

## A CHECK-LIST OF MARINE AND ESTUARINE FISHES OF DIGHA, WEST BENGAL, INDIA.

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### ABSTRACT

A checklist of fishes from Digha coast has been prepared, 168 species of fishes belonging to 68 different families have been listed during 1981-1982 from 3 different fish landing areas — Kiagoria, Digha ghole and Digha mohana.

### INTRODUCTION

Digha, a small sea resort of West Bengal, India, situated at 87°32' North latitude and 21°37.5' East longitude, has a most potential coast line of about 10 kms. The marine fish catches from Digha meets the demands of fish supply to different markets of West Bengal, especially to Howrah and Calcutta.

The ichthyofauna of the Hooghly-Matlah estuary and the associated creeks has been described by Hamilton (1822), Annandale (1907), Kemp (1917). Hora (1933a, b, 1935) Hora and Nair (1940 a, b), Pearse (1932), Sewell (1934). David (1954) and Gopalkrishnan (1971, 1973 but no earlier endeavour has been reported to evaluate the occurrence of fish fauna in coastal area of Digha.

### MATERIALS AND METHODS

The fish samples were collected fortnightly during 1981-1982 from the following 3 different fish landing areas (Fig. 1):—

- 1) Kiagoria — a border place in between West Bengal and Orissa state in the western side, about 3 km from Digha township.
- 2) Digha ghole — a place in the eastern side about 1 km from Digha town.
- 3) Digha mohana — a place in the eastern side, about 5 km from Digha town.

The following checklist of the fish species has been prepared from the collections. In this list popular english name and areas of collection have also been mentioned.

The present observation is based on the collection of fishes during 9 months in a year from October to June, because the fishing remains suspended during the rest of the months due to rough weather. The major fish catches are obtained during a period of 4 winter months (November to February).

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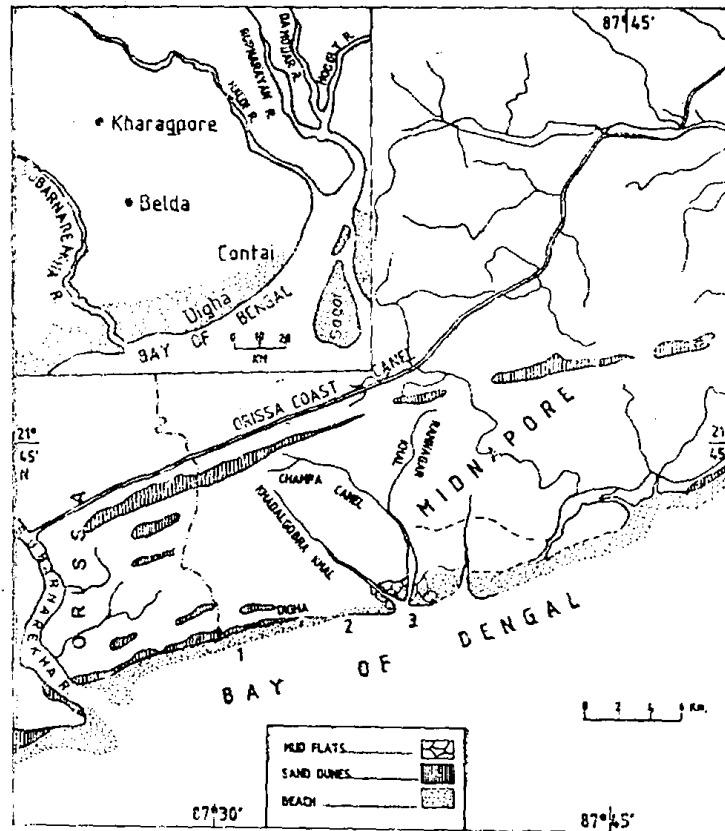


Fig. 1. Map of Digha coast showing spots of collection (Inset-map of Digha coast in relation to Hooghly-Matlah estuary)

Scientific name	Common English name	Spot of collection
<b>CLASS : CHONDRICHTHYES</b>		
Family : Orectolobidae		
1. <i>Chiloscyllium griseum</i> Muller and Henle	Dog fish	1, 2
2. <i>Sphyrna blochii</i> (Cuvier)	Hammer-headed shark	1, 2
Family : Torpedinidae		
3. <i>Narcine brunnea</i> Annandale	Brown electric ray	1, 2
4. <i>Narke dipterygia</i> (Bloch and Schneider)	do	1, 2, 3
Family : Carcharhinidae		
5. <i>Carcharhinus limbatus</i> (Muller and Henle)	Grey shark	1, 2
6. <i>C. gangeticus</i> (Muller and Henle)	do	1, 2, 3
7. <i>C. menisorrh</i> (Muller and Henle)	Black shark	1, 2

Scientific name	Common English name	Spot of collection
8. <i>C. bleekeri</i> (Dumeril)	do	1, 2
9. <i>Scoliodon sorrakowah</i> (Cuvier)	Yellow dog fish	1, 2
10. <i>S. walbeehmi</i> (Bleeker)	Walbeehm's sharp nosed shark	1, 2
Family : Rhincodontidae		
11. <i>Rhincodon typus</i> Smith	whale shark	2
Family : Pristidae		
12. <i>Pristis cuspidatus</i> Latham	pointed saw fish	1, 2
13. <i>P. microdn</i> Latham	small toothed sawfish	1, 2
Family : Rhinobatidae		
14. <i>Rhynchobatus djiddensis</i> (Forsk.)	white spotted shovel nosed ray	1, 2
15. <i>Rhinobatus granulatus</i> (Cuvier)	granulated shovelnose shark	1, 2
Family : Dasyatidae		
16. <i>Dasyatis favus</i> (Annandale)	sting ray	1, 2
17. <i>D. sephen</i> (Forsk.)	cow-tail ray	1, 2
18. <i>D. uarnak</i> (Forsk.)	Banded — whip tail ray	1, 2
19. <i>D. walga</i> Muller and Henle	Scaly sting ray	1, 2
20. <i>D. zugai</i> Muller and Henle	Pale edged sting ray	1, 2
21. <i>Gymnura poecilura</i> (Show)	Long tailed butter fly ray	1, 2
Family : Myliobatidae		
22. <i>Aetobatus flagellum</i> (Euphrasen)	spotted eagle ray	1, 2
23. <i>Aetomylus nichoffi</i> (Schneider)	Eagle ray	1, 2
CLASS — OSTEICHTHYES		
Family : Clupeidae		
24. <i>Hilsa ilisha</i> (Hamilton)	Hilsa shad or river shad	1, 2
25. <i>H. toli</i> (Valenciennes)	toli shad	1, 2
26. <i>Gadusia chapra</i> (Hamilton-Buchanon)	Ganges shad	1, 2, 3
27. <i>Ilisha elongata</i> (Bennett)	Elongate ilisha	1, 2
28. <i>I. indica</i> (Swainson)	Indian ilisha	1, 2
29. <i>I. megaloptera</i> (Swainson)	big eye ilisha	1, 2
30. <i>Pellona ditchela</i> Valenciennes	Indian Pellona	1, 2, 3
31. <i>Raconda russeliana</i> Gray	smooth back herring	1, 2, 3
Family : Dorosomidae		
32. <i>Anodontostoma chacunda</i> (Ham. & Buch.)	Indidan gizzard shad	1, 2, 3
33. <i>Nematolosa nasus</i> (Bloch)	long ray bony bream	1, 2, 3

Scientific name	Common English name	Spot of collection
Family : Engraulidae		
34. <i>Coilia dussumieri</i> Valenciennes	Gold spotted grenadier anchovy	1, 2, 3
35. <i>Coilia ramkarati</i> (Hamilton)	Frill-tailed golden anchovy	1, 2, 3
36. <i>C. reynaldi</i> (Cux. & Valen.)	Anchovy	1, 2, 3
37. <i>Setipinna phasa</i> (Hamilton)	Long-finned Gangetic anchovy	1, 2, 3
38. <i>S. taty</i> (Cuv. & Valen.)	Hair fin anchovy	1, 2, 3
39. <i>Thryssa malabarica</i> (Bloch)	Malabar thryssa	1, 2, 3
40. <i>T. mystax</i> (Schneider)	Moustached thryssa	1, 2, 3
41. <i>T. kamalensis</i> (Bleeker)	Anchovy	1, 2
42. <i>T. purava</i> (Hamilton)	Anchovy	1, 2
43. <i>T. hamiltoni</i> (Gray)	Anchovy	1, 2, 3
Family : Chirocentridae		
44. <i>Chirocentrus dorab</i> (Forsk.)	Wolf Herring, Dorab, Silver Bar Fish, Sabre fish	1, 2
Family : Harpodontidae		
45. <i>Harpodon nehereus</i> (Hamilton)	Bombay duck	1, 2
Family : Synodontidae		
46. <i>Saurida elongata</i> (Temminck and Schlegel)	Lizard fish	1, 2
Family : Cyprinidae		
47. <i>Opisthopterus tardoore</i> (Cuvier)	Tardoore	1, 2, 3
Family : Clariidae		
48. <i>Clarias batrachus</i> (Linn.)	Fresh water cat fish	2
Family : Plotosidae		
49. <i>Plotosus anguillaris</i> Cuvier	Eel cat fish striped cat fish	1, 2
Family : Ariidae		
50. <i>Tachysurus jella</i> (Day)	Marine cat fish	1, 2
51. <i>T. nenga</i> (Hamilton)	Marine cat fish	1, 2
52. <i>T. sona</i> (Hamilton)	Marine cat fish	1, 2
53. <i>T. arius</i> (Hamilton)	Marine cat fish	1, 2
Family : Siluridae		
54. <i>Ompok bimaculatus</i> (Bloch)	Butter cat fish sheat fish	1, 2, 3
Family : Bagridae		
55. <i>Mystus aor</i> (Hamilton)	Bagrid cat fish, Aor	1, 2

Scientific name	Common English name	Spot of collection
56. <i>M. gulo</i> (Hamilton)	Long whiskers cat fish	1, 2, 3
57. <i>M. seenghala</i> (Sykes)	Long-nose cat fish, cat fish	1, 2, 3
Family : Schilbeidae		
58. <i>Eutropiichthyes vacha</i> (Hamilton)	Vacha	1, 2, 3
59. <i>Pangasius pangasius</i> (Hamilton)	Pangash	1, 2
60. <i>Silonia silondia</i> (Hamilton)	Silond cat fish, Silonia white cat fish	1, 2, 3
61. <i>Clupisoma garua</i> (Hamilton)	Garua	1, 2
Family : Anguillidae		
62. <i>Anguilla bengalensis</i> Bleeker	Long-finned Eel	3
63. <i>A. bicolor</i> McClelland	Level finned Eel	3
Family : Muraenidae		
64. <i>Gymnothorax punctatus</i> (Bloch & Schneider)	White spotted Moray	3
65. <i>Thyrsoidea macrurus</i> (Bleeker)	Giant Moray	3
Family : Ratabouridae		
66. <i>Moringua raitabura</i> (Hamilton)	Thread Eel	3
Family : Muraenesocidae		
67. <i>Muraenesox cinereus</i> (Forsk.)	Silver Conger Eel	3
68. <i>M. talahon</i> (Cantor)	Conger Eel	3
Family : Ophichthyidae		
69. <i>Pisodonophis boro</i> (Hamilton)	Snake Eel	3
Family : Belonidae		
70. <i>Xenentodon cancila</i> (Hamilton)	Needle fish	3
71. <i>Strongylura strongylurus</i> van Hasselt	Round tail Alligator Gar	1, 2
Family : Hemirhamphidae		
72. <i>Hemirhamphus marginatus</i> (Forsk.)	Barred half beak	1, 2
73. <i>H. gaimardi</i> (Valenciennes)	Gaimard's half beak	1, 2
Family : Syngnathidae		
74. <i>Hippocampus hystrix</i> Kaup	Sea horse	2
Family : Sphyrnaeidae		
75. <i>Sphyrna obtusata</i> Cuvier and Valenciennes	Barracuda	2

Scientific name	Common English name	Spot of collection
Family : Mugilidae		
76. <i>Mugil parsia</i> (Hamilton)	grey mullet	
	Gold spot mullet,	1, 2, 3
77. <i>M. tade</i> Forskal	Green back mullet,	1, 2, 3
	Grey mullet	
78. <i>M. cunnesius</i> Valenciennes	Yellow tail mullet	1, 2, 3
79. <i>M. cephalus</i> Linn.	Jumping mullet,	1, 2, 3
	grey mullet	
80. <i>Rhinomugil corsula</i> (Hamilton)	Grey mullet	1, 2, 3
Family : Polynemidae		
81. <i>Polynemus tetradactylus</i> (Shaw)	Indian salmon, Thread fin	1, 2
82. <i>P. indicus</i> (Shaw)	Indain Tassel fish	1, 2
83. <i>P. sextarius</i> Bloch	Black spot Six thread, Tassel fish,	1, 2
84. <i>P. paradiseus</i> Linn.	Paradise Thread fin fish	1, 2
85. <i>P. sexfilis</i> Valenciennes	Golden 6 thread Tassel fish	1, 2
Family : Ophicephalidae		
86. <i>Channa punctatus</i> (Bloch)	Green snake head	3
Family : Latidae		
87. <i>Lates calcalifer</i> (Bloch)	Giant Perch, Sea perch	1, 2
Family : Ambassidae		
88. <i>Ambassis nama</i> (Hamilton)	Glass fish	1, 2, 3
89. <i>A. ranga</i> (Hamilton)	Indian glass fish	1, 2, 3
Family : Theraponidae		
90. <i>Therapon jarbua</i> (Forsk.)	Jarbua therapon	1, 2
91. <i>T. theraps</i> Cuvier	Large scaled therapon	1, 2
Family : Sillaginidae		
92. <i>Sillago sihama</i> (Forsk.)	Silver sillago	1, 2
93. <i>Sillaginopsis panijus</i> (Hamilton)	Sand whiting, Lad fish	1, 2
Family : Carangidae		
94. <i>Megalaspis cordyla</i> (Linn.)	Horse mackerel, Hard Tail scad	1, 2
95. <i>Atropus atropus</i> (Bloch & Schneider)	Kuweh travally	1, 2
96. <i>Caranx carangus</i> (Bloch)	Horse Mackerel	1, 2

Scientific name	Common English name	Spot of collection
97. <i>C. sexfasciatus</i> Quoy & Gaimard	Six-banded Travally	1, 2
98. <i>Citula malabarica</i> (Bloch)	Malabar Travally	1, 2
Family : Lactariidae		
99. <i>Lactarius lactarius</i> (Schneider)	White fish	1, 2
Family : Apogonidae		
100. <i>Apogon tickelli</i> (Day)	Cardinal fish	1, 2
101. <i>A. lateralis</i> (Valenciennes)	Cardinal fish	1, 2
Family : Menidae		
102. <i>Mene maculata</i> (Bloch & Schneider)	Moon fish, Spotted Scot	1, 2
Family : Lutjanidae		
103. <i>Lutjanus johnii</i> (Bloch)	Moses Perch, Snapper	1, 2, 3
104. <i>L. holocentrum</i> (Bleeker)	Sapper	1, 2
105. <i>L. argentimaculatus</i> (Forsk.)	Red Snapper	1, 2
Family : Leiognathidae		
106. <i>Leiognathus equula</i> (Forsk.)	Silver Belly, Slip mouth	1, 2
Family : Gerridae		
107. <i>Gerres oyena</i> (Forsk.)	Silver bidy	1, 2
108. <i>G. filamentosus</i> (Cuvier)	Long rayed Silver bidy	1, 2
109. <i>Pentaprion longimanus</i> (Cantor)	Bidy	1, 2
Family : Pomadasyidae		
110. <i>Pomadasys hasta</i> (Bloch)	Lined silver Grunter, Grunt	1, 2
111. <i>P. maculatus</i> (Bloch)	Spotted grunter	1, 2
Family : Sciaenidae		
112. <i>Macrospinoso cuja</i> (Hamilton)		1, 2
113. <i>Otolithoides biauritus</i> (Cantor)	Croaker, Jew fish	1, 2
114. <i>Pseudosciaena coibor</i> (Hamilton)	Ganges jaw fish	1, 2
115. <i>Pseudosciaena soldado</i> (Lacepede)	Jew fish	1, 2
116. <i>Protonibea diacanthus</i> (Lacepede)	Two spinned Jew fish	1, 2
117. <i>Johnius belengeri</i> (Cuvier)	dark grey Jew fish	1, 2
118. <i>J. sina</i> (Cuvier)	drab jew fish	1, 2
119. <i>J. vogleri</i> (Bleeker)		1, 2
120. <i>Otolithus maculatus</i> (Kuhl &		

Scientific name	Common English name	Spot of collection
van Hasselt)		1, 2
121. <i>Pama pama</i> (Hamilton)	Calcutta Jew fish	1, 2
122. <i>Panna microdon</i> (Bleeker)		1, 2
Family : Platacidae		
123. <i>Platax teira</i> (Forsk.)	long finned bat fish	1, 2
Family : Drepanidae		
124. <i>Drepane punctata</i> (Linn.)	spotted bat fish	1, 2
125. <i>D. Longimana</i> (Cuvier & Valenciennes)		1, 2
Family : Scatophagidae		
126. <i>Scatophagus argus</i> (Linn.)	spotted butter fish	1, 2
Family : Trichiuridae		
127. <i>Lepturacanthus savala</i> (Cuvier)	Small headed Ribbon fish	1, 2
128. <i>Trichiurus lepturus</i> Linn.	Large headed Ribbon fish	1, 2
129. <i>T. pantului</i> Gupta	Ribbon fish	1, 2
130. <i>T. gangeticus</i> Gupta	Ribbon fish	1, 2
131. <i>T. intermedius</i> Gray	Ribbon fish	1, 2
132. <i>Eupleurogrammus muticus</i> (Gray)	Ribbon fish	1, 2
Family : Scombridae		
133. <i>Rastrelliger kanagurta</i> (Cuvier)	Horse mackerel	2
Family : Thunnidae		
134. <i>Euthynnus affinis affinis</i> (Cantor)	Mackerel tuna	2
Family : Scomberomoridae		
135. <i>Scomberomorus commersoni</i> (Lacepede)	Barred Spanish mackerel	2
136. <i>S. guttatus guttatus</i> (Bloch & Schneider)	Spotted Spanish mackerel	2
Family : Stromateidae		
137. <i>Pampus argenteus</i> (Euphrasen)	Silver pomfret	1, 2
138. <i>P. chinensis</i> (Euphrasen)	Chinese pomfret	1, 2
Family : Formionidae		
139. <i>Parastromateus niger</i> (Bleeker)	Black Pomfret	1, 2
Family : Kurtidae		
140. <i>Kurtus indicus</i> Bloch	Indian Hump head	1, 2, 3



Scientific name	Common English name	Spot of collection
Family : Gobilidae		
141. <i>Glossogobius giuris</i> (Hamilton)	Bar eyed Goby	3
142. <i>Bathygobius fuscus</i> (Ruppell)	Brown Goby	3
143. <i>Pseudocryptes lanceolatus</i> (Bloch & Schneider)	Pointed tailed Goby	3
144. <i>Apocryptes bato</i> (Hamilton)	Goby	3
145. <i>Scartelaos histophorus</i> (Valenciennes)	Goby	3
146. <i>Taenoides cirratus</i> (Blyth)	Goby	3
147. <i>Boleophthalmus boddarti</i> (Pallas)	Goby	3
148. <i>Odontamblyopus rubicundus</i> (Hamilton)	Goby	3
Family : Periophthalmidae		
149. <i>Periophthalmus pearsi</i> Eggret	Mud skipper	2
Family : Trypauchenidae		
150. <i>Trypauchen vagina</i> (Bloch & Schneider)	Red Goby	3
Family : Platycephalidae		
151. <i>Platycephalus insidiator</i> (Forsk.)	Rough flat head	3
152. <i>P. indicus</i> (Linn.)	Indian flat head	3
Family : Psettodidae		
153. <i>Psettodes erumei</i>	Indian Halibut	1, 2, 3
Family : Bothidae		
154. <i>Pseudorhombus arsius</i> (Hamilton)	Lt. hand Flounder	1, 2, 3
155. <i>P. javanicus</i> (Bleeker)	Lt. hand Flounder	1, 2, 3
Family : Cynoglossidae		
156. <i>Paraplagusia bilineata</i> (Bloch)	Two-lined tongue Sole	3
157. <i>Cynoglossus bilineatus</i> (Lacepede)	Four-lined tongue Sole	3
158. <i>C. lingue</i> Hamilton & Buchanan	Long tongue sole	3
159. <i>C. cynoglossus</i> (Hamilton & Buchanan)	Bengal tongue sole	3
160. <i>C. macrolepidotus</i> (Bleeker)	Large scale tongue sole	3
161. <i>C. semifasciatus</i> Day	Tongue sole	3
Family : Echeineidae		
162. <i>Echeneis naucrates</i> Linn.	Slender sucker fish	2

Scientific name	Common English name	Spot of collection
Family : Soleidae		
163. <i>Zebrias quagga</i> Kaup	Zebra Sole	1, 2, 3
164. <i>Synaptura commersoniana</i> (Lacepede)	Commerson's Sole	1, 2
Family : Triacanthidae		
165. <i>Triacanthus brevirostris</i> Schlegel	Short nosed Tripod, Fish, Spike fish	1, 2
Family : Tetradontidae		
166. <i>Sphaeroides oblongus</i> (Bloch)	Oblong Blow fish	1, 2, 3
167. <i>S. lunaris</i> (Bloch & Schneider)	Green rough backed Blow fish	1, 2, 3
Family : Bregmacerotidae		
168. <i>Bregmaceros mcClellandi</i> (Thompson)	Indian Cod, Cod fish	1, 2

The fish species reported from the Hooghly — Matlah estuarine system (Gopalakrishnan, 1971, 1973) have also been recorded in our observation from Digha Coast. However, the species *Rhincodus*, *Carcharhinus*, *Pristis*, *Saurida*, *Hippocampus*, *Drepane*, *Euthynnus* found in the Digha coast have not been recorded in Hooghly—Matlah system.

Some of the important commercial fishes from Digha are *Hilsa* sp., *Gadusia*, *Pellona*, *Anodontastoma*, *Coilia*, *Setipinna*, *Chirocentrus*, *Harpodon*, *Tachysurus*, *Mystus*, *Pangasius*, *Europichthyes*, *Mugil*, *Polynemus*, *Lates*, *Sciaenids*, ribbon fish, mackerels, tuna and pomfret.

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#### REFERENCES

- Annandale. N., 1907. Fauna of Brackish ponds at Port Canning, Lower Bengal. I. Introduction and preliminary account of the fauna. *Records of Indian Museum, Calcutta*, 1 : 35-43.

- David, A., 1954. A preliminary survey of the fish and fisheries of a five-mile stretch of the Hooghly river near Barrackpore, *Indian Journal of Fisheries*, **1** (1 & 2) : 231-255.
- Gopalakrishnan, V., 1971. The biology of the Hooghly-Matlah estuarine system (West Bengal, India) with special reference to its fisheries. *Journal of Marine Biological Association of India*, **13** (2) : 182-194.
- Gopalakrishnan, V., 1973. Fishery resources of the Hooghly-Matlah estuarine system and its relation to fisheries of Bay of Bengal. *Proceedings Symposium on the living resources of the seas around India*. Central Marine Fisheries Research Institute, Mandapam Camp., India. 373-386.
- Hamilton, F. 1822. An account of the fishes found in the river Ganges and its branches. Edinburg & London, VIII : 405.
- Hora, S. L., 1933 a. A note on the bionomics of two estuarine crabs, *Proceedings of the Zoological Society*, London, **4** : 881-884.
- Hora, S. L., 1933b. Animals in brackish water at Uttar Vag, Lower Bengal, *Current Science*, **1** : 381-387.
- Hora, S. L., 1935. Ecology and bionomics of *gobid* fishes of the Gangetic delta, *C. R. Congress International Zoology*, **12** : 841-863.
- Hora, S. L. and K. K. Nair, 1940a. Further observations on the bionomics and fishery of the Indian shad, *Hilsa ilisha* (Hamilton) in Bengal waters, *Records of Indian Museum*, Calcutta, **42** : 35-50.
- Hora, S. L. and K. K. Nair, 1940b. The jotka fish of Eastern Bengal and its significance in the fishery of the so called Indian shad, *Hilsa ilisha* (Hamilton), *Records of Indian Museum*, Calcutta. **42** : 553-165.
- Kemp, S., 1917. Notes on the fauna of the Matlah river in the Gangetic delta, *Records of Indian Museum*, Calcutta, **13** : 233-241.
- Pearse, A. S., 1932. Observations on the ecology of certain fishes and crustaceans along the bank of the Matlah river at Port Canning, *Records of Indian Museum*, Calcutta, **34** : 289-298.
- Sewell, R.B.S., 1934. A study of the fauna of Salt Lakes, Calcutta, *Records of Indian Museum*, Calcutta. **36** : 45-121.

