

5044



THE CHORDATE ZOOLOGY



RED MEN BHATTI
TALUKA JALSON HUSHME

THE CARAVAN COOK HOUSE LAHORE
KUTCHERY ROAD, LAHORE

CONTENTS

	Pages
Preface	v
List of contents	ix
PHYLUM CHORDATA	1
Geological Chart of Vertebrate Succession	4
SUB-PHYLUM ADELOCHORDATA (HEMICHORDATA)	6
Classification	6
Class Enteropneusta	7
Types : <i>Balanoglossus</i> , <i>Saccoglossus</i> , <i>Dolichoglossus</i>	7
Class Pterobranchia	14
Affinities of Adelochordata	18
SUB-PHYLUM TUNICATA (UROCHORDATA)	18
Classification	19
Class Ascidiacea	19
Type : <i>Ascidia</i> , <i>Herdmania</i>	19
Classification and General Organisation	29
Affinities	31
Class Thaliacea	32
Classification	32
Order Doliolida (Cyclomyaria) : <i>Doliolum</i>	32
Order Pyrosomida : <i>Pyrosoma</i>	34
Order Salpida (Desmomyaria) : <i>Salpa</i>	35
Class Larvacea (Appendicularia)	37
General Organization	37
Affinities	39
SUB-PHYLUM ACRANIA (CEPHALOCHORDATA)	39
Type : <i>Amphioxus</i> (<i>Branchiostoma</i>), The Lancelet	39
Affinities ✓	52
SUB-PHYLUM CRANIATA (VERTEBRATA)	54
Diagnostic Characters of the Craniata	54
Classification	56
Super-Class Agnatha	56
Classification	57
Class Euphanerida	57
Class Petromyzontia	57
Type : <i>Petromyzon</i> —The Lamprey	57

(viii) Contents

	Pages
Class Myxinoidea	65
General Character of Myxinoidea	69
Affinities of Extant Agnatha (Cyclostomata)	72
Super-Class Gnathostomata	73
Classification	73
Class Placodermi (Aphetohyoidae)	73
Class Elasmobranchii (Chondrichthyes) (Selachii)	74
Classification	74
Sub-class Selachii	74
Order Euselachii	74
Type : <u>Scoliodon</u>	74
Digestive and resp. hand book	74
Classification and General Organisation of Selachii	115
Order Euselachii	121
Sub-class Bradyodonti	121
Order Holocephali	121
General Organization of Holocephali	126
Class Osteichthyes	126
Sub-class Actinopterygii	127
Classification and General Organisation	127
Super-order Chondrostei	128
Order Acipenseroides	130
Order Polypterini (Cladistia)	131
Affinities	132
Super-order Holostei	132
Order Semionotoidea	133
Order Amioidea	134
Super-order Teleostei	135
Type : <u>Rita rita</u> —A Cat-fish (Soft-parts)	158
✓ <u>Labeo rohita</u> —A Carp (Skeleton)	177
Classification and General Organisation of Teleostei	178
Soft-rayed orders	179
Intermediate orders	180
Spiny-rayed orders	199
Sub-class Crossopterygii (Choanichthyes)	199
Classification	199
Order Rhipidistia	199
Sub-order Osteolepidoti	199
Sub-order Coelacanthini (Actinistia)	199
Order Dipnoi (Dipneusti)	200

Contents	(ix)
Classification	Pages
General Organisation of Dipnoi	203
Affinities	203
Class Amphibia	211
✓ Type : <u>Rana tigrina</u> <i>FROS</i>	213
Classification and General Organisation	21
Sub-class Apsidospondyli	239
Super-order Labyrinthodontia	242
Orders Ichthyostegalia; Rhachitomi; Sterospondyli	243
Embolomeri; Seymouriamorpha	243
Super-order Salientia (Anura, Batrachia)	243
Order Seymouriamorpha	243
Order Anura	243
Sub-class Lepospondyli	244
Order Urodela (Caudata)	249
Order Apoda (Gymnophiona, Caecilia)	249
Class Reptilia	260
Type : <u>Uromostix hardwickii</u> Gray (Soft parts)	262
✓ <u>Varanus monitor</u> (Skeleton)	280
General Organisation and Classification of Class Reptilia	293
Evolution of temporal region	293
Classification	297
Sub-class Anapsida	297
Order Cotylosauria	297
Order Chelonia	297
Sub-class Lepidosauria	298
Order Rhynchocephalia	298
Order Squamata	298
Sub-order Lacertilia	298
Sub-order Ophidia	298
Sub-class Archosauria	298
Order Crocodilia	298
General Account of Chelonia	299
General Account of Rhynchocephalia	307
General Account of Lacertilia	310
General Account of Ophidia (Serpentes)	315
General Account of Crocodilia	321

(x) Contents

Class Aves	<i>Form Rastogi</i>	
Type : <i>Columba livia</i> (The Domestic Pigeon) (Soft Parts)		Pages ... 329
<i>Gallus domestica</i> (The Common Fowl) (Skeleton)		... 329
General Organisation and Classification		... 351
Evolution of birds		... 362
Sub-class Archaeornithes		... 362
Order Archaeopterygiformes		... 364
Sub-class Neornithes		... 364
Super-order Odontognathae		... 366
Super-order Palaeognathae (Ratitae)		... 366
Super-order Impennae		... 367
Super-order Neognathae (Carinatae)		... 368
General Account of Ratitae		... 369
General Account of Carinatae		... 373
Adaptation to flight		... 375
Kinds of flight		... 377
Bird migration		... 380
Development of Chick		... 381
Class Mammalia		... 386
Type : <i>Oryctolagus cuniculus</i> —The Rabbit <i>Form Iw</i>		... 399
General Organisation and Classification		... 399
Classification		... 434
Organisation, basic structure and structural variations in Mammals		... 434
Sub-class Prototheria (Monotremata)		... 438
Order Monotremata		... 463
General Account		... 463
Sub-class Theria		... 464
Infra-class Metatheria (Marsupialia, Didelphia)		... 466
General Account		... 466
Skeleton		... 467
Classification of Metatheria		... 468
Infra-class Eutheria (Placentalia, Monodelphia)		... 469
Cohort Unguiculata		... 472
Order Lipotyphla		... 473
General Account and Classification		... 473
Order Menotyphla		... 474

Fins and Denotation

Contents

(xl)

	Pages
General Account and Classification	474
Order Chiroptera	475
General Account and Classification	476
Order Dermoptera	477
General Account	477
Order Edentata	478
General Account and Classification	479
Order Pholidota	481
General Account	481
Order Primates	482
Classification	483
Sub-order Prosimii	483
Infra-order Lemuriformes	483
Infra-order Tarsiformes	484
Infra-order Lorisiformes	485
Sub-order Anthropeidea	485
Cohort Glires	488
Order Rodentia. General Account	488
Order Lagomorpha. General Account	491
Cohort Mutica	491
Order Cetacea ✓	491
General Account	491
Sub-orders Odontoceti ; Mysticeti (Mystacoceti)	493
Cohort Ferungulata	495
Super-order Ferae	495
Order Carnivora	495
General Account	496
Sub-order Fissipedia	499
Sub-order Pinnipedia	501
Super-order Protoungulata	501
Order Tubulidentata	501
General Account	501
Super-order Paenungulata (Sub-Ungulata)	501
Order Hyrocoidea	502
General Account	503
Order Proboscidea	503
General Account	503
Order Sirenia	506

(xii) **Contents**

	Pages
General Account	506
Super-order Mesaxonia	507
Order Perissodactyla	507
General Account	507
Sub-order Hippomorpha	507
Super-family Equoidea	508
General Account	510
Sub-Order Ceratomorpha	510
Super-family Tapiroidea	510
Super-family Rhinocerotoida	510
Super-order Paraxonia	511
Order Artiodactyla	512
General Account	512
Sub-order Suiformes	512
Infra-order Suina ; Family Suidae	512
Infra-order Ancodonta ; Family Hippotamidae	512
Sub-order Tylopoda	513
Sub-order Ruminantia (Pecora)	513
Infra order Tragulina ; Family Tragulidae	514
Infra-order Pecora ; Families : Cervidae	514
Giraffidae	915
Bovidae	515