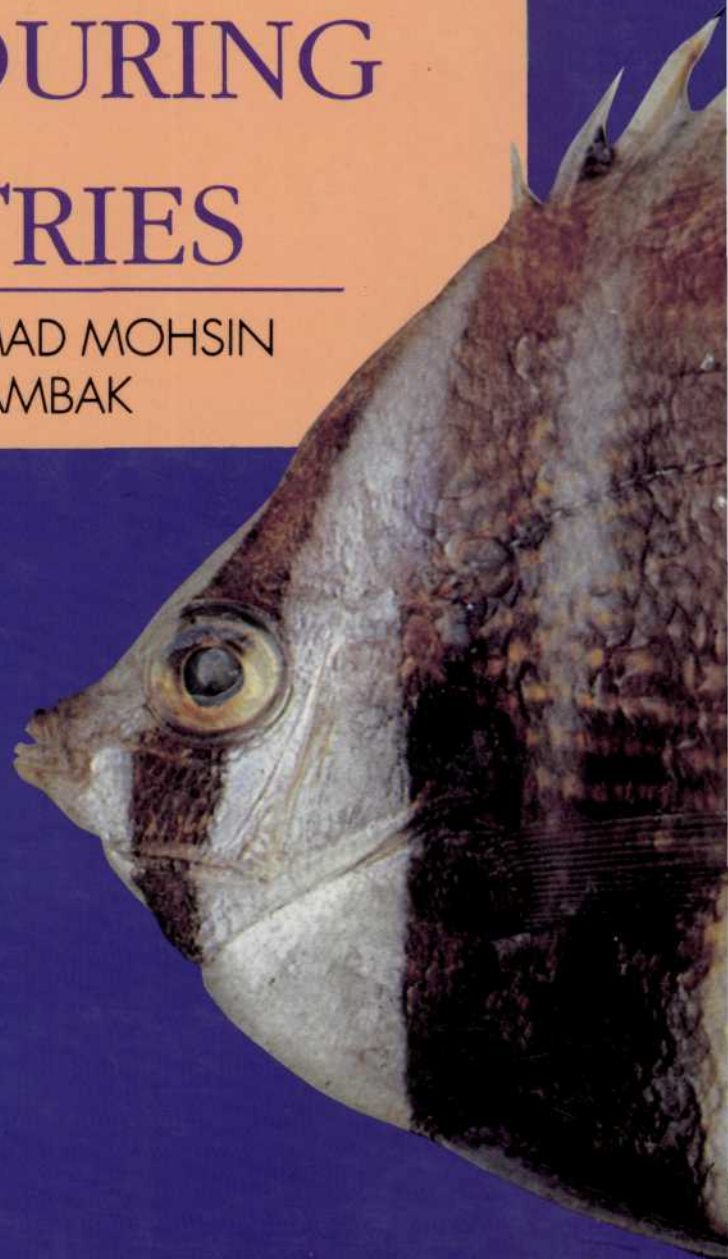


MARINE
FISHES & FISHERIES
Of
MALAYSIA
And
NEIGHBOURING
COUNTRIES

ABU KHAIR MOHAMMAD MOHSIN
MOHD. AZMI AMBAK



CONTENTS

ACKNOWLEDGEMENT	xi
ILLUSTRATED GUIDE TO FAMILY	xii
INTRODUCTION	1
Climate and Oceanography	1
Fishery Resources	10
Ichthyological Literature Pertaining to Identification of Malaysian Fishes	43
Ichthyological Literature Pertaining to Biology and Fishery of Malaysian Fishes	48
Methods and Materials	48
CLASS ELASMOBRANCHII	50
SUPERORDER SELACHOIDEI	50
ORDER SQUALIFORMES	52
FAMILY SQUALIDAE	52
ORDER HETERODONTIFORMES	53
FAMILY HETERODONTIDAE	53
ORDER ORECTOLOBIFORMES	53
FAMILY HEMISCYLLIIDAE	54
FAMILY STEGOSTOMATIDAE	56
FAMILY RHINIODONTIDAE	56
ORDER CARCHARHINIFORMES	57
FAMILY SCYLORHINIDAE	58
FAMILY HEMIGALEIDAE	59
FAMILY CARCHARHINIDAE	59
FAMILY SPHYRNIDAE	67
SUPERORDER BATOIDEI	69
ORDER RAJIFORMES	70
FAMILY PRISTIDAE	71
FAMILY RHINOBATIDAE	72
FAMILY RHYNCHOBATIDAE	72
FAMILY RAJIDAE	73
FAMILY DASYPATIDAE	74
FAMILY GYMNURIDAE	80
FAMILY MOBULIDAE	82
FAMILY MYLIOBATIDAE	82



FAMILY RHINOPTERIDAE	83
ORDER TORPEDINIFORMES	84
CLASS TELEOSTOMI	85
ORDER CLUPEIFORMES	90
FAMILY ELOPIDAE	92
FAMILY MEGALOPIDAE	93
FAMILY ALBULIDAE	94
FAMILY CLUPEIDAE	95
FAMILY PRISTIGASTERIDAE	116
FAMILY ENGRAULIDIDAE	123
FAMILY CHIROCENTRIDAE	137
FAMILY CHANIDAE	141
ORDER MYCTOPHIFORMES	145
FAMILY SYNODONTIDAE	145
FAMILY HARPADONTIDAE	154
ORDER CETOMIMIFORMES	155
FAMILY ATELEPOIDIDAE	155
ORDER SILURIFORMES	156
FAMILY ARIIDAE	156
FAMILY PLOTOSIDAE	163
ORDER ANGUILLIFORMES	165
FAMILY MURAENIDAE	166
FAMILY MURAENESOCIDAE	167
FAMILY NETTASTOMATIDAE	169
FAMILY CONGRIDAE	170
FAMILY OPHICHTHIDAE	171
ORDER BELONIFORMES	172
FAMILY BELONIDAE	173
FAMILY HEMIRAMPHIDAE	175
FAMILY EXOCOETIDAE	178
ORDER SYNGNATHIFORMES	182
FAMILY FISTULARIDAE	182



FAMILY CENTRISCIDAE	183
FAMILY SYNGNATHIDAE	184
ORDER BERYCIFORMES	185
FAMILY MONOCENTRIDAE	185
FAMILY HOLOCENTRIDAE	186
ORDER ZEIFORMES	193
ORDER MUGILIFORMES	194
FAMILY SPHYRAENIDAE	195
FAMILY MUGILIDAE	198
ORDER ATHERINIFORMES	206
FAMILY ATHERINIDAE	206
ORDER POLYNEMIFORMES	206
FAMILY POLYNEMIDAE	206
ORDER PERCIFORMES	210
FAMILY CENTROPOMIDAE	216
FAMILY AMBASSIDAE	219
FAMILY SERRANIDAE	221
FAMILY GLAUCOSOMATIDAE	247
FAMILY GRAMMISTIDAE	247
FAMILY TERAPONIDAE	248
FAMILY PRIACANTHIDAE	251
FAMILY APOGONIDAE	255
FAMILY ACROPOMATIDAE	260
FAMILY SILLAGINIDAE	261
FAMILY BRANCHIOSTEGIDAE	266
FAMILY LUTJANIDAE	266
FAMILY CAESIONIDAE	295
FAMILY NEMIPTERIDAE	298
FAMILY LETHRINIDAE	325
FAMILY LOBOTIDAE	335
FAMILY GERREIDAE	336
FAMILY LEIOGNATHIDAE	340



FAMILY HAEMULIDAE	352
FAMILY SPARIDAE	360
FAMILY SCIAENIDAE	362
FAMILY MULLIDAE	379
FAMILY KYPHOSIDAE	389
FAMILY PENTACEROTIDAE	390
FAMILY PEMPHERIDAE	391
FAMILY TOXOTIDAE	392
FAMILY EPHIPPIDAE	392
FAMILY PLATACIDAE	393
FAMILY DREPANIDAE	395
FAMILY SCATOPHAGIDAE	399
FAMILY MONODACTYLIDAE	400
FAMILY CHAETODONTIDAE	401
FAMILY POMACANTIDAE	410
FAMILY CEPOLIDAE	414
FAMILY LACTARIIDAE	414
FAMILY CARANGIDAE	415
FAMILY RACHYCENTRIDAE	460
FAMILY MENIDAE	462
FAMILY CORYPHAENIDAE	462
FAMILY POMACENTRIDAE	463
FAMILY LABRIDAE	472
FAMILY SCARIDAE	487
FAMILY SCOMBRIDAE	497
FAMILY ISTIOPHORIDAE	522
FAMILY TRICHIURIDAE	525
FAMILY STROMATEIDAE	529
FAMILY NOMEIDAE	533
FAMILY ARIOMMIDAE	534
FAMILY CENTROLOPHIDAE	535
FAMILY OWSTONIDAE	536

FAMILY MUGILOIDIDAE	536
FAMILY URANOSCOPIDAE	538
FAMILY CHAMPSODONTIDAE	539
FAMILY BLENNIDAE	540
FAMILY OPHIDIIDAE	540
FAMILY CALLIONYMIDAE	541
FAMILY SIGANIDAE	543
FAMILY ACANTHURIDAE	551
FAMILY GOBIIDAE	561
FAMILY PERIOPHTHALMIDAE	565
ORDER GADIFORMES	566
FAMILY BREGMACEROTIDAE	567
ORDER SCORPAENIFORMES	567
FAMILY SCORPAENIDAE	568
FAMILY PLATYCEPHALIDAE	575
FAMILY HOPLICHTHYIDAE	578
FAMILY TRIGLIDAE	579
FAMILY PERISTEDIIDAE	580
ORDER DACTYLOPTERIFORMES	581
FAMILY DACTYLOPTERIDAE	581
ORDER PEGASIFORMES	583
FAMILY PEGASIDAE	583
ORDER PLEURONECTIFORMES	584
FAMILY PSETTODIDAE	584
FAMILY CITHARIDAE	585
FAMILY BOTHIDAE	587
FAMILY PLEURONECTIDAE	594
FAMILY SOLEIDAE	595
FAMILY CYNOGLOSSIDAE	599
ORDER ECHENEIFORMES	603
FAMILY ECHENEIDAE	603
ORDER TETRAODONTIFORMES	604

FAMILY TRIACANTHODIDAE	605
FAMILY TRIACANTHIDAE	605
FAMILY BALISTIDAE	607
FAMILY MONACANTHIDAE	612
FAMILY OSTRACIIDAE	618
FAMILY TETRAODONTIDAE	622
FAMILY DIODONTIDAE	627
FAMILY MOLIDAE	629
ORDER BATRACHOIDIFORMES	630
FAMILY BATRACHOIDIDAE	630
ORDER LOPHIIFORMES	631
FAMILY LOPHIIDAE	632
FAMILY ANTENNARIIDAE	632
FAMILY CHAUNACIDAE	633
FAMILY OGCOCEPHALIDAE	634
GLOSSARY	635
BIBLIOGRAPHY	642
INDEX	663
COLOUR PLATES	687

