

Contents

Acknowledgments	vi
Explanatory notes	vii
Abstract	ix
1 Introduction	1
1.1 Preamble	1
1.2 Objectives of the autecological studies	1
1.3 The fauna	2
2 Materials and methods	5
2.1 Sampling design	5
2.2 Recording of environmental data	6
2.3 Collection and observation of fishes	6
2.4 Field procedures	6
2.5 Laboratory and data analysis procedures	7
3 Autecology of the fishes	13
Family CARCHARHINIDAE	14
3.1 <i>Carcharhinus leucas</i> (Muller & Henle)	14
Family MEGALOPIDAE	18
3.2 <i>Megalops cyprinoides</i> (Broussonet)	18
Family CLUPEIDAE	30
3.3 <i>Nematalosa erebi</i> (Gunther)	30
Family OSTEOGLOSSIDAE	45
3.4 <i>Scleropages jardinii</i> (Saville-Kent)	45
Family ARIIIDAE	52
3.5 <i>Arius leptaspis</i> (Bleeker)	52
3.6 <i>Arius proximus</i> (Ogilby)	71
3.7 <i>Arius graeffei</i> (Kner & Steindacher)	75
Family PLOTOSIDAE	81
3.8 <i>Anodontiglanis dahli</i> (Rendahl)	83
3.9 <i>Neosilurus ater</i> (Perugia)	90
3.10 <i>Neosilurus hyrtlii</i> (Steindachner)	106
3.11 <i>Porochilus rendahli</i> (Whitley)	119

Family BELONIDAE	133
3.12 <i>Strongylura krefftii</i> (Gunther)	133
Family MELANOTAENIIDAE	149
3.13 <i>Melanotaenia nigrans</i> (Richardson)	149
3.14 <i>Melanotaenia splendida inornata</i> (Castelnau)	164
3.15 <i>Melanotaenia splendida australis</i> (Castelnau)	181
Family PSEUDOMUGILIDAE	182
3.16 <i>Pseudomugil tenellus</i> (Taylor)	182
Family ATHERINIDAE	194
3.17 <i>Craterocephalus marianae</i> (Ivantsoff, Crowley & Allen)	194
3.18 <i>Craterocephalus stercusmuscarum</i> (Gunther)	208
Family SYNBRANCHIDAE	224
3.19 <i>Ophisternon gutturale</i> (Richardson)	224
Family CENTROPOMIDAE	225
3.20 <i>Lates calcarifer</i> (Bloch)	225
Family AMBASSIDAE	233
3.21 <i>Ambassis agrammus</i> (Gunther)	234
3.22 <i>Ambassis macleayi</i> (Castelnau)	250
3.23 <i>Denariusa bandata</i> (Whitley)	265
Family TERAPONTIDAE	279
3.24 <i>Amniataba percoides</i> (Gunther)	279
3.25 <i>Hephaestus fuliginosus</i> (Macleay)	295
3.26 <i>Leiopotherapon unicolor</i> (Gunther)	306
3.27 <i>Syncomistes butleri</i> (Vari)	323
3.28 <i>Pingalla midgleyi</i> (Allen & Merrick 1984)	334
Family APOGONIDAE	345
3.29 <i>Glossamia aprion</i> (Richardson)	345
Family TOXOTIDAE	363
3.30 <i>Toxotes lorentzi</i> (Weber)	363
3.31 <i>Toxotes chatareus</i> (Hamilton-Buchanan)	365
Family MUGILIDAE	384
3.32 <i>Liza alata</i> (Steindachner 1892)	384
Family GOBIIDAE	391
3.33 <i>Glossogobius giuris</i> (Hamilton-Buchanan)	391
3.34 <i>Glossogobius aureus</i> (Akihito and Meguro)	406

Family ELEOTRIDIDAE	409
3.35 <i>Hypseleotris compressa</i> (Krefft)	409
3.36 <i>Mogurnda mogurnda</i> (Richardson)	420
3.37 <i>Oxyeleotris lineolata</i> (Steindachner) vel assin	435
4 Discussion	450
4.1 Size composition	450
4.2 Environmental associations	463
4.3 Reproduction	489
4.4 Feeding habits	507
4.5 Parasites and predators	522
4.6 Movements	529
4.7 Mortality	532
5 Conclusions/Synthesis	534
5.1 Size composition	534
5.2 Environmental associations	535
5.3 Reproduction	535
5.4 Feeding habits	536
5.5 Importance of lowland backflow billabongs	536
5.6 Wider application of the study findings	537
References	538
Appendices	555
1 Sampling site codes	557
2 Genus species data card B	559
3 Biology data card C	562
4 Stomach contents data card D	563
5 Key to length-frequency distributions showing habitat preferences	564
6 <i>In situ</i> means, standard errors and ranges (with sample sizes) of physico-chemical parameters (except visibility) in which various fish species were captured during the study	565
7 Visibility (ranges, means and standard errors with samples sizes) and <i>in situ</i> percentage dominance of substrates and hydrophyte types at sites in which various fish species were captured during the study period	568
8 Layout of Ranger Uranium Project Area	570