

CONTENTS

TITLE	PAGE NO.
<i>Ctenops nobilis</i> McClelland, 1845	1
CHAPTER 1. GENERAL INTRODUCTION	2-6
CHAPTER 2. GENERAL MATERIALS AND METHODS	7-18
2.1. Collection of fish sample from natural habitat	7-8
2.2. Acclimatisation of procured fish	8-9
2.3. Sites of experiments	9
2.4. Regular monitoring of the experimental aquariums	9-10
2.5. Analysis of Hydrobiological parameters	10-11
2.6. Collection of length and weight data of fish	11-12
2.7. Live fish food culture	12-13
2.8. Proximate analysis of fish food organisms	13-15
2.9. Analyses of some biological parameters of the fish	15-16
2.10. Methods used for statistical analyses	16-18
CHAPTER 3. REVIEW OF LITERATURE	19-29
3.1. Status of Gourami species	19-20
3.2. General description of <i>Ctenops nobilis</i>	20-22
3.3. Natural distribution of <i>C. nobilis</i>	22-23
3.4. Biometric study	24-25
3.5. Eco-biological study	25-26
3.6. Food and feeding biology	26-27
3.7. Reproductive biology and breeding	27-29
3.8. Conservation status	29
CHAPTER 4. TAXONOMY	30-43

4.1. Introduction	30-32
4.2. Materials and methods	32-34
4.2.1. Morphometric study	32-33
4.2.2. Morphomeristic study	34
4.3. Results	34-42
4.3.1. General description	34-35
4.3.2. Mophometric study	35-39
4.3.3. Morphomeristic study	39-40
4.3.4. Anatomical study	41-42
4.4. Discussion	42-43
CHAPTER 5. AGE AND GROWTH	44-50
5.1. Introduction	44-45
5.2. Materials and methods	45-46
5.2.1. Age wise growth determination	45
5.2.2. Length frequency distribution	46
5.2.3. Data collection and analysis	46
5.3. Results	46-50
5.3.1. Age wise growth determination	46-48
5.3.2. Length frequency distribution	48-49
5.4. Discussion	49-50
CHAPTER 6. LENGTH-WEIGHT RELATIONSHIP AND CONDITION FACTOR	51-78
6.1 Introduction	51-52
6.2. Materials and methods	52-54
6.2.1. Computational formula for length-weight relationship	53
6.2.2. Computational formula for condition factor	54
6.3. Results	54-78
6.3.1. Total length, standard length and weight relationship of combined group	55-59

6.3.2. Total length, standard length and weight relationship of Male group	59-62
6.3.3. Total length, standard length and weight relationship of Female group	62-66
6.3.4. Season wise total length, standard length and weight relationship of the fish	66-73
6.3.5. Length-weight relationship on the basis of different size length	74-76
6.3.6. Condition factor of the fish	76-77
6.4. Discussion	77-78
CHAPTER 7. HABITAT AND ECOLOGY	79-87
7.1. Introduction	79-80
7.2. Materials and methods	80-83
7.2.1. Study in natural habitat	80
7.2.2. Habitat preference study in captive condition at CIFE, Kolkata	80-82
7.2.3. Temperature preference study	82-83
7.3. Results	83-87
7.3.1. Ecological and hydro biological parameters of natural and captive condition	83-85
7.3.2. Impact of temperature variation on <i>C. nobilis</i>	85-86
7.4. Discussion	87
CHAPTER 8. FOOD AND FEEDING BIOLOGY	88-100
8.1. Introduction	88-89
8.2. Materials and methods	89-91
8.2.1. Study of natural food and feeding habit	89-90
8.2.2. Gastro-somatic Index (GaSI)	90
8.2.3. Relative Length of Gut	90
8.2.4. Food preference and dietary intervention in growth	91
8.3. Results	92-100
8.3.1. Facial and alimentary canal morphology	92-93
8.3.2. Gut content analysis	93-94

8.3.3. Feed preference and growth study	94-96
8.3.4. Relative Length of Gut (RLG)	96-97
8.3.5. Relationship between total length and intestinal length	97-98
8.3.7. Gastro-somatic Index	99
8.4. Discussion	100
CHAPTER 9. REPRODUCTIVE BIOLOGY	101-114
9.1. Introduction	101-102
9.2. Materials and methods	102-104
9.2.1. Sexual dimorphism, sex ratio and maturity stage	102
9.2.2. Morphology of gonad	102-103
9.2.3. Gonadosomatic index	103
9.2.4. Fecundity	103-104
9.2.5. Ova diameter	104
9.3. Results	104-113
9.3.1. Sexual dimorphism of the fish	104-105
9.3.2. Sex ratio	105-106
9.3.3. Length and weight at first maturity	106
9.3.4. Gonad of the fish	107-108
9.3.5. Gonadosomatic Index of the fish	108-109
9.3.6. Ova diameter of matured gonad	109
9.3.7. Fecundity	109-113
9.4. Discussion	114
CHAPTER 10. CAPTIVE MATURATION, BREEDING AND LARVAL REARING	115-123
10.1. Introduction	115-116
10.2. Materials and methods	116-118
10.2.1. Broodstock development	116
10.2.2. Collection of Brood Fishes and Release in Breeding tank	117

10.2.4. Breeding setup	117-118
10.3. Results	118-123
10.3.1. Gonadal Development of the fish	118-119
10.3.2. Mating of the fish	119
10.3.2. Breeding of the fish	120-122
10.3.3. Larval development	122-123
10.4. Discussion	123
CONCLUSION	124-126
SUMMARY	127-131
BIBLIOGRAPHY	132-156
APPENDICES	157-161
Appendix 1 - Disease and Health management	157-158
Appendix 2 - List of Author's publications	159
Appendix 3 - List of Seminar, workshop participated	160
Appendix 4 - List of Author's others full paper publication	161