbisiana</i> and <i>M. acuminata</i></b>	
Plant materials	40
Results in Trinidad and Jamaica	41
Production and assessment of hybrids in Brazil	42
Interspecific isolation between AA and BB in summary	52
<b>Chapter 4 - <i>Rhodochlamys</i> and <i>M. flaviflora</i>; their hybrids with AA and BB</b>	
Plant materials	53
Vigour, meiotic behaviour and fertility of $F_1$ hybrids; performance of $F_2$ or backcross plants	55
Interspecific affinities or isolation and the taxonomic scheme	67
<b>Chapter 5 - <i>M. schizocarpa</i> and <i>M. acuminata</i></b>	
Plant materials	69
Hybrids raised in Trinidad	70
Hybrids raised in Jamaica	70
Taxonomic implications	79

<b>Chapter 6 - Three more species of section <i>Musa</i></b>	
Plant materials	82
Results (with <i>M. basjoo</i> , <i>M. itinerans</i> and <i>M. ochracea</i> )	82
The phylogenetic position	85
<b>Chapter 7 - Australimusa and Callimusa</b>	
Plant materials and ease of crossing	87
Meiotic data	89
F <sub>1</sub> fertility	98
Taxonomy and isolation in review	99
<b>Chapter 8 - Abnormal spore development</b>	
Results	102
Abnormal spore formation in general	105
<b>Chapter 9 - Meiosis in triploids and tetraploids</b>	
Triploid plant materials	109
First meiotic metaphase in triploids	113
First meiotic anaphases in triploids	114
Meiosis in tetraploids	116
<b>Chapter 10 - Polyploids and aneuploids</b>	
Triploids	119
Tetraploids	131
Higher euploids	132
Aneuploids	133
<b>Chapter 11 - The banana gene pool</b>	
Priorities for components	135
The genetic structure of wild populations	137
Collection criteria	140
<b>Appendix</b>	
Appendix 3.1	141
Appendix 4.1	144
Appendix 5.1	147
Appendix 7.1	149
Appendix 8.1	150
<b>Bibliography</b>	153
<b>Index of tables and figures</b>	157