

ON A COLLECTION OF FISH FROM KAKINADA—GOPALPUR
SECTOR OF THE EAST COAST OF INDIA.

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INTRODUCTION

The present paper is based on the fish fauna collected from the Kakinada-Gopalpur sector of the east coast of India during February—March, 1992 in pursuance of the approved annual programme of work. It contains information about 114 species belonging to 86 genera and 55 families. While indentifying the specimens most of the literature pertaining to the locality (Day, 1878 ; Day, 1889-1898 ; Bleeker *et al*, 1913 ; Weber and de Beaufort, 1916-1936 ; de Beaufort, 1940 ; de Beaufort and Chapman, 1951 ; Koumans, 1953 ; de Beaufort and Briggs, 1962 ; Kagwade, 1970 ; Fischer and Whitehead, 1974 ; Fischer and Bianchi, 1984 ; Talwar and Kacker, 1984 ; Smith and Heemstra, 1986 ; Whitehead *et al*, 1988 ; Russell, 1990 ; Talwar and Jhingran, 1991) have been consulted.

One new species, one teratogenic phenomenon, remarks on variations in meristic characters and distribution, confirmation of marine existence, questioning the necessity to raise a monotypic genus and discarding of a synonymy have been included and the systematic details along with geographical distribution are presented.

FISH FAUNA OF THE KAKINADA-GOPALPUR SECTOR

SYSTEMATIC LIST

Class : CHONDRICHTHYES

Subclass : ELASMOBRANCHII

Order : LAMNIFORMES

Genus : **Chiloscyllium** Muller & Henle

1. **Chiloscyllium griseum** Muller & Henle

Order : RAJIFORMES

Family : DASYATIDAE

Genus : **Dasyatis** Rafinesque

2. **Dasyatis walga** (Muller & Henle)

Order : TORPEDENIDAE

Genus : **Narcine** Henle

3. **Narcine brunnea** Annandale
4. **Narcine timlei** (Bloch & Schneider)
5. **Narke dipterygia** (Bloch & Schneider)
Class : OSTEICHTHYES
Subclass : ACTINOPTERYGII
Order : CLUPEIFORMES
Family : CLUPEIDAE
Subfamily : DUSSUMIERIINAE
Genus : **Dussumieria** Valenciennes
6. **Dussumieria acuta** Valenciennes
7. **Dussumieria elopoides** Bleeker
Subfamily : CLUPEINAE
Genus : **Sardinella** Valenciennes
8. **Sardinella albella** (Valenciennes)
9. **Sardinella fimbriata** (Valenciennes)
Family : PRISTIGASTERIDAE
Genus : **Ilisha** Richardson
10. **Ilisha melastoma** (Schneider)
Genus : **Opisthopterus** Gill
11. **Opisthopterus tardoore** (Cuvier)
Family : ENGRAULIDIDAE
Genus : **Coilia** Gray
12. **Coilia reynaldi** Valenciennes
Genus : **Stolephorus** Lacepede
13. **Stolephorus commersonii** (Lacepede)
Genus : **Thryssa** Cuvier
14. **Thryssa dussumieri** (Valenciennes)

15. **Thryssa kammalensoides** Wongratana
16. **Thryssa mystax** (Schneider)
17. **Thryssa polybranchialis** Wongratana
18. **Thryssa setirostris** (Broussonet)
19. **Thryssa vitrirostris** (Gilchrist & Thompson)
 - Order : ANGUILLIFORMES
 - Family : MURAENIDAE
 - Genus : **Gymnothorax** Bloch

20. **Gymnothorax reticularis** Bloch
 - Family : CONGRIDAE
 - Genus : **Uroconger** Kaup

21. **Uroconger lepturus** (Richardson)
 - Order : SILURIFORMES
 - Family : BAGRIDAE
 - Genus : **Mystus** Scopoli

22. **Mystus gulio** (Hamilton-Buchanan)
 - Family : ARIIDAE
 - Genus : **Arius** Valenciennes

23. **Arius caelatus** Valenciennes
 - Order : AULOPIFORMES
 - Family : SYNODIDAE
 - Genus : **Saurida** Valenciennes

24. **Saurida longimanus** Norman
25. **Saurida micropectoralis** Shindo & Yamda
 26. **Saurida tumbil** (Bloch)
Genus : **Trachinocephalus** Gill

27. **Trachinocephalus myops** (Schneider)
 - Order : OPHIDIIFORMES
 - Family : OPHIDIIDAE
 - Genus : **Brotula** Cuvier

28. **Brotula multibarbata** Temminck & Schlegel

Order : LOPHIIFORMES
Suborder : LOPHIOIDEI
Family : LOPHIIDAE
Genus : **Lophiodes** Goode & Bean

29. **Lophiodes mutilus** (Alcock)

Suborder : ANTENNARIOIDEI
Family : ANTENNARIIDAE
Genus : **Antennarius** Cuvier

30. **Antennarius hispidus** (Bloch & Schneider)

Family : OGCOEPHALIDAE
Genus : **Haliutea** Valenciennes

31. **Haliutea stellata** (Vahl)

Order : SYNGNATHIFORMES
Family : SYNGNATHIDAE
Genus : **Hippocampus** Leach

32. **Hippocampus kuda** Bleeker

Family : FISTULARIDAE
Genus : **Fistularia** Linnaeus

33. **Fistularia petimba** Lacepede

Order : SCORPAENIFORMES
Suborder : SCORPAENOIDEI
Family : SCORPAENIDAE
Genus : **Apistus** Cuvier

34. **Apistus carinatus** (Bloch & Schneider)

Genus : **Minous** Cuvier & Valenciennes

35. **Minous coccineus** Alcock36. **Minous inermis** Alcock37. **Minous monodactylus** (Bloch & Schneider)

Genus : **Pterois** (Cuvier) Oken

38. **Pterois mombasae** (Smith)
39. **Pterois russelli** Bennett
Family : TRIGLIDAE
Genus : **Lepidotrigla** Gunther
40. **Lepidotrigla riggsi** Richards & Saksena
Suborder : PLATYCEPHALOIDEI
Family : PLATYCEPHALIDAE
Genus : **Grammoplites** Fowler
41. **Grammoplites scaber** (Linnaeus)
Genus : **Platycephalus** Bloch
42. **Platycephalus indicus** (Linnaeus)
Genus : **Rogadius** Jordan & Richardson
43. **Rogadius pristiger** (Cuvier)
Genus : **Sorsogona** Herre
44. **Sorsogona melanoptera** Knapp & Wongratana
45. **Sorsogona tuberculata** (Cuvier)
Genus : **Suggrundus** Whitley
46. **Suggrundus rodericensis** (Cuvier)
Order : DACTYLOPTERIFORMES
Family : DACTYLOPTERIDAE
Genus : **Dactyloptena** Jordan & Richardson
47. **Dactyloptena macracanthus** (Bleeker)
Order : PERCIFORMES
Suborder : PERCOIDEI
Family : PRIACANTHIDAE
Genus : **Priacanthus** Oken
48. **Priacanthus tayenus** Richardson
Family : APOGONIDAE
Genus : **Apogonichthys** Bleeker
49. **Apogonichthys poecilopterus** Cuvier & Valenciennes
Genus : **Apogon** Lacepede
50. **Apogon (Nectamia) quadrifasciatus** Cuvier

51. **Apogon (Nectamia) taeniatus** Cuvier & Valenciennes

Family : SILLAGINIDAE

Genus : **Sillaginopodys** Fowler52. **Sillaginopodys chondropus** BleekerGenus : **Sillago** Cuvier53. **Sillago sihama** (Forsskal)

Family : LACTARIDAE

Genus : **Lactarius** Valenciennes54. **Lactarius lactarius** (Schneider)

Family : ECHENEIDAE

Genus : **Echeneis** Artedi55. **Echeneis naucrates** Linnaeus

Family : CARANGIDAE

Genus : **Alepes** Swainson56. **Alepes adjeddaba** (Forsskal)57. **Alepes para** (Cuvier)Genus : **Carangoides** Bleeker58. **Carangoides armatus** (Ruppell)59. **Carangoides caerulopinnatus** (Ruppell)60. **Carangoides malabaricus** (Bloch)Genus : **Caranx** Lacepede61. **Caranx sexfasciatus** Quoy & Gaimard

Family : MENIDAE

Genus : **Mene** Lacepede62. **Mene maculata** (Bloch)

Family : LEIOGNATHIDAE

Genus : **Gazza** Ruppell63. **Gazza minuta** (Bloch)Genus : **Leiognathus** Lacepede64. **Leiognathus berbis** (Valenciennes)65. **Leiognathus bindus** (Valenciennes)66. **Leiognathus blochii** (Valenciennes)

67. **Leiognathus brevirostris** (Valenciennes)
Genus : **Secutor** Gistel
68. **Secutor insidiator** (Bloch)
Family : LUTJANIDAE
Genus : **Lutjanus** Bloch
69. **Lutjanus malabaricus** (Bloch & Schneider)
Family : NEMIPTERIDAE
Genus : **Nemipterus** Swainson
70. **Nemipterus japonicus** (Bloch)
71. **Nemipterus randalli** Russell
Family : GERREIDAE
Genus : **Gerres** Cuvier
72. **Gerres filamentosus** Cuvier
73. **Gerres macracanthus** Bleeker
Family : HAEMULIDAE
Genus : **Pomadasys** Lacepede
74. **Pomadasys maculatus** (Bloch)
Family : SCIAENIDAE
Genus : **Dendrophysa** Trewavas
75. **Dendrophysa russelli** (Cuvier)
Genus : **Johnieops** Mohan
76. **Johnieops sina** (Cuvier)
Genus : **Johnius** Bloch
77. **Johnius dussumieri** (Valenciennes)
78. **Johnius carutta** Bloch
Genus : **Kathala** Mohan
79. **Kathala axillaris** (Cuvier)
Family : MULLIDAE
Genus : **Upeneus** Cuvier
80. **Upeneus moluccensis** (Bleeker)
81. **Upeneus vittatus** (Lacepede)
Family : DREPANIDAE
Genus : **Drepane** Cuvier

82. **Drepane longimana** (Bloch & Schneider)
Family : POMACENTRIDAE
Genus : **Abudefduf** Forsskal
83. **Abudefduf septemfasciatus** (Cuvier & Valenciennes)
Family : CEPOLIDAE
Genus : **Acanthocepola** Bleeker
84. **Acanthocepola abbreviata** (Valenciennes)
Suborder : MUGILOIDEI
Family : MUGILIDAE
Genus : **Liza** Jordan & Swain
85. **Liza melinoptera** (Valenciennes)
Genus : **Mugil** Linnaeus
86. **Mugil cephalus** Linnaeus
Genus : **Valamugil** Smith
87. **Valamugil buchani** (Bleeker)
Suborder : SPHYRAENOIDEI
Family : SPHYRAENIDAE
Genus : **Sphyraena** Rose
88. **Sphyraena obtusata** Cuvier
Suborder : POLYNEMOIDEI
Family : POLYNEMIDAE
Genus : **Polydactylus** Lacepede
89. **Polydactylus konadaensis** Mishra & Krishnan
Suborder : LABROIDEI
Family : LABRIDAE
Genus : **Halichoeres** Ruppell
90. **Halichoeres nebulosus** (Valenciennes)
Suborder : TRACHINOIDEI
Family : OPISTOGNATHIDAE
Genus : **Opistognathus** Cuvier

91. **Opistognathus rosenbergii** Bleeker
Family : URANOSCOPIDAE
Genus : **Uranoscopus** Linnaeus
92. **Uranoscopus cognatus** Cantor
Suborder : BLENNIOIDEI
Family : BLENNIDAE
Genus : **Istiblennius** Whitley
93. **Istiblennius dussumieri** (Valenciennes)
94. **Istiblennius edentulus** (Bloch)
Genus : **Scartella** Jordan
95. **Scartella emarginata** (Gunther)
Suborder : AMMODYTOIDEI
Family : AMMODYTIDAE
Genus : **Bleekeria** Gunther
96. **Bleekeria kallelepis** Gunther
Suborder : GOBIOIDEI
Family : ELEOTRIDIDAE
Genus : **Bunaka** Herre
97. **Bunaka gyrinoides** (Bleeker)
Family : GOBIDAE
Genus : **Bathygobius** Bleeker
98. **Bathygobius fuscus** (Ruppell)
Genus : **Parachaeturichthys** Bleeker
99. **Parachaeturichthys polynema** (Bleeker)
Suborder : SCOMBROIDEI
Family : TRICHIURIDAE
Genus : **Trichiurus** Linnaeus
100. **Trichiurus lepturus** Linnaeus
Family : SCOMBRIDAE
Genus : **Rastrelliger** Jordan & Starks

101. **Rastrelliger kanagurta** (Cuvier)

Order : PLEURONECTIFORMES
Suborder : PSETTIDOIDEI
Family : PSETTODIDAE
Genus : **Psettodes** Bennett

102. **Psettodes erumei** (Schneider)

Suborder : PLEURONECTOIDEI
Family : BOTHIDAE
Genus : **Cephalopsetta** Dutt & Rao

103. **Cephalopsetta ventrocellatus** Dutt & Rao

Genus : **Crossorhombus** Regan

104. **Crossorhombus azureus** (Alcock)

Genus : **Pseudorhombus** Bleeker

105. **Pseudorhombus elevatus** Ogilby106. **Pseudorhombus triocellatus** (Bloch)

Suborder : SOLEOIDEI
Family : SOLEIDAE
Genus : **Heteromycteris** Kaup

107. **Heteromycteris oculus** (Alcock)

Genus : **Synaptura** Cantor

108. **Synaptura commersoniana** (Lacepede)

Genus : **Zebrias** Jordan & Snyder

109. **Zebrias altipinnis** Alcock

Family : CYNOGLOSSIDAE
Genus : **Cynoglossus** Hamilton-Buchanan

110. **Cynoglossus arel** (Schneider)

Order : TETRAODONTIFORMES
Suborder : BALISTOIDEI
Family : TRIACANTHIDAE
Genus : **Triacanthus** Cuvier

111. *Triacanthus brevirostris* Schneider

Family : OSTRACIIDAE

Genus : *Tetrosomus* Swains112. *Tetrosomus gibbosus* (Linnaeus)

Family : TETRAODONTIDAE

Genus : *Lagocephalus* Swainson113. *Lagocephalus lunaris* (Bloch)114. *Lagocephalus spadiceus* (Richardson)

SYSTEMATIC NOTES

The material studied has been collected from the inshore areas of Kakinada, Uppada, Danavaipeta, Pentakota, Revu Polavaram, Pudimadaka, Visakhapatnam, Konada, Mahfuzbhandaru, Kalingapatnam, Baruva and adjacent villages. The identified samples have been deposited with the Marine Biological Station, Zoological Survey of India, Madras. Length of the specimen means standard length, excepting the ones specifically indicated as TL (Total Length).

1. *Chiloscyllium griseum* Muller and Henle

1841. *Chiloscyllium griseum* Muller and Henle, *Syst. Besch. Plagiost.*, pt. 1 : 19, pl. 4 (India, Japan).

Material examined : 2, 135-161 mm TL, collected from Baruva on 15. 3. 92.

Distribution : Indo-west Pacific : from the 'Gulf' to Malay archipelago, the Philippines, Papua New Guinea, China, Japan.

2. *Dasyatis walga* (Muller and Henle)

1841. *Trygon walga* Muller and Henle, *Syst. Besch. Plagiost.* : 159, Pl. 51, fig. 1 (India, Red Sea).

1969. *Dasyatis (Himantura) walga* : Misra, *Fauna of India, Pisces* (ed. 2), 1 : 169, fig. 58.

Material examined : 1, 340 mm TL, collected from Uppada on 29. 2. 29.

Distribution : Red Sea, India, Sri Lanka, through the East Indies to China.

3. *Narcine brunnea* Annandale

1909. *Narcine brunnea* Annandale, *Mem. Indian Mus.*, 2 : 45.

Material examined : 1, 145 mm TL, collected from Baruva on 15. 3. 92 ; 1, 182 mm TL, collected from Konada on 7. 3. 92.

Distribution : Seas of India, Malay archipelago.

4. *Narcine timlei* (Bloch and Schneider)

1801, *Raja timlei* Bloch and Schneider, *Syst. Ichth.* : 359.

1878. *Narcine timlei* : Day, *Fishes of India* : 733.

Material examined : 1, 280 mm TL, collected from Visakhapatnam on 10.3.92.

Distribution : Seas of India, Malay archipelago.

5. *Narke dipterygia* (Bloch and Schneider)

1801. *Rhinobatus dipterygia* Bloch and Schneider, *Syst. Ichth.* : 359.

1955. *Narke dipterygia* : Munro, *The marine and freshwater fishes of Ceylon* : 17, pl. 2, fig. 49.

Material examined : 1, 98 mm TL ; 2, 90-124 mm TL, collected from Pentakota on 3. 3. 92.

Distribution : Seas of India to the Malay archipelago, China, Japan.

6. *Dussumieria acuta* Valenciennes

1847. *Dussumieria acuta* Valenciennes, *Hist. nat. poiss.*, 20 : 467, pl. 606 (Bombay, Coromandel).

Material examined : 1, 113 mm, collected from Kakinada on 1. 3. 92.

Fin formula : B xiv, D. 19 ; A. 15 ; P. 14 ; V. 8 ; lower g. r. 21.

Distribution : Throughout the tropical Indo-Pacific.

Remarks : As most of the scales have fallen off before examination, lateral line scale count not given. Due to the presence of horizontal striae on exposed portion of scales and the body depth being 25% of standard length, the specimen is assigned to this species.

7. *Dussumieria elopsoides* Bleeker

1849. *Dussumieria elopsoides* Bleeker, *Verh. Bat. Gen.*, 22 : *Ichth. Madura* : 42.

Material examined : 2, 146-155 mm, collected from Kalingapatnam on 13. 3. 92.

Fin formula : B xv ; D. 18 ; A. 16 ; P. 14 ; V. 8 ; LL 52-55 ; lower g. r. 26-27.

Distribution : Seas of India, Malay archipelago, China.

Remarks : This species differs from *D. actua* by a slender body (depth less than 22% of SL) and by the absence of horizontal striae on exposed portion of scales.

8. *Sardinella albella* (Valenciennes)

1847. *Kowala albella* Valenciennes, *Hist. nat. poiss.*, 20 : 362 (Pondicherry).

1973. *Sardinella albella* : Whitehead, *J. mar. biol. Ass. India*, 14(1) : 183, fig. 13.

Material examined : 1, 110 mm, collected from Kakinada on 1. 3. 92 ; 6, 90-105 mm, collected from Kalingapatnam on 13. 3. 92.

Fin formula : B vi ; D. ii. 16 ; A. 16-19 ; P. 15 ; V. 8 ; belly scutes 17-18+13-14 ; LL 40-42 ; lower g. r. 41-52.

Distribution : East coast of Africa, Red Sea, Seas of India, the East Indies to Taiwan.

9. *Sardinella fimbriata* (Valenciennes)

1847. *Spratella fimbriata* Valenciennes, *Hist. nat. poiss.*, 20 : 359, pl. 601 (Malabar).

1973. *Sardinella fimbriata* : Whitehead, *J. mar. biol. Ass. India*, 14 (1) : 184, fig. 14.

Material examined : 2, 71-73 mm, collected from Baruva on 13. 3. 92.

Fin formula : B. vi ; D. 18 ; A. 19 ; P. 15 ; V. 8 ; LL 45 ; lower g. r. 60.

Distribution : Seas of India, Malay archipelago.

10. *Ilisha melastoma* (Schneider)

1801. *Clupea melastoma* Schneidr, *Syst. Ichth. Bloch.* : 427 (Indian ocean near Coromandel).

1976. *Ilisha melastoma* : Whitehead, *J. mar. biol. Ass. India*, 14 (1) : 212, fig. 37.

Material examined : 3, 113-118 mm, collected from Kakinada on 1. 3. 92 ; 1, 137 mm, collected from Kalingapatnam on 13. 3. 92.

Fin formula : B. vi ; D. iii. 14 ; A. iii. 38-42 ; P. 15 ; V. 7 ; LL 43-44 ; belly scutes 17-20+8 ; lower g. r. 21-22.

Distribution : Seas of India, Sri Lanka, Indonesia to Hong Kong, north east coast of Australia.

11. *Opisthopterus tardoore* (Cuvier)

1829. *Pristigaster tardoore* Cuvier, *Regne Animal* (2nd ed.), 2 : 321 (Visakhapatnam).

1973. *Opisthopterus tardoore* : Whitehead, *J. mar. biol. Ass. India*, 14 (1) : 215, fig. 39.

Material examined : 1, 164 mm, collected from Kalingapatnam on 13. 3. 92.

Fin formula : B. vi ; D. ii. 11 ; A. ii. 50 ; P. i. 13 ; ventral scutes 30 ; LL 50 ; G R 10+25.

Distribution : Western and southern coasts of India, Sri Lanka, Indonesia.

12. *Coilia reynaldi* Valenciennes

1848. *Coilia reynaldi* Valenciennes, *Hist. nat. poiss.*, 21 : 81 (Irrawady river at Rangoon, Burma).

Material examined : 2, 126-139 mm, collected from Kakinada on 1. 3. 92.

Fin formula : B. ix ; D. I. iii. 11 ; A. ii. 98-110 ; P. xi-xii+6-7 ; V. i. 6 ; ventral scutes 9+9-10 ; lower g. r. 30-32.

Distribution : East coast of India, Myanmar.

13. *Stolephorus commersonii* Lacepede

1803. *Stolephorus commersonii* Lacepede, *Hist. nat. poiss.*, 5 : 381, pl. 12, fig. 1 (Mauritius)

Material examined : 1, 108 mm, collected from Uppada on 29. 2. 92 ; 3, 103-107 mm, collected from Kalingapatnam on 13. 3. 92.

Fin formula : B. x ; D. iii. 12 ; A. iii. 18-20 ; P. i. 14 ; V. i. 6 ; LL 38-40 ; lower g. r. 23 ; pre-pelvic scutes 3-4.

Distribution : East coast of Africa, coasts of India, Malay archipelago, the Philippines to Samoa.

14. *Thryssa dussumieri* (Valenciennes)

1848. *Engraulis dussumieri* Valenciennes, *Hist. nat. poiss.*, 21 : 69.

1973. *Thryssa dussumieri* : Whitehead, *J. mar. biol. Ass. India*, 14 (1) : 232, fig. 56.

Material examined : 1, 101 mm, collected from Danavaipeta on 3. 3. 92.

Fin formula : B. xii ; D. I. iii. 11 ; A. iii. 31 ; P. i. 9 ; V. i. 6 ; keeled ventral scutes 15+7 ; lower g. r. 20.

Distribution : Coasts of Pakistan, India, Malay archipelago, the East Indies to Hong Kong.

15. *Thryssa kammalensoides* Wongratana

1983. *Thryssa (Scutengraulis) kammalensoides* Wongratana, *Japan. J. Ichthyol.*, 29 (4) : 401, fig. 20 (Godavary estuary)

1988. *Thryssa kammalensoides* : Whitehead *et al.* *FAO Fish. Synop.*, (125) 7(2) : 434-435.

Material examined : 1, 112 mm, collected from Uppada on 29. 2. 92.

Fin formula : B. xi ; D. I. iii. 11 ; A. iii. 32 ; P. i. 12 ; V. i. 6 ; keeled ventral scutes 18+10 ; lower g. r. 24.

Distribution : Godavary estuary, East coast of India.

Remarks : Whitehead *et al* (1988) mention that there is no indication as to whether the fish is marine or riverine. The present specimen has been collected from the inshore waters of Uppada north of Kakinada approximately 50 km away from the type locality signifying the possibility of being marine.

16. *Thryssa mystax* (Schneider)

1801. *Clupea mystax* Schneider, *Syst. Ichth. Bloch* : 426, pl. 83 (Malabar).

1973. *Thryssa mystax* : Whitehead, *J. mar. biol. Ass. India*, 14 (1) : 231, fig. 54.

Material examined : 1, 123 mm, collected from Uppada on 29. 2. 92.

Fin formula : B. xiii-xiv ; D. I. iii. 12 ; A. iii. 33-36 ; P. i. 12 ; V. i. 6 ; ventral scutes 17+11 ; lower g. r. 14-16.

Distribution : Coasts of India, Sri Lanka, Myanmar, the East Indies.

17. *Thryssa polybranchialis* Wongratana

1983. *Thryssa (Scutengraulis) polybranchialis* Wongratana, *Japan. J. Ichthyol.*, 29 (4) : 402, fig. 21 (Canara, Cochin, Porto Novo and Waltair, India).

1988. *Thryssa polybranchialis* : Whitehead *et al*, *FAO Fish, Synop.*, (125) 7 (2) : 439.

Material examined : 1, 120 mm, collected from Uppada on 29. 2. 92.

Fin formula : B. xi ; D. iii. 11 ; A. iii. 34 ; P. i. 11 ; V. i. 6 ; keeled ventral scutes 17+10 ; lower g. r. 25.

Distribution : The east and west coasts of India.

18. *Thryssa setirostris* (Broussonet)

1782. *Clupea setirostris* Broussonet, *Ichthyol.* : text and pl. 2 (Tana Island, New Hebrides in Pacific).

1968. *Thryssa setirostris* : Whitehead, *J. mar. biol. Ass. India*, 9 (1) : 22.

Material examined : 2, 95-132 mm, collected from Uppada on 29. 2. 92 ; 1, 97 mm, collected from Kalingapatnam on 13. 3. 92.

Fin formula : B. x ; D. I. iii. 12 ; A. iii. 34-35 ; P. i. 12-13 ; V. i. 6 ; ventral scutes 17+10 ; lower g. r. 10.

Distribution : Indo-west Pacific (wide spread).

19. *Thryssa vitrirostris* (Gilchrist and Thompson)

1908. *Engraulis vitrirostris* Gilchrist and Thompson, *Ann. S. Afr. Mus.*, 6 : 201 (Durban)

1973. *Thryssa vitrirostris* : Whitehead, *J. mar. biol. Ass. India*, 14 (1) : 223, fig. 57.

Material examined : 3, 124-134 mm, collected from Uppada on 29. 2. 92.

Fin formula : B. xii-xiii ; D. I. iii. 11 ; A. iii. 32-33 ; P. i. 11-12 ; V. i. 6 ; lower g. r. 19-21 ; ventral scutes 16-18+10-11.

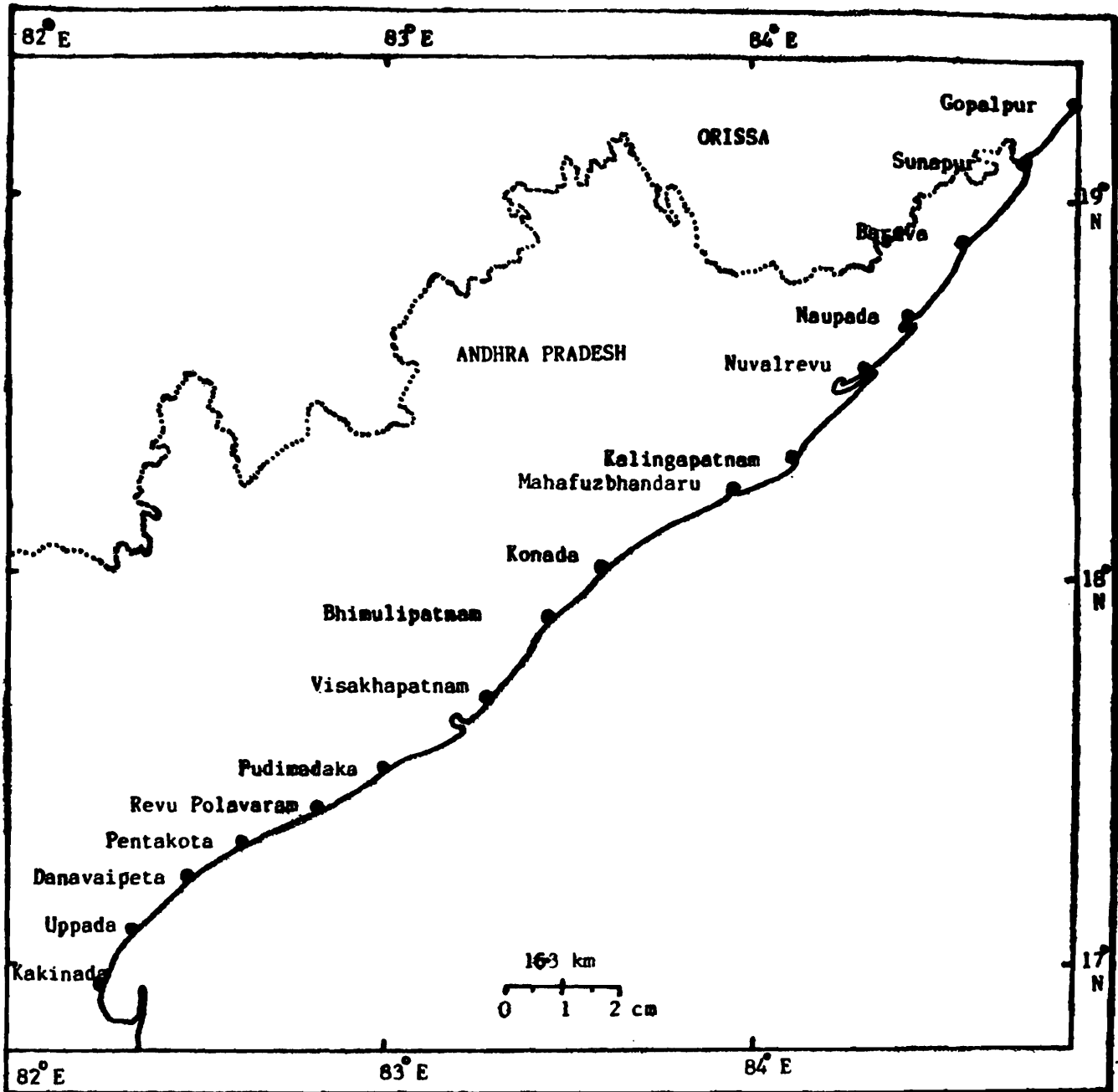
Distribution : From the east coast of South Africa to the coasts of India.

20. *Gymnothorax reticularis* Bloch

1795. *Gymnothorax reticularis* Bloch, *Naturges. Ausland. Fische*, (9) : 85 (Tranquebar).

Material examined : 6, 245-295 mm TL, collected from Visakhapatnam on 10. 3. 92.

Distribution : Indo-west Pacific.



Map-1. Kakinada-Gopalpur Sector

21. *Uroconger lepturus* (Richardson)

1845. *Congrus lepturus* Richardson, *Zool. Voy. Sulphur* : 106, pl. 56, figs. 1-6.

1878. *Uroconger lepturus* : Day, *Fishes of India* : 661, pl. 170, fig. 1.

Material examined : 2, 225-300 mm TL, collected from Visakhapatnam on 10. 3. 92.

Distribution : Widespread in tropical Indo-west Pacific.

22. *Mystus gulio* (Hamilton-Buchanan)

1822. *Pimelodus gulio* Hamilton-Buchanan, *Fishes of Ganges* : 201, 379, pl. 23, fig. 66 (Gangetic estuaries).

1991. *Mystus gulio* : Talwar and Jhingran, *Inland Fishes*, 2 : 560, fig. 185.

Material examined ; 3, 103-111 mm, collected from Mahfuzbhandaru on 11. 3. 92.

Fin formula : B. ix ; D. I. 7 ; A. iii. 11 ; P. I. 9 ; V. i. 5.

Distribution : Pakistan, India, Bangladesh, Myanmar.

23. *Arius caelatus* Valenciennes

1840. *Arius caelatus* Valenciennes, *Hist. nat. poiss.*, 15 : 66 (Bombay).

Material examined : 2, 138-171 mm, collected from Uppada on 29. 2. 92.

Fin formnla : B. vi ; D. I. 7 ; A. 19 ; V. i. 5.

Distribution : Pakistan, India, Sri Lanka, Bangladesh, Myanmar, Thailand, the East Indies.

24. *Saurida longimanus* Norman

1939. *Saurida longimanus* Norman, *Fishes, Rept. John Murray Exped.*, 1933-34, 7 (1) : 1-116 (Gulf of Oman).

Material examined : 5, 110-137 mm, collected from Visakhapatnam on 9. 3. 92.

Fin formula : B.xiii ; D. 11-12 ; A. 11-12 ; P. 14 ; V. 9 ; LL 48-50.

Distribution : Gulf of Oman, north Arabian Sea, East coast of India.

25. *Saurida micropectoralis* Shindo and Yamda

1972. *Saurida micropectoralis* Shindo and Yamda, *UO Jap. Soc. Ichthyol.*, 11 : 1-13 ; 12 : 1-14 (Gulf of Thailand).

Material examined : 1, 98 mm, collected from Baruva on 15. 3. 92.

Fin formula : B. xiii ; D. 11 ; A. 11 ; P. 14 ; V.9 ; C.19 ; predorsal scales 18 ; LL 56 ; L, tr. 4/6.

Distribution : East coast of India, Andaman Sea to South China Sea, the Philippines.

26. *Saurida tumbil* (Bloch)

1795. *Salmo tumbil* Bloch, *Naturges. Ausland. Fische*, (9) : 112, pl. 430 (Malabar).

1877. *Saurida tumbil* : Day, *Fishes of India* : 504, pl. 117, fig 6.

Material examined : 1, 101 mm, collected from Visakhapatnam on 9. 3. 92 ; 1, 102 mm, collected from Danavaipeta on 3. 3. 92.

Fin formula : B. xiii ; D.12 ; A. 10-11 ; P. 14-15 ; V.9 ; C. 19 ; LL 55-56.

Distribution : East coast of Africa (excluding Kenya and Somalia), Madagascar, Red Sea, the Gulf, Pakistan, India, Sri Lanka, Malay archipelago, the East Indies, China Sea and southward to New South Wales (Australia).

27. *Trachinocephalus myops* (Forster)

1801. *Salmo myops* Forster in Bloch and Schneider, *Syst. Ichth* : 421 (St. Helena).

1976. *Trachinocephalus myops* : Misra, *Fauna of India, Pisces* (2nd ed.), 2 : 302, fig. 84.

Material examined : 3, 85-193 mm, collected from Visakhapatnam on 10. 3. 92 ; 4, 93-116 mm, collected from Baruva on 15.3.92.

Fin formula : B. xvi ; D. 12 ; A. 15 ; P. 12 ; V. 8 ; C. 18-19 ; LL 54-55.

Distribution : Worldwide in tropical and warm temperate waters.

28. *Brotula multibarbata* Temminck and Schlegel

1846. *Brotula multibarbata* Temminck and Schlegel, *Fauna Japonica* : 251, pl. 111, fig. 2 (Simbara Bay, Japan).

Material examined : 1, 62 mm TL, collected from Visakhapatnam on 10.3.62.

Fin formula : D+A+C=182 ; P. 22 ; V. 2.

Distribution : Indo-Pacific.

Remarks : The sample is a juvenile and the fin ray count is uncertain. Following the conclusions of Hubbs (1944, *Copeia* No. 3, p. 162) the sample is assigned to this species.

29. *Lophiodes mutilus* (Alcock)

1893. *Lophius mutilus* Alcock, *Journ. Asiatic Soc. Bengal*, 62 : 179, pl. 10, fig. 2 (Bay of Bengal).

1986. *Lophiodes mutilus* : Caruso, *Smith's Sea Fishes* : 364, fig. 101. 2.

Material examined : 2, 110-124 mm TL, collected from Visakhapatnam on 9.3.92.

Fin formula : D. I+I+I+I+8 ; A. 6 ; P. 15-16 ; V. I. 5.

Distribution : East coast of Africa through India to East Indies.

30. *Antennarius hispidus* (Bloch and Schneider)

1801. *Lophius hispidus* Bloch and Schneider, *Syst. Ichth.* : 142 (Coromandel, India).

1850. *Antennarius hispidus* : Cantor, *Journ. Asiatic Soc. Bengal* (1849), 18 : 1185.

Material examined : 4, 53-71 mm, collected from Visakhapatnam on 9.3.92.

Fin formula : D. I+I+I+12 ; A. 7 ; P. 10 ; V. 5.

Distribution : South Africa, India, Malay archipelago to Hawaii.

31. *Halieutea indica* Annandale and Jenkins

1910. *Halieutea indica* Annandale and Jenkins, *Mem. Indian Mus.*, 3 (1) : 19 (Bay of Bengal).

Material examined : 3, 61-85 mm, collected from Visakhapatnam on 9.3.92.

Fin formula : D. 4 ; A. 4 ; P. 13 ; V. 5.

Distribution : Bay of Bengal, New Guinea.

32. *Hippocampus kuda* Bleeker

1852. *Hippocampus kuda* Bleeker, *Nat. Tijdschr. Ned.-Indie*, 3 : 82 (Singapore).

Material examined : 1, 81 mm TL, collected from Baruva on 15.3.92.

Fin formula : D. 18 ; A. 4 ; P. 15 ; Rings 11 + 35.

Distribution : Indo-west Pacific, from coasts of India to Hawaii, north to Japan.

33. *Fistularia petimba* Lacepede

1803. *Fistularia petimba* Lacepede, *Hist. nat. poiss.*, 5 : 189 (New Britain).

Material examined : 2, 262-300 mm, collected from Visakhapatnam on 10.3.92.

Fin formula : D. 13-14 ; A. 13 ; P. I. 14 ; V. 6.

Distribution : From the east coast of Africa through India to Malay archipelago, China, Japan, Southern Australia, Hawaii, the tropical Atlantic.

34. *Apistus carinatus* (Bloch and Schneider)

1801. *Scorpaena carinata* Bloch and Schneider, *Syst. Ichth.* : 193.

1875. *Apistus carinatus* : Day, *Fishes of India* : 155, pl. 37, fig. 4.

Material examined : 2, 62-65 mm, collected from Visakhapatnam on 9.3.92.

Fin formula : B. vi ; D. XV. 9 ; A. III. 7 ; P. 10+1 ; V. I. 5 ; LL 55 ; L. tr. 7/15.

Distribution : South Africa, Mozambique, the Red Sea, the 'Gulf', India, Malay archipelago, from Japan in the north to Queensland in the south.

35. *Minous coccineus* Alcock

1890. *Minous coccineus* Alcock, *Ann. Mag. nat. Hist.*, (6) 6 : 428 (Bay of Bengal).

Material examined : 1, 107 mm TL, collected from Visakhapatnam on 9.3.92.

Fin formula : B. vii ; D. X. 12 ; A. 11 ; P. 11+1 ; V. I. 5 ; C. 10.

Distribution : South Africa, Red Sea, India upto Thailand.

36. *Minous inermis* Alcock

1889. *Minous inermis* Alcock, *Ann. Mag. nat. Hist.*, (6) 4 (23) : 379-399.

Material examined : 1, 101 mm TL. collected from Visakhapatnam on 9.3.92.

Fin formula : B. vii ; D. X. 12 ; A. 10 ; P. 11+1 ; V. I. 5 ; C. 10.

Distribution : Gulf of Oman, India, Myanmar.

37. *Minous monodactylus* (Bloch and Schneider)

1801. *Scorpaena monodactyla* Bloch and Schneider, *Syst. Ichth.* : 195.

1875. *Minous monodactylus* : Day, *Fishes of India* : 159.

Material examined : 1, 71 mm TL, collected from Visakhapatnam on 9.3.92 ; 2, 60-61 mm TL, collected from Baruva on 15.3.92.

Fin formula : B. vii ; D.X.11 ; A.10 ; P. 10+1 ; V.I.5 ; C. 10.

Distribution : Red Sea, the 'Gulf', coasts of India through Indonesia to China.

38. *Pterois mombasae* (Smith)

1957. *Pteropterus mombasae* Smith, *Ichthyol. Bull. Rhodes Univ.*, (5) : 80, fig. 7. (Mombasa).

1986. *Pterois mombasae* : Eschmeyer, *Smith's Sea Fishes, Scorpaenidae* : 467, pl. 25. fig. 149-9.

Material examined : 1, 144 mm, collected from Visakhapatnam on 9.3.92.

Fin formula : B.vii ; D.XIII.11 ; A.III.7 ; P. 18 ; V.I.5 ; C.14 ; LL.54 ; L.tr. 7/11.

Distribution : East coast of Africa, Sri Lanka, East coast of India, New Guinea.

39. *Pterois russelli* Bennett

1831. *Pterois russelli* Bennett, *Proc. Zool. Soc. Lond.*, 1 : 128 (India).

Material examined : 1, 72 mm, collected from Baruva on 15.3.92 ; 1, 65 mm, collected from Visakhapatnam on 9.3.92.

Fin formula : B. vii ; D. XIII.11(12) ; A.III.8 ; P. 13 ; V. I. 5 ; C. 14 ; LL (above) 72 ; L.tr.8/17.

Distribution : East coast of Africa, Mauritius, the 'Gulf', Pakistan, India, Malay archipelego ; South China, New Guinea, Western Australia.

Remark :, In both the specimens ventrals are longer than head as they are

juveniles. We refrain from assigning them to *P. lunulata* Schlegel due to the presence of 10 inferior scales on the cheek.

40. *Lepidotrigla riggsi* Richards and Saksena

1977. *Lepidotrigla riggsi* Richards and Saksena, *Bull. Mar. Sci.*, 27 (2) : 215 (Ganjam, India).

Material examined : 1, 80 mm, collected from Visakhapatnam on 10.3.92.

Fin formula ; B.v ; D.IX.15 ; P. 11+3 ; V.I.5 ; LL 58.

Distribution : Coasts of India and Andaman Sea.

41. *Grammoplites scaber* (Linnaeus)

1758. *Cottus scaber* Linnaeus, *Syst. Nat.*, 1 : 264.

1955. *Grammoplites scaber* : Munro, *The marine and freshwater fishes of Ceylon* : 251.

Material examined : 1, 148 mm, collected from Pentakota on 3.3.92 ; 1, 124 mm, collected from Baruva on 15.3.92.

Fin formula : B.vi ; D.I.VIII+12 ; A.12 ; P.20 ; V.I.5 ; LL 52-54 ; GR 1+5.

Distribution : Indo-west Pacific (from Pakistan eastwards).

42. *Platycephalus indicus* (Linnaeus)

1758. *Callionymus indicus* Linnaeus, *Syst. Nat* , 1 : 250 (Asia).

1939. *Platycephalus indicus* : Herre, *Rec. Indian Mus.*, 41 : 340.

Material examined : 3, 135-193 mm, collected from Mahfuzbhandaru on 11.3.92.

Fin formula : B.vii ; D.I.VIII+13 ; P.18 ; A.13 ; V.I.5 ; LL 70 ; GR 2+8.

Distribution : Indo-west Pacific.

43. *Rogadius pristiger* (Cuvier)

1829. *Platycephalus pristiger* Cuvier in Cuvier and Valenciennes, *Hist. nat. poiss.*, 4 : 260 (Japan).

1975. *Rogadius pristiger* : Murty, *J. mar. biol. Ass. India*, 17 (3) : 682, pl. 1.

Material examined : 5, 105-153 mm, collected from Visakhapatnam on 10.3.92.

Fin formula : B.vi ; D.I.VIII+11 ; A.11 ; P.21 ; V.I.5 ; LL 53 ; GR 1+6-7.

Distribution : Indo-Pacific.

44. *Sorsogona melanoptera* Knapp and Wongratana

1987. *Sorsogona melanoptera* Knapp and Wongratana, *Proc. Biol. Soc. Wash.*, 100 (2) : 381-385 (Cochin, India).

Material examlned : 1, 77 mm, collected from Baruva on 15.3.92.

Fin formula : B. vi ; D.IX+12 ; A 12 ; P. 21 ; V.I.5 ; LL 54, 14 anterior scales spinous ; L. tr. 6/12 ; GR 2+9.

Distribution : Gulf of Oman to the Andaman Sea off Southern Thailand.

45. *Sorsogona tuberculata* (Cuvier)

1829. *Platycephalus tuberculatus* Cuvier in Cuvier and Valenciennes, *Hist. nat. poiss.*, 4 : 258 (Sri Lanka).

1983. *Sorsogona tuberculata* : Knapp in Fischer and Bianchi, *FAO species identification sheet, Fishing area 51 (W. Indian Ocean)*, 3 : PLATYC Sor 1.

Material examined : 4, 64-92 mm, collected from Baruva on 15.3.92.

Fin formula : B. vi ; D.IX+11 ; A.11 ; P.20 ; V.I.5 ; C.15 ; LLp 55 ; LL spines 19-20 ; GR 1+7.

Distribution : From India to Australia through Thailand, Indonesia and the Philippines.

46. *Suggrundus rodericensis* (Cuvier)

1829. *Platycephalus rodericensis* Cuvier in Cuvier and Valenciennes, *Hist. nat. poiss.*, 4 : 253.

1975. *Suggrundus rodericensis* : Murty, *J. mar. biol. Ass. India*, 17 (3) : 689.

Material examined : 4, 114-150 mm, collected from Visakhapatnam on 10.3.92.

Fin formula : B. vii ; D.IX+12 ; A.12 ; P.20 ; V.I.5 ; C.13 ; LLp 56 ; GR 2+7.

Distribution : From Gulf of Oman to Australia.

47. *Dactyloptena macracanthus* (Bleeker)

1854. *Dactylopterus macracanthus* Bleeker, *Nat. Tijdschr. Ned.-Indie*, 7 : 449.

1962. *Dactyloptena macracanthus* : de Beaufort, *Fish. Indo-Aust. Archip.*, 11 : 176.

Material examined : 4, 126-185 mm, collected from Visakhapatnam on 10.3.92.

Fin formula : B.v ; D.I+I+V+1+8 ; A.6 ; P.5.27 ; V.I.4 ; Sq.1.45 ; L.tr.21.

Distribution : South and east coast of India, Sri Lanka, Singapore, the Philippines, Ambon, Banda, Makassar, Menado.

48. *Priacanthus tayenus* Richardson

1846. *Priacanthus tayenus* Richardson, *Rep. Br. Ass. Advmt Sci.*, 15th meet. 1845 : 237 (Canton, China).

Material examined : 2, 112-124 mm, collected from Visakhapatnam on 10. 3. 92.

Fin formula : B. vi ; D. X. 12 ; A. III. 13 ; P. i. 16 ; LL 55-56 ; lower g. r. 17.

Distribution : Indo-west Pacific.

49. *Apogonichthys poecilopterus* (Cuvier and Valenciennes)

1828. *Apogon poecilopterus* Cuvier and Valenciennes, *Hist. nat. poiss.*, 2 : 114.

1929. *Apogon (Apogonichthys) poecilopterus* : Weber and de Beaufort, *Fish. Indo-Aust. Archip.*, 5 : 331.

Material examined : 8, 66-93 mm, collected from Visakhapatnam on 10. 3. 92.

Fin formula : B. vii ; D. VII+I. 9 ; A. II. 8 ; P. ii. 14 ; V. I. 5 ; C. 17 ; LL 25 ; L. tr. $1\frac{1}{2}/6$; GR 1+9-10.

Distribution : East coast of India to the Philippines, Japan.

50. *Apogon (Nectamia) quadrifasciatus* (Cuvier)

1828. *Apogon quadrifasciatus* Cuvier in Cuvier and Valenciennes, *Hist. nat. poiss.*, 2 : 153 (India).

1986. *Apogon (Nectamia) quadrifasciatus* : Gon, *Smith's Sea Fishes* : 552, pl. 49, fig. 175. 20.

Material examined : 4, 60-67 mm, collected from Visakhapatnam on 10. 3. 92.

Fin formula : B. vii ; D. VII+1. 9 ; A. II. 8 ; P. ii. 13 ; V. I. 5 ; C. 17 ; LL 26-28 ; L. tr. $1\frac{1}{2}/6$; Pred. scales 5 ; GR 5+14.

Distribution : Indo-west Pacific.

51. *Apogon (Nectamia) taeniatus* (Cuvier)

1828. *Apogon taeniatus* Cuvier, *Hist. nat. poiss.*, 2 : 159 (Red Sea).

1986. *Apogon (Nectamia) taeniatus* : Gon, *Smith's Sea Fishes* : 553, fig. 175. 24.

Material examined : 1, 62 mm, collected from Visakhapatnam on 10. 3. 92.

Fin formula : B. vii ; D. VII+I.:9 ; A. II. 8 ; V. I. 5 ; P. 15 ; C. 17 ; LL 27 ; L. tr. 2/7.

Distribution : Indo-west Pacific.

52. *Sillaginopodys chondropus* (Bleeker)

1849. *Sillago chondropus* Bleeker, *Verh. Batav. Gen.*, 22 ; 61 (Jakarta, Indonesia).

1984. *Sillaginopodys chondropus* : Talwar and Kacker, *Commercial Sea fishes of India* : 421.

Material examined : 1, 112 mm, collected from Uppada on 29. 2. 92.

Fin formula : B. vi ; D. XI+I. 22 ; A. II. 22 ; P. 15 ; V. I. 5 ; LL 71 ; L. tr. 6/11 ; lower g. r. 7.

Distribution : Indo-west Pacific.

53. *Sillago sihama* (Forsskal)

1775. *Atherina sihama* Forsskal, *Descript. Animal* : 70 (Lohaja, Red Sea).

1876. *Sillago sihama* : Day, *Fishes of India* : 265, pl. 57, fig. 3.

Material examined : 1, 58 mm, collected from Pentakota on 3. 3. 92 ; 2, 152-

159 mm, collected from Mahfuzbhandaru on 11. 3. 92 ; 1, 94 mm, collected from Uppada on 15. 3. 92.

Fin formula : B. vi ; D. X+I. 20-21 ; A. II. 21-22 ; P. 16-17 ; V. I. 5 ; LL 70-72 ; L. tr. 6/11 ; lower g. r. 7-8.

Distribution : Indo-west Pacific.

54. *Lactarius lactarius* (Schneider)

1801. *Scomber lactarius* Schneider, *Syst. Ichth. Bloch* : 31 (Tranquebar, India).

1910. *Lactarius lactarius* : Seale, *Philippine Journ. Sci.*, 5 : 270.

Material examined : 2, 94-98 mm, collected from Uppada on 29. 2. 92.

Fin formula : B. vii ; D. VII+I. 21 ; A. III. 26 ; P. 17 ; V. I. 5 ; LL 75 ; GR 18.

Distribution : Indo-west Pacific.

55. *Echeneis naucrates* Linnaeus

1758. *Echeneis naucrates* Linnaeus, *Syst. Nat.*, 1 : 261 (*Pelago Indico*) (species name mis-spelled).

Material examined : 1, 185 mm, collected from Baruva on 15. 3. 92.

Fin formula : B. vii ; D. 26+40 ; A. 36 ; P. 20 ; V. 5 ; C. 17 ; lower g. r. 13.

Distribution : Red Sea, Seas of India, Malay archipelago, all tropical and temperate seas.

Remarks : A light blue band running from snout to caudal disappeared on preservation.

56. *Alepes djeddaba* (Forsskal)

1775. *Scomber djedaba* Forsskal, *Descript. Animal* : 56 (Djedda, Red Sea).

1981. *Alepes djeddaba* : van der Elst, *A guide to the common sea fishes of southern Africa*, C. Struik, Cape Town : 367.

Material examined : 2, 56-64 mm, collected from Baruva on 15. 3. 92.

Fin formula : B. vii ; D. I. VIII+I. 23 ; A. II+I. 20 ; P. 21 ; V. I. 5 ; LL 77 (40 scutes) ; lower g. r. 29.

Distribution : Indian Ocean, Mediterranean, Red Sea.

57. *Alepes para* (Cuvier)

1833. *Caranx para* Cuvier, *Hist. nat. poiss.*, 9 : 58 (Malabar).

1984. *Alepes para* : Talwar and Kacker, *Commercial Sea fishes of India* : 440.

Material examined : 1, 121 mm, collected from Mahfuzbhandaru on 11. 3. 92.

Fin formula : B. vii ; D. I. VIII+I. 23 ; A. II+I. 18 ; P. 20 ; V. I. 5 ; LL 80+4 (scutes 40+4) ; lower g. r. 28.

Distribution : Widespread in the Central Indo-Pacific.

Remarks : According to Smith-Vaniz (1984), generic allocation of this species is uncertain and that it might eventually be assigned to a separate monotypic genus. But the specimen examined conforms *in toto* to the description of *Alepes* Swainson and hence the erection of a separate monotypic genus is felt unnecessary. The presence of an unusual procumbent spine of 4.4 mm length in front of the anal fin may be a teratogenic phenomenon as there is no wear or tear of skin at that region.

58. *Carangoides armatus* (Ruppell)

1830. *Citula armata* Ruppell, *Atlas Nordl. Afrika Fische Rothen Meeres* : 103 (Red Sea).

1980. *Carangoides armatus* : Williams *et al*, *Bull. Mar. Sci.*, 30 (1) : 14, fig. 1 a & b.

Material examined : 1, 61 mm, collected from Baruva on 15.3.92.

Fin formula : B. vii ; D. I. VIII+I. 22 ; A. II+I. 18 ; P. 21 ; V. I. 5 ; LL 32 in straight part ; GR 10+22.

Distribution : East coast of Africa, Red Sea, Seas of India, Malay archipelago, Thailand, Hong Kong, Japan.

59. *Carangoides caerulopinnatus* (Ruppell)

1830. *Caranx caerulopinnatus* Ruppell, *Atlas Nordl. Afrika Fische Rothen Meeres* : 100 (Red Sea).

1975. *Carangoides caerulopinnatus* : Sreenivasan, *Indian J. Fish.*, 21 (1) : 24, fig. 2-5.

Material examined : 2, 50-75 mm, collected from Baruva on 15.3.92.

Fin formula : B. vii ; D. I. VIII+I. 22 ; A. II+I. 18 ; P. 21 ; V. I. 5 ; LL scutes 18 ; GR 6+16.

Distribution : Indo-west Pacific.

60. *Carangoides malabaricus* (Bloch and Schneider)

1801. *Scomber malabaricus* Bloch and Schneider, *Syst. Ichth.* : 31 (Tranquebar, India).

1905. *Carangoides malabaricus* : Fowler, *Proc. Acad. nat. sci. Philad.*, 21 (2) : 512.

Material examined : 1, 75 mm, collected from Konada on 7.3.92 ; 1, 63 mm, collected from Baruva on 15.3.92.

Fin formula : B. vii ; D. I. VIII+I. 21-22 ; A. II+I. 18 ; P. 21 ; V. I. 5 ; LL scutes 33-35 ; GR 10+25.

Distribution : Indo-west Pacific.

61. *Caranx sexfasciatus* Quoy and Gaimard

1824. *Caranx sexfasciatus* Quoy and Gaimard, *Voy. Uranie et Physic. Zool.* : 358, pl. 65, fig. 4 (Isles des Papous, Indonesia).

Material examined : 1, 80 mm, collected from Mahfuzbhandaru on 11.3.92.

Fin formula : B. vii ; D. I. VIII+I. 20 ; A. II+I. 15 ; P. ii. 18 ; V. I. 5 ; LL scutes 34 ; GR 7+16.

Distribution : Indo-west Pacific.

62. *Mene maculata* (Bloch)

1801. *Zeus maculatus* Bloch, *Syst. Ichth.* : 95, pl. 22 (Tranquebar, India).

1876. *Mene maculata* : Day, *Fishes of India* : 249, pl. 53, fig. 5.

Material examined : 1, 129 mm, collected from Visakhapatnam on 10.3.92.

Fin formula : B. vii ; D. iii. 42 ; A. 33 ; P. 15 ; V. I. 5 ; GR 6+23.

Distribution : Central tropical Indo-Pacific.

63. *Gazza minuta* (Bloch)

1797. *Scomber minutus* Bloch, *Ichthyologie* : 110, pl. 429, fig. 2 (Malabar).

1876. *Gazza minuta* : Day, *Fishes of India* : 224, pl. 53, fig. 1.

Material examined : 1, 68 mm, collected from Baruva on 15.3.92.

Fin formula : B. v ; D. VIII. 16 ; A. III. 14 ; P. 18 ; V. I. 5 ; LL 40.

Distribution : Tropical Indo-Pacific.

64. *Leiognathus berbis* (Valenciennes)

1835. *Equula berbis* Valenciennes, *Hist. nat. poiss.*, 10 : 85 (Red Sea).

1978. *Leiognathus berbis* : James, *J. mar. biol. Ass. India*, 17 (1) : 161.

Material examined : 1, 61 mm, collected from Visakhapatnam on 10.3.92.

Fin formula : B. v ; D. VIII. 16 ; A. III. 14 , P. 17 ; V. I. 5.

Distribution : Indo-west Pacific.

65. *Leiognathus bindus* (Valenciennes)

1835. *Equula bindus* Valenciennes, *Hist. nat. paiss.*, 10 : 78 (Visakhapatnam).

1978. *Leiognathus bindus* : James, *J. mar. biol. Ass. India* (1975), 17 (1) : 153-155, pl. 1. G.

Material examined : 1, 50 mm, collected from Baruva on 15.3.92.

Fin formula : B. v ; D. VIII. 16 ; A. III. 14 ; P. 15 ; V. I. 5.

Distribution : Indo-west Pacific.

66. **Leiognathus blochii** (Valenciennes)

1835. *Equula blochii* Valenciennes, *Hist. nat. poiss.*, 10 : 84 (Malabar).

1923. *Leiognathus blochii* : Choudhuri, *Mem. Indian Mus.*, 5 : 732.

Material examined : 10, 66-71 mm, collected from Kakinada on 1.3.92.

Fin formula : B. v ; D. VIII. 16 ; A. III. 14 ; P. 15 ; V. I. 5 ; LL 52 ; L. tr. 8/21.

Distribution : Pakistan, India, Gulf of Thailand, the Philippines, Northern Australia.

67. **Leiognathus brevirostris** (Valenciennes)

1835. *Equula brevirostris* Valenciennes, *Hist. nat. poiss.*, 10 : 83 (Malabar).

1978. *Leiognathus brevirostris* : James, *J. mar. biol. Ass. India* (1975), 17 (1) : 159-161, pl. 3. B.

Material examined : 2, 66-69 mm, collected from Danavaipeta on 3.3.92.

Fin formula : B. v ; D. VIII. 16 ; A. III. 14 ; P. 18 ; V. I. 5 ; C. 19 ; LL 53 ; lower g.r. 22.

Distribution : India, Sri Lanka, through the East Indies to China, the Philippines.

68. **Secutor insidiator** (Bloch)

1787. *Zeus insidiator* Bloch, *Naturges. Ausland. Fische*, (3) : 41, pl. 92 (Surat).

1928. *Secutor insidiator* : Fowler, *Fish. Oceania, Mem. B. P. Bishop Mus.*, 10 : 154.

Material examined : 3, 50-55 mm, collected from Kakinada on 1. 3. 92 ; 2, 74-81 mm, collected from Konada on 7.3.22 ; 2, 57-58 mm, collected from Kalingapatnam on 13.3.92.

Fin formula : B. v ; D. VIII. 16 ; A III. 14 ; P. 17 ; V. I. 5.

Distribution : Indo-west Pacific.

69. **Lutjanus malabaricus** (Bloch and Schneider)

1801. *Sparus malabaricus* Bloch and Schneider, *Syst. Ichth.* : 278 ("in mari Indico").

1875. *Lutjanus malabaricus* : Day, *Fishes of India* : 31, pl. 9, fig. 4.

Material examined : 1, 83 mm, collected from Visakhapatnam on 10. 3. 92.

Fin formula : B. vii ; D. XI. 14 ; A. III. 9 ; P. 16 ; V.I.5 ; C.17 ; LL 58 ; L. tr.8/21.

Distribution ; Widespread in the tropical Indo-west Pacific.

70. **Nemipterus japonicus** (Bloch)

1791. *Sparus japonicus* Bloch, *Naturges. Ausland. Fische*, (5) : 110.

1907. *Nemipterus japonicus* : Jordan and Seale, *Bull. Bur. Fish.*, 26 (1906) : 21.

Material examined : 2, 100-110 mm, collected from Visakhapatnam on 10.3.92,

Fin formula : B. vi ; D. X. 9 ; A. III. 7 ; P.ii.15 ; V. I. 5 ; LL 48.

Distribution : Indo-west Pacific.

71. *Nemipterus randalli* Russell

1986. *Nemipterus randalli* Russell, *Senckenberg. Biol.*, 67 : 23, fig. 2 (Persian Gulf, Red Sea, Gulf of Aden, Zanzibar, Seychelles, Madagascar, Pakistan, India).

Material examined : 1, 93 mm, collected from Visakhapatnam on 10.3.92.

Fin formula : B. vi ; D.X.9 : A. III. 7 ; P. ii. 16 ; V.I. 5 ; ; LL 45 ; L. tr. 2 $\frac{1}{2}$ /10 ; GR 6+8.

Distribution : East coast of Africa to East coast of India.

72. *Gerres filamentosus* Cuvier

1829. *Gerres filamentosus* Cuvier, *Regne. Animal* (ed. 2), 3 : 188 (Vizagapatnam).

Material examined : 2, 76-87 mm, collected from Uppada on 29.2.92 ; 2, 75-80 mm, collected from Mahfuzbhandaru on 11. 3. 92.

Fin formula : B. vi ; D. IX. 10 ; A. III. 7 ; P. 15 ; LL 46.

Distribution : Indo-west Pacific.

73. *Gerres macracanthus* Bleeker

1854. *Gerres macracanthus* Bleeker, *Nat. Tijdschr. Ned.-Indie*, 6 : 195 (Batavia, Java).

Material examined : 1, 64 mm, collected from Kakinada on 1.3.92.

Fin formula : B. vi ; D. IX. 10 ; A. III. 7 ; P. 15 ; V. I. 5 ; LL 42 ; L. tr. 6/11.

Distribution : India, East Indies, New Guinea, the Philippines.

74. *Pomadasys maculatus* (Bloch)

1797. *Anthias maculatus* Bloch, *Naturges. Ausland. Fische*, (7) : 9, pl. 326, fig. 2 (East Indies).

1876-77. *Pomadasys maculatus* : Bleeker, *Atl. Ichth.* : 27.

Material examined : 1, 89 mm, collected from Konada on 7.3.92 ; 3, 59-70 mm, collected from Baruva on 15.3.92.

Fin formula : B. vii ; D. XII. 14 ; A. III. 7 ; P. 16 ; V.I.5 ; LL 50 ; L. tr.5/12.

Distribution : Tropical Indo-west Pacific.

75. *Dendrophysa russelli* (Cuvier)

1830. *Umbrina russelli* Cuvier, *Hist. nat. poiss.*, 5 : 178 (Vizagapatnam).

1991. *Dendrophysa russelli* : Talwar and Jhingran, *Inland Fishes*, 2 : 854.

Material examined : 1, 119 mm, collected from Kakinada on 1.3.92.

Fin formula : B. vii ; D. X+I. 27 ; A. II. 7 ; P.i.16 ; V.I.5.

Distribution : India, Sri Lanka through the East Indies to Kwangtung.

76. *Johnieops sina* (Cuvier)

1830. *Corvina sina* Cuvier, *Hist. nat. poiss.*, 5 : 122 (Malabar and Pondicherry).

1991. *Johnieops sina* : Talwar and Jhingran, *Inland Fishes*, 2 : 854.

Material examined : 1, 129 mm, collected from Konada on 7.3.92.

Fin formula : B. vii ; D.X+I. 28 ; A. II.7 ; P.i.16 ; V.I.5 ; C.17 ; LL 49+3 ; lower g.r. 15.

Distribution : Indo-west Pacific excluding East coast of Africa.

77. *Johnius dussumieri* (Valenciennes)

1833. *Umbrina dussumieri* Valenciennes in Cuvier and Valenciennes, *Hist. nat. poiss.*, 9 : 481 (Coromandel, India).

1984. *Johnius dussumieri* : Mohan in Fischer and Bianchi, *FAO Species Identification Sheets for fishery purposes. W. Indian ocean (Fishing area 51)*, 4 : SCIAEN John 4.

Material examined : 1, 107 mm, collected from Uppada on 29.2.92.

Fin formula : B.vii ; D.X+I.25 ; A.II.7 ; P.i.16 ; V.I.5 ; LL 49 ; lower g.r.7.

Distribution : Indo-west Pacific.

78. *Johnius carutta* Bloch

1793. *Johnius carutta* Bloch, *Naturges. Ausland. Fische*, (7) : 133, pl. 356 (Tranquebar, Tamilnadu).

Material examined : 1, 128 mm, collected from Danavaipeta on 3.3.92.

Fin formula : B.vii ; D.X+I.29 ; A.II.7 ; P.i.17 ; V.I.5 ; C.17 ; LL 45.

Distribution : Pakistan, India, Sri Lanka, eastwards to the Malay Peninsula, Thailand.

79. *Kathala axillaris* (Cuvier)

1830. *Corvina axillaris* Cuvier, *Hist. nat. poiss.*, 5 : 113 (Malabar).

1984. *Kathala axillaris* : Talwar and Kacker, *Commercial Sea Fishes of India* : 656, fig. 261.

Material examined : 1, 103 mm, collected from Uppada on 29.2.92 ; 1, 96 mm, collected from Konada on 7.3.92 ; 1, 102 mm, collected from Visakhapatnam on 9.3.92.

Fin formula ; B.vii ; D.X+I.27-28 ; A.II.7 ; P.i.16 ; V.I.5 ; C.17 ; LL 48-50 ; lower g.r. 21.

Distribution : India, Sri Lanka, Java, the Philippines, Southern China, Australia.

80. *Upeneus moluccensis* (Bleeker)

1855. *Upenoides moluccensis* Bleeker, *Nat. Tijdschr. Ned.-Indie*, 8 : 409 (Amboina).

1984. *Upeneus moluccensis* : Kumaran in Fischer and Bianchi, *FAO Species identification sheets for fishery purposes. W. Indian ocean (Fishing area 51)*, 3 : MULL Upen 1.

Material examined : 1, 100 mm, collected from Visakhapatnam on 10.3.92.

Fin formula : B.iv ; D.VIII+I.8 ; A.I.6 ; P.16 ; V.I.5 ; LL 36 ; L.tr. $2\frac{1}{2}/7$; GR 9+19.

Distribution : The east coast of Africa (north of 12°S), the Red Sea, coasts of India, the East Indies, the Philippines, Japan, China to Australia ; eastern Mediterranean (as immigrant)

81. *Upeneus vittatus* (Forsskal)

1775. *Mullus vittatus* Forsskal, *Descr. Anim.* : 31 (Djedda).

1984. *Upeneus vittatus* : Kumaran in Fischer and Bianchi, *FAO Species identification sheets for fishery purposes. W. Indian ocean (Fishing area 51)*, 3 : MULL Upen 3.

Material examined : 3, 100-106 mm, collected from Visakhapatnam on 10.3.92.

Fin formula : B.iv ; D.VIII+I.8 ; A.I.6 ; P.16 ; V.I.5 ; LL 34-37 ; L.tr. $2\frac{1}{2}/7$; GR 8+18.

Distribution : Indo-Pacific, eastward to French Polynesia.

82. *Drepane longimana* (Bloch and Schneider)

1801. *Chaetodon longimanus* Bloch and Schneider, *Syst. Ichth.* : 229 (Tranqobar).

1969. *Drepane longimana* : Murty, *J. mar. biol. Ass. India*, 10 (1) : 126, pl. 1a.

Material examined : 2, 43-46 mm, collected from Baruva on 15.3.92.

Fin formula : B.vi ; D.VIII.22 ; A.III.19 ; P.17 ; V.I.5 ; C.18 ; LL 45.

Distribution : West and east coast of Africa, the Red Sea, Seas of India to Japan, New Guinea, Samoa.

83. *Abudefduf semifasciatus* (Cuvier and Valenciennes)

1830. *Glyphiodon semifasciatus* Cuvier and Valenciennes, *Hist. nat. poiss.*, 5 : 463.

1901. *Abudefduf semifasciatus* : Seale, *Occ. Papers B. P. Bishop Mus.*, 1 : 82.

Material examined : 10, 14-17 mm, collected from Revu Polavaram on 4.3.92.

Fin formula : B.v ; D.XIII.13 ; A.II.12 ; P.17 ; V.I.5 ; LL 29 ; L.tr.3/11.

Distribution : Indo-Pacific.

84. *Acanthocepola abbreviata* (Valenciennes)

1835. *Cepola abbreviata* Valenciennes in Cuvier and Valenciennes, *Hist. nat. poiss.*, 10 : 403.

1984. *Acanthocepola abbreviata* : Smith-Vaniz in Fischer and Bianchi, *FAO Species identification sheets for fishery purposes. W. Indian ocean (Fishing area 51)*, 1 : CEPOL : 2.

Material examined : 2, 140-194 mm, collected from Visakhapatnam on 9.3.92.

Fin formula : B.vi ; D.72-74 ; A.70-74 ; P.19 ; V.I.5 ; C.13.

Distribution : India, through the East Indies to China.

85. *Liza melinoptera* (Valenciennes)

1836. *Mugil melinopterus* Valenciennes, *Hist. nat. poiss.*, 11 : 146, pl. 313 (Vanicola).

1906. *Liza melinoptera* : Jordan and Seale, *Bull. Bur. Fish.*, 25 (1905) : 217.

Material examined : 1, 84 mm, collected from Uppada on 29.2.92 ; 3, 105-127 mm, collected from Mahafuzbhandaru on 11.3.92.

Fin formula : B.vi ; D.IV+I.8 ; A.III.9 ; P.15 ; V.I.5 ; LL 30-31 ; L.tr.10.

Distribution : Indo-west Pacific. Inhabits shallow coastal waters ; enters lagoons and estuaries.

86. *Mugil cephalus* Linnaeus

1758. *Mugil cephalus* Linnaeus, *Syst. Nat.*, (ed. 10), 1 : 316 (European seas).

Material examined : 4, 104-122 mm, collected from Mahafuzbhandaru on 11.3.92.

Fin formula : B.vi ; D.IV+I.8 ; A.III.8 ; P.16 ; V.I.5 ; LL 40-42 ; L.tr. 14.

Distribution : Worldwide, in temperate and tropical waters ; inhabits seas, estuaries and rivers.

87. *Valamugil buchanani* (Bleeker)

1853. *Mugil buchanani* Bleeker, *Verh. Batav. Genoot. Kunst. Wet.*, 25 : 99 (Hooghly river)

1975. *Valamugil buchanani* : Luther, *J. mar. biol. Ass. India*, 16 (1) : 290, fig.

Material examined : 2, 112-121 mm, collected from Mahafuzbhanru on 11.3.92.

Fin formula : B.vi ; D.IV+I.8 ; A.III.9 ; P.16 ; V.I.5 ; predorsal scales 15 ; LL 33 ; L.tr. 11.

Distribution : Indo-west Pacific ; marine, entering rivers.

88. *Sphyraena obtusata* Cuvier

1829. *Sphyraena obtusata* Cuvier, *Hist. nat. poiss.*, 3 : 359, pl. 10, fig. 2 (Pondicherry).

Material examined : 3 (juveniles), 55-63 mm, collected from Konada on 7.3.92 ; 1, 229 mm, collected from Kalingapatnam on 13.3.92.

Fin formula : B.vii ; D.V+I.9 ; A.I.9 ; P.14 ; V.I.5 ; LL 90 ; GR 2.

Distribution : Indo-west Pacific.

89. *Polydactylus konadaensis* Mishra and Krishnan

Material examined : 2, 96-106 mm, collected from Konada on 7.3.92.

Fin formula : B.vii ; D.VIII+I.12 ; A.III.11 ; P.15+6 ; V.I.5 ; C.17 ; LL 49 ; L.tr.5/10 ; pyloric caecae 16 ; GR 18+21.

Distribution : East coast of India, Konada in Andhra Pradesh.

Remarks : Description and other details reported elsewhere.

90. *Halichoeres nebulosus* (Valenciennes)

1839. *Julis nebulosus* Valenciennes in Cuvier and Valenciennes, *Hist. nat. poiss.*, 13 : 461 (Bombay).

1901. *Halichoeres nebulosus* : Seale, *Occ. Papers B. P. Bishop Mus.*, 1 : 88.

Material examined : 3, 32-55 mm, collected from Pudimadaka on 5.3.92.

Fin formula : B.vi ; D.IX.11 ; A.III.11 ; P.ii.12 ; V.I.5 ; C.14 ; LL 28 ; L.tr.2/8.

Distribution : Red Sea, Coasts of India, Malay archipelago, the Philippines to Australia.

Remarks : Transverse scales 2/8 in all the three specimens examined while Day (1877 : 400) recorded it as 3/12 and de Beaufort (1940 : 218) as $1\frac{1}{2}$ - 2/1/9-10.

91. *Opisthognathus rosenbergii* Bleeker

1856. *Opisthognathus rosenbergii* Bleeker, *Nat. Tijdschr. Ned.-Indie*, 12 : 220.

Material examined : 1, 104 mm, collected from Visakhapatnam on 9.3.92.

Fin formula : B.vi ; D.X.14 ; A.II.13 ; P.ii.19 ; V.I.ii.3 ; C.i.11.i ; LL 76 ; GR 11+23.

Distribution : Seas of India to Malay archipelago.

Remarks : The genus *Opisthognathus* Cuvier is incorrectly spelled by most authors as *Opisthognathus*. Day (1876) recorded the species from Madras and described it as a rare occurrence.

92. *Uranoscopus cognatus* Cantor

1850. *Uranoscopus cognatus* Cantor, *Journ. Asiatic Soc. Bengal*, 18 (2) : 1003 (Sea of Pinang).

Material examined : 6, 53-143 mm TL, collected from Visakhapatnam on 10.3.92.

Fin formula : B.vi ; D.III.iii.11 ; A.13 ; P.i.16 ; V.I.5 ; LL 60-67.

Distribution : East coast of India, Malay archipelago.

93. *Istiblennius dussumieri* (Valenciennes)

1836. *Salarias dussumieri* Valenciennes in Cuvier and Valenciennes, *Hist. nat. poiss.*, 11 : 310 (Malabar).
 1986. *Istiblennius dussumieri* : Springer in Smith and Heemstra, *Smith's Sea Fishes* : 748, fig. 235. 17.

Material examined : 16, 23-48 mm, collected from Revu Polavaram on 4.3.92 ; 7, 34-88 mm, collected from Pudimadaka on 5.3.92.

Fin formula : B.vi ; D.XIII.20-21 ; A.II.22-23 ; P.13-14 ; V.I.2 ; C.ii.9.ii.

Distribution : Indo-Pacific.

94. *Istiblennius edentulus* (Bloch and Schneider)

1801. *Blennius edentulus* Bloch and Schneider, *Syst. Ichth.* : 172 (Huahaine).
 1986. *Istiblennius edentulus* : Springer in Smith and Heemstra, *Smith's Sea Fishes* : 748, fig. 235. 18.

Material examined : 1, 38 mm, collected from Revu Polavaram on 4.3.92.

Fin formula : B.vi ; D.XIII.19 ; A.III.21 ; P.14 ; V.I.2 ; C.ii.9.ii.

Distribution : Indo-Pacific.

95. *Scartella emarginata* (Gunther)

1861. *Blennius emarginatus* Gunther, *Cat. Brit. Mus.*, 3 : 224.
 1986. *Scartella emarginata* : Springer in Smith and Heemstra, *Smith's Sea Fishes* : 754, fig. 235. 40.

Material examined : 2, 37-63 mm, collected from Pudimadaka on 5.3.92,

Fin formula : B.vi ; D.XII.15 ; A.II.16 ; P.14 ; V.I.3 ; C.11.

Distribution : Southern Angola to India.

Remark : An Atlantic species supposed to have migrated along with warm water currents towards the east coast of India and established throughout the range.

96. *Bleekeria kallelepis* Gunther

1863. *Bleekeria kallelepis* Gunther, *Cat. Brit. Mus.*, 4 : 387 (Coromandel coast : Waltair and Madras).

Material examined : 1, 77 mm, collected from Baruva on 15.3.92.

Fin formula : B.vi ; D.38 ; A.15 ; P.11 ; C.13 ; LL 100 ; L.tr.3/14.

Distribution : Coasts of India.

97. *Bunaka gyrinoides* (Bleeker)

1853. *Eleotris gyrinoides* Bleeker, *Nat. Tijdschr. Ned.-Indie*, 4 : 272.
 1941. *Bunaka gyrinoides* : Koumans, *Mem. Indian Mus.*, 13 (3) : 327.

Material examined : 1, 58 mm, collected from Visakhapatnam on 9.3.92.

Fin formula : B.vi ; D.VI+I.8 ; A.I.8 ; P.16 ; V.I.5 ; LL 60 ; L.tr.17.

Distribution : India, Sri Lanka, the Philippines, Australia.

Remark : Pectoral rays 16 *versus* 18 or 19 as described by Day (1878 : 313) and Koumans (1941).

98. *Bathygobius fuscus* (Ruppell)

1828. *Gobius fuscus* Ruppell, *Atl. Reise N. Afr. Fische* : 137 (Red Sea).

1941. *Bathygobius fuscus* : Koumans, *Mem. Indian Mus.*, 13 (3) : 267.

Material examined : 5, 30-32 mm, collected from Revu Polavaram on 4.3.92 ; 1, 43 mm, collected from Pudimadaka on 5.3.92.

Fin formula : B.v ; D.VI+I.9-10 ; A.I.8 ; P.i.18-19 ; LL 38 ; L.tr. 13.

Distribution : Indo-west Pacific.

99. *Parachaeturichthys polynema* (Bleeker)

1853. *Chaeturichthys polynema* Bleeker, *Nat. Tijdschr. Ned.-Indie*, 5 : 325 (Japan).

1941. *Parachaeturichthys polynema* : Koumans, *Mem. Indian Mus.*, 13 (3) : 218.

Material examined : 9, 73-91 mm, collected from Visakhapatnam on 10.3.92.

Fin formula : B. v ; D. VI+I. 10 ; A. I. 9 ; P. 20 ; LL 30 ; L. tr. 8 ; predorsal scales 12.

Distribution : South Africa, India, Japan, China, Australia.

100. *Trichiurus lepturus* Linnaeus

1758. *Trichiurus lepturus* Linnaeus (*partim*) (*ex* Artedi), *Syst. Nat.* (ed. 10) : 246 (South Carolina).

Material examined : 2, 310-355 mm TL, collected from Visakhapatnam on 10.3.92.

Fin formula : B. vii ; D. 133 ; A. 100 (spinules) ; P. 12.

Distribution : Throughout tropical and temperate waters of the world.

101. *Rastrelliger kanagurta* (Cuvier)

1817. *Scomber kanagurta* Cuvier, *Regne Animal*, 2 : 313 (Vizagapatnam).

1951. *Rastrelliger kanagurta* : de Beaufort and Chapman, *Fish. Indo-Aust. Archip.*, 9 : 212-215, fig. 36.

Material examined : 3, 65-75 mm, collected from Baruva on 15.3.92.

Fin formula : B. vi ; D. VIII+I. 11+5 finlets ; A. I. 11+5 finlets ; P. 20 ; V. I. 5,

Distribution : Indo-west Pacific.

102. **Psettodes erumei** (Schneider)

1801. *Pleuronectes erumei* Schneider in Bloch and Schneider, *Syst. Ichth. Bloch* : 150 (Tranquebar, India).

1877. *Psettodes erumei* : Day, *Fishes of India* : 422, pl. 91, fig. 4.

Material examined : 1, 114 mm, eyes on left side, collected from Visakhapatnam on 9.3.92 ; 1, 128 mm, eyes on right side, collected from Visakhapatnam on 10.3.92.

Fin formula : B. vii ; D. 53-54 ; A. 39-40 ; P. 14 ; L. 6 ; LL 70-72.

Distribution : Indo-west Pacific.

103. **Cephalopsetta ventrocellatus** Dutt and Rao

1965. *Cephalopsetta ventrocellatus* Dutt and Rao, *Proc. Indian Acad. Sci.*, 62 (4) : 180-187 (Visakhapatnam).

Material examined : 1, 124 mm, collected from Visakhapatnam on 9.3.92.

Fin formula : B. v ; D. 65 ; A. 52 ; P. sin. 12 ; P. dextr. 10 ; V. 6 ; C. 6 ; LL 72 ; GR 7+17.

Distribution : East coast of India.

104. **Crossorhombus azureus** (Alcock)

1889. *Rhomboidichthys azureus* Alcock, *J. Asiatic Soc. Bengal*, 58 : 283.

1955. *Crossorhombus azureus* : Munro, *The marine and freshwater fishes of Ceylon* : 261.

Material examined : 3, 57-65 mm, collected from Baruva on 15.3.92.

Fin formula : B. vi ; D. 85-87 ; A. 65-68 ; P. 11 ; V. 6 ; LL 57-59.

Distribution : India, Sri Lanka.

105. **Pseudorhombus elevatus** Ogilby

1912. *Pseudorhombus elevatus* Ogilby, *Mem. Qd. Mus.*, 1 : 45.

Material examined : 1, 84 mm, collected from Danavaipeta on 3.3.92 ; 1, 85 mm, collected from Pentakota on 3.3.92.

Fin formula : B. vi ; D. 68-71 ; A. 53-54 ; P. sin. 11 ; P. dextr. 10 ; V. 6 ; LL 70-71.

Distribution : Indo-west Pacific.

106. **Pseudorhombus triocellatus** (Schneider)

1801. *Pleuronectes triocellatus* Schneider in Bloch and Schneider, *Syst. Ichth* : 145.

1877. *Pseudorhombus triocellatus* : Day, *Fishes of India* : 424.

Material examined : 1, 95 mm, collected from Uppada on 29.2.92 ; 1, 82 mm, collected from Pentakota on 3.3.92 ; 3, 81-85 mm, collected from Baruva on 15.3.92,

Fin formula : B. vi ; D. 68-71 ; A. 50-51 ; P. sin. 12 ; P. dextr. 11 ; V. 6 ; C. 17 ; LL 65-70.

Distribution : Coasts of India, Sri Lanka, Malay archipelago.

107. *Heteromycteris oculus* (Alcock)

1889. *Solea oculus* Alcock, *J. Asiatic Soc. Bengal*, 58 (2) : 285, pl. 18, fig. 3.

1955. *Heteromycteris eculus* : Munro, *Marine and freshwater fishes of Ceylon* : 262, pl. 50, fig. 759.

Material examined : 3, 51-70 mm, collected from Baruva on 15.3.92.

Fin formula : B. vi ; D. 94-95 ; A. 64-65 ; L. 5 ; LL 92-95.

Distribution : Coasts of India, Sri Lanka, possibly in Malay archipelago.

108. *Synaptura commersoniana* (Lacepede)

1802. *Pleuronectes commersonien* Lacepede, *Hist. nat. poiss.*, 3 : pl. 12, fig. 2 (Mauritius).

1877. *Synaptura commersoniana* : Day, *Fishes of India* : 428, pl. 94, fig. 1.

Material examined : 1, 131 mm, collected from Pentakota on 3.3.92.

Fin formula : B. vi ; D. 73 ; A. 57 ; P. sin. 7 ; P. dextr. 7 ; V. 4 ; C. 12 ; LL 140.

Distribution : Seas of India through Myanmar to Malay archipelago.

109. *Zebrias altipinnis* (Alcock)

1890. *Synaptura altipinnis* Alcock, *Ann. Mag. Nat. Hist.*, 6 (6) : 441.

1984. *Zebrias altipinnis* : Talwar and Kacker, *Commercial Sea fishes of India* : 868.

Material examined : 7, 122-205 mm, collected from Visakhapatnam on 9/10.3.92.

Fin formula : B. vi ; D. 80 ; A. 68 ; P. sin. 11 ; P. dextr. 9 ; V. 5 ; C. 17 ; LL 118.

Distribution : East coast of India, Malay archipelago.

110. *Cynoglossus areal* (Schneider)

1801. *Pleuronectes arel* Schneider, *Syst. Ichth. Bloch* : 159 (Tranquebar, India).

1984. *Cynoglossus arel* : Talwar and Kacker, *Commercial Sea fishes of India* : 873, fig. 359.

Material examined : 1, 154 mm, collected from Danavaipeta on 3.3.92 ; 1, 182 mm, collected from Visakhapatnam on 10.3.92.

Fin formula : D. 116 ; A. 86 ; V. 4 ; C. 11 ; LL 65 ; scales between LL 8.

Distribution : From the "Gulf" through the seas of India to the Philippines and Indonesia.

111. *Triacanthus brevirostris* Schlegel

1850. *Triacanthus brevirostris* Schlegel in Temminck and Schlegel, *Fauna of Japan, Pisces*, pt. 6 : 294.

Material examined : 3, 110-128 mm, collected from Visakhapatnam on 10.3.92.

Fin formula : B. vi ; D. V + 22-24 ; A. 18-19 ; P. 14 ; V. I ; C. 12.

Distribution : Seas of India through Malay archipelago to Japan.

Remarks : Hutchins (1984) considered *Triacanthus brevirostris* to be a synonym of *Triacanthus biaculeatus* (Bloch). But de Beaufort and Briggs (1962 : 270-274) described them as two distinct species. Since the material examined completely conforms to the description of *T. brevirostris* and differs considerably from *T. biaculeatus*, synonymy has not been taken cognizance of.

112. *Tetrosomus gibbosus* (Linnaeus)

1758. *Ostracion gibbosus* Linnaeus, *Syst. Nat.* (ed 10) : 332 (India).

1955. *Tetrosomus gibbosus* : Munro, *Marine and freshwater fishes of Ceylon* : 276, pl. 54, fig. 805.

Material examined : 2, 117-126 mm, collected from Visakhapatnam on 9/10.3.92.

Fin formula : D. 9 ; A. 9 ; P. 10 ; C. 10.

Distribution : Indo-west Pacific.

113. *Lagocephalus lunaris* (Bloch and Schneider)

1801. *Tetraodon lunaris* Bloch and Schneider, *Syst. Ichth.* : 505 (Malabar).

1980. *Lagocephalus lunaris* : Tyler, *NOAA tech. Rep. NMFS Circ.*, (434) : 326.

Material examined : 1, 180 mm, collected from Baruva on 15.3.92.

Fin formula : D. i. 12 ; A. i. 10 ; P. i. 15.

Distribution : Indo-west Pacific.

114. *Lagocephalus spadiceus* (Richardson)

1844. *Tetraodon spadiceus* Richardson, *The zoology of the voyage of HMS "Sulphur"*, 2 : 123.

1925. *Lagocephalus spadiceus* : Jordan and Hubbs, *Mem. Carnegie Mus.*, 10 : 257.

Material examined : 2, 75-79 mm, collected from Konada on 7.3.92 ; 2, 130-140 mm, collected from Visakhapatnam on 9.3.92 ; 1, 64 mm, collected from Baruva on 15.3.92.

Fin formula : D. i. 12-13 ; A. i. 9-11 ; P. i. 15. i.

Distribution : Indo-west Pacific.

ZOOGEOGRAPHICAL REMARKS

The range of distribution of the species in analysis has been investigated to throw more light on the zoogeographical affinities of the coastal fish fauna of Kakinada-Gopalpur sector of the east coast of India. The samples in our collection have been arranged in six groups (Table 1) according to zoogeographical relationships.

Of the 114 species reported here, five species, viz. *Trachinocephalus myops* (Schneider), *Fistularia petimba* Lacepede, *Echeneis naucrates* Linnaeus, *Mugil cephalus* Linnaeus and *Trichiurus lepturus* Linnaeus (4.4%) are circumtropical in distribution. Fifty six species (49.1%) are widely distributed in the Indo-west Pacific region, ranging from the east coast of Africa to Malay archipelago or even extended upto Japan in north to Queensland in south.

Thirty eight species (33.3%) are spread over the Indo-Polynesian province, i. e., from the coasts of India and/or extended upto the Gulf of Oman in west to Malay archipelago or beyond in east. Of this, *Gymnothorax reticularis* Bloch, *Saurida micropectoralis* Shindo and Yamda, *Halieutea stellata* (Vahl), *Apogonichthys poecilopterus* Cuvier and Valenciennes, *Opistognathus rosenbergii* Bleeker, *Uranoscopus cognatus* Cantor and *Zebrias altipinnis* Alcock are distributed westwardly upto the east coast of India and are yet to be reliably recorded from the west coast.

Twelve species (10.5%) are endemic to the Indian continental shelf waters. Out of them, four species, viz. *Coilia reynaldi* Valenciennes, *Thryssa kammalensoides* Wongratana, *Polydactylus konadaensis* sp. nov. and *Cephalopsetta ventrocellatus* Dutt and Rao are reported only from the east coast of India with the exception of *C. reynaldi* which has an extended range upto Myanmar coast. Other species of this group are *Thryssa polybranchialis* Wongratana, *Mystus gulio* (Hamilton-Buchanan), *Saurida longimanus* Norman, *Minous inermis* Alcock, *Lepidotrigla riggsi* Richards and Saksena, *Sorsogona melanoptera* Knapp and Wongratana, *Bleekeria kallelepis* Gunther and *Crossorhombus azureus* (Alcock). *M. gulio* is more known to be an estuarine form. All these eight species are known from the coasts of India or in one or two cases extended upto the Gulf of Oman in the west and Myanmar in the east, but not extended further eastward to Malay peninsula.

The remaining three species (2.6%) namely, *Thryssa vitrirostris* (Gilchrist and Thompson), *Nemipterus randalli* Russell and *Scartella emarginata* (Gunther) are distributed from South African coast to the east coast of India.

Notably, the first three groups comprising 86.8% of the studied material are found in Malay peninsula and its adjacent shallow shelf waters. This region is considered to be the richest faunistic centre from which the other sub-divisions of the Indo-west Pacific region recruited their shore faunas (Ekman, 1953). In accordance

with the observations of Menon (1961) and Rama Rao (1972), the present study indicates that the Malayan area is the centre of evolution of the marine shore fish fauna of the Indo-west Pacific region and India undoubtedly derived its shore fish fauna from this centre of distribution.

Possibilities are more for *Thryssa vitritostris* (Gilchrist and Thompson) and *Nemipterus randalli* Russell to have originated somewhere between the Gulf of Oman and the Somali coast. The high saline warm water currents coupled with South-West Monsoon would have resulted in spreading of these species upto the east coast of India. The low saline gradients of the Gangetic fan could have been a possible deterrent to the extension of these peripheral species. This observation goes hand in hand with that of Briggs (1974) who inferred that species arising in the peripheral regions apparently have been unable to penetrate and successfully colonise the eco-stable evolutionary centre in the Malayan region. Further, a comparison of the deterrent action of the Gangetic fan may be made to the boundary effect of Kei river mouth in South Africa (Smith, 1949 ; Penrith, 1970). In addition, *Scartella emarginata* (Gunter), supposedly an Atlantic species also could have failed in its run because of the Gangetic fan effect.

SUMMARY

The Kakinada-Gopalpur sector of the east coast of India was surveyed during 1992 and a systematic account of the fish collection is given. In all 114 species of fish are listed including a new species. A brief zoogeographical discussion of the shore fishes in the collection is also included in the paper.

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Table 1. Range of distribution of species

Area	Species serial number	Total/(%)
I. Circum tropical	27, 33, 55, 86, 100.	5 (4.4%)
II. Indo-west Pacific Region : From East coast of Africa to west Pacific (Widespread).	1, 2, 6, 8, 13, 18, 21, 26, 28, 29, 30, 34, 35, 37, 38, 39, 42, 43, 48, 50, 51, 52, 53, 54, 56, 58, 59, 60, 61, 62, 63, 64, 65, 68, 69, 70, 72, 74, 77, 80, 81, 82, 83, 85, 87, 88, 93, 94, 98, 99, 101, 102, 105, 112, 113, 114.	56 (49.1%)
III. Indo-Polynesian Province : From Gulf of Oman to west Pacific.	3, 4, 5, 7, 9, 10, 11, 14, 16, 20, 23, 25, 31, 32, 41, 45, 46, 47, 49, 57, 66, 67, 73, 75, 76, 78, 79, 84, 90, 91, 92, 97, 106, 107, 108, 109, 110, 111.	38 (33.3%)
IV. Indian continental shelf waters only.	17, 22, 24, 36, 40, 44, 96, 104.	8 (7.0%)
V. East coast of India only.	12, 15, 89, 103.	4 (3.5%)
VI. Western Indian Ocean ; From East coast of Africa to East coast of India	19, 71, 95.	3 (2.6%)