

CONTENTS

PREFACE

ACKNOWLEDGEMENTS

CHAPTER I. TAXONOMIC HISTORY AND QUESTIONS TO BE ADDRESSED

TAXONOMIC HISTORY	1
CIRCUMSCRIPTION AND PHYLOGENETICAL POSITION	5
SUBDIVISION	6
SPECIES DELIMITATION	7
QUESTIONS TO BE ADDRESSED	8

CHAPTER II. MORPHOLOGY

ROOTS	9
STEMS	9
LEAVES	11
LEAF LENGTH	11
LEAF SHAPE	12
LEAF MARGIN	14
LEAF BASE	15
LEAF SURFACE	16
INFLORESCENCE	26
BRACTS	27
BRACT LENGTH	27
BRACT SHAPE	29
CALYX	30
CALYX LENGTH	31
CALYX SPLIT RATIO	33
CALYX TOOTH RATIO	34
COROLLA	36
COROLLA COLOUR	36
COROLLA LENGTH	38

COROLLA TUBE RATIO	40
APEX OF THE UPPER LIP OF THE COROLLA	41
HAIRS OF THE UPPER LIP OF THE COROLLA	42
MIDDLE LOBE OF THE LOWER LIP OF THE COROLLA	43
STAMENS	44
ANTHERS	44
HAIRS ON THE FILAMENTS	44
STYLE	45
POLLEN	45
FRUITS	47
CHAPTER III. MOLECULAR PHYLOGENY, BIOGEOGRAPHY AND	
CHARACTER EVOLUTION	48
PHYLOGENETICAL POSITION AND SUBDIVISION	48
ORIGIN AND DIVERSIFICATION	50
CHARACTER EVOLUTION	51
CHAPTER IV. TAXONOMIC REVISION OF <i>MICROTOENA</i>	54
<i>MICROTOENA</i> PRAIN	54
KEY TO SECTIONS AND SPECIES OF <i>MICROTOENA</i>	55
SECTION 1. <i>Microtoena</i>	57
1. <i>Microtoena esquirolii</i>	57
2. <i>Microtoena insuavis</i>	63
3. <i>Microtoena patchoulia</i>	68
4. <i>Microtoena mollis</i>	73
SECTION 2. <i>Delavayana</i>	77
5. <i>Microtoena delavayi</i>	77
6. <i>Microtoena wardii</i>	83
7. <i>Microtoena urticifolia</i>	86
8. <i>Microtoena albescens</i>	88
9. <i>Microtoena stenocalyx</i>	90
10. <i>Microtoena miyiensis</i>	93
11. <i>Microtoena megacalyx</i>	94
12. <i>Microtoena moupinensis</i>	96
13. <i>Microtoena prainiana</i>	102
14. <i>Microtoena muliensis</i>	105
15. <i>Microtoena omeiensis</i>	107

16. <i>Microtoena brevipedunculata</i>	110
17. <i>Microtoena nepalensis</i>	112
18. <i>Microtoena robusta</i>	112
19. <i>Microtoena vanchingshanensis</i>	116
EXCLUDED NAME	118
BIBLIOGRAPHY	119
INDEX TO SPECIMENS CITED	121
INDEX TO BOTANICAL NAMES AND SYNONYMS	126
DATA OF STANDARD DEVIATION ANALYSIS	128