GOBIES FROM THE INTERTIDAL REGION OF BOMBAY

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ABSTRACT

Twenty one species of Gobies belonging to twelve genera are reported from Bombay waters.

INTRODUCTION

The intertidal zone being easily accessible has been a field of intensive study in many parts of the globe. In no other circumstance one can find so richly populated life with almost all types of fauna and flora. The gobies and blennies form the dominant piscitauna, often found wriggling, fighting, hopping, chasing and darting into crevices when slightly disturbed. From the economic point of view, the gobies form a minor fishery in Bombay and are sold in local markets. These fishes are known for delicacy and are consumed in Bombay, especially when the regular fishery, more or less, comes to a close, during monsoons.

A systematic account of some species of Gobioidea from Bombay waters has come from Fowler (1918). The taxonomic description of various species of gobies from different habitats of India has been given by Anandale (1919), Day (1889), Herre (1939, 1940), Hora (1915, 1924, 1934, 1935, 1936, 1940, 1941), Koumans (1942, 1953), Pannikkar (1937), Pillay (1901-1915) and others. The present paper deals with the sub-family Gobiinae, fairly well represented in Bombay waters with 21 species belonging to 12 genera. The species have been reviewed here with special reference to salient features, fin-ray formula, description, colouration in life and under preservation and the range of distribution with remarks on local habitats.

LIST OF SPECIES

ORDER : GOBIIDEA
FAMILY : GOBIIDAE
SUB-FAMILY : GOBIINAЕ

1. Smilogobius inexplicatus Herre.
2. Parachaeturchichthys polynema (Blkr.)
3. Parachaeturchichthys ocellatus (Day)

(Facing p. 476)
4. *Oxyurichthys microlepis* (Blkr.)
5. *Acentrogobius dayi* sp. nov.
6. *Acentrogobius griseus* (Day)
7. *Acentrogobius viridipunctatus* (C. V.)
8. *Acentrogobius masoni* (Day)
9. *Acentrogobius cyanomos* (Blkr.)
10. *Acentrogobius ornatus* (Rüpp.)
11. *Acentrogobius reichei* (Blkr.)
12. *Oligolepis acutipennis* (C. V.)
13. *Oligolepis cylindriceps* (Hora.)
14. *Barbatogobius asanai*
15. *Quisquilius eugenius*. Jordan & Everman
16. *Glossogobius biocellatus* (C.V.)
17. *Glossogobius giruris* (H. B.)
18. *Stigmatogobius javanicus* (Blkr.).
19. *Ctenogobius criniger* (C. V.)
20. *Bathygobius fuscus* (Rüpp.)
21. *Mugilogobius valigouva* (Deraniyagala)

The classification followed here is according to Dr. F. P. Koumans (1953).
<table>
<thead>
<tr>
<th>Genera &amp; Species</th>
<th>Salient Characters</th>
<th>Fin-ray Formula</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Smillogobius inexplicatus</strong></td>
<td>1. Body with 8 broad transverse bands. 2. Two large insisor-like teeth on vomers. 3. Two longitudinal mucous canals on cheek. 4. Pre-dorsal region naked. 5. III ray of the first dorsal fin longest. 6. Caudal fin rounded.</td>
<td>D.1 VI; D.2 1/10; A.1/9; L.1 about 70 L.tr. about 20</td>
<td>a) Yellowish white with Whitish tinge on ventral surface. b) 8 broad dusky brown transverse bands, two before dorsals, 3rd and 4th below 1st dorsal and the rest below the second dorsal fin.</td>
<td>The general colouration is greenish above with heavily pigmented transverse bands.</td>
<td>Intertidal pools, rich in algal growth: Cuffe-parade, Chawpatty, Worli, Mahim, Danda, Thana.</td>
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<tr>
<td><strong>2. Paracheturichthys ocellatus</strong></td>
<td>1. A pair of short barbels</td>
<td>D.1 VI; D.2 1/10; A.1/9; P.20; L.1.32-33; L. tr. 9</td>
<td>a) Olive, a green spot above the margin of opercle. b) About 6 blotches on the side of the body. c) A yellow ocellus with black centre at the top of caudal.</td>
<td>Yellowish green with yellowish ocellus with black centre of the caudal.</td>
<td>Muddy Creeks: Colaba, Worli, Mahim, Danda, Math, Mahul, Thana.</td>
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<tr>
<td><strong>3. Paracheturichthys polyacma</strong></td>
<td>1. Caudal with black margin with a basal oblong</td>
<td>D. VI: D.2. 1/9; P. 20-21; L. tr. 7-8</td>
<td>a) Darkish green above lighter below. b) Fins violet to purple c) Caudal fin with black margin below, above, at the base a large oblong ocellus bordered with black and yellow.</td>
<td>Deep darkish green with yellowish tinge</td>
<td>In creeks and backwaters: Colaba, Cuffe-parade, Beach Candy, Haji Ali, Mahd and Thana.</td>
</tr>
</tbody>
</table>
4. *Oxyurichthys microlepis*

1. Several rows of warts across cheeks.
2. A black triangular spot in the iris.
3. Scales on back and sides with blue spots.
4. Below the eye and on scapula a violet spot.
5. First dorsal fin with 2 longitudinal streaks, rays with dark spots.

D.1.VI; D.2. 1/12; A. 1/13; P. 20-22.
Predorsal Scales 17

- a) Green above, red pearl-like below
- b) On back and sides large violet blotches.
- c) First dorsal with 2 blue longitudinal streaks.

Green with large violet blotches on sides.

In Creeks and backwaters: Colaba Chowpatty, Beach Candy; Worli, Carter Road, Danda, Madh.

5. *Acentrogobius dayi*

1. Two longitudinal mucous panels over cheek.
2. Caudal oblong.
3. Olivaceous, a blotched irregular band from mouth to centre of caudal.
4. Two small bluish spots on opercle, another at the upper edge of base of caudal.

D.1.VI; D.2. 1/9-11; A. 1/8-10; P. 17-19;
L.tr. 14; Pre-dorsal scales about 20-30.

- a) Olivaceous.
- b) An irregular band from mouth to centre of base of caudal.
- c) A narrow band from eye to above opercle.
- d) A large blue ocellus above opercle.

Deep Olivaceous with bands and ocellus.

Soft muddy flats partly burrowed: Elephanta Islands; Madh; Marve Beach.

6. *Acentrogobius griseus*

1. Some mucous canals longitudinally over cheek.
2. Rays of first dorsal filiform longer than height of body, 2nd ray is the longest.
3. Pectoral fin, dotted with small chestnut spots.
5. Second dorsal yellowish.

D.1.VI; D.2. 1/10; A. 1/9; P. 17; L.1. 42; L.tr. 14; Pre-dorsal scales more than 20.

- a) Olivaceous, with bands & many well-marked black spots.
- b) Ventral, anal and caudal with dark outer edges.

Deep Olivaceous with bands and ocellus.

Soft muddy flats Elephanta Islands.
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<tr>
<td><strong>8. <em>Acentrogobius masoni</em></strong></td>
<td>1. A pair small broad barbels on chin. 2. Last tooth of lower jaw a recurved canine. 3. A large slit-like open pore at the supraopercular groove. 4. First dorsal with II, III and IV rays longest.</td>
<td>D. I, VI; D. 2, 1/10; A.1/9; P. 19; L. tr. 9; Pre-dorsal scales 25.</td>
<td>a) Olive with blue spots on nose and behind pectoral fins. b) Dorsal fins, anal, ventral and caudal blackish.</td>
<td>Deep olive, with pectorals yellowish with darker margin.</td>
<td>Below algal beds: Dunda, Madh, Thana.</td>
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### 10. *Acentrogobius ornatus*

1. No pore either in interobital or behind eye.
2. First dorsal obtuse, II & III rays the largest.

<table>
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<tr>
<th>Dorsal</th>
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<th>Pectoral</th>
<th>Caudal</th>
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<tr>
<td>D.1. VI; D.2. 1/10-11</td>
<td>A. 1/8-9; P.19-20; L.tr. 8-9</td>
<td>Predorsal</td>
<td>Predorsal</td>
</tr>
</tbody>
</table>

- a) Green above lighter below.
- b) Head laterally with yellowish spot.
- c) Dorsal half of head and body with violet spots alternating with yellowish streaks in oblique series.
- a) Oliveaceous.
- b) Rocky Beaches: Mahim, Bandstand Bandra, Varsava, Thana.

### 11. *Acentrogobius reicheli*

1. Below eye an oblique band of mucous canals—broad band, bordered by two stronger developed canals run longitudinally over cheek.
2. Pectoral obtuse, without free silky rays.

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<th>Pectoral</th>
<th>Caudal</th>
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<tr>
<td>D.1 VI; D.2. 1/8; P.16; L.tr. 7-8; Predorsals 12</td>
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</table>

- a) Green above, lighter below.
- b) Laterally on back many small oliveaceous spots, in the middle of sides 5 larger spots.
- c) Dark spot on upper part of base of pectoral with a stripe on lower part of it.
- a) Deep green with violet stripe from eye to chin.
- b) Fins yellowish.
- c) Rays of II dorsal, pectoral & caudal spotted.
- Rocky Beaches: Colaba, Cuff-parade, Worli, Danda Madh.

### 12. *Oligolepis acutipennis*

1. A single mucous canal from posterior nostril, divided into 2 branches.
2. Head and nape naked.
4. Dark spot on the base of pectoral.

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<th>Caudal</th>
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<tr>
<td>D.1 VI; D.2. 1/10-11; A.1/10-11; P.20</td>
<td>L.tr. 7-8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- a) Yellowish.
- b) From eye to maxillary an oblique violet streak.
- c) Five large dark spots, alternate with five transverse strips.
- d) Membrane of dorsal fins and caudal with rows of dark spots.
- a) Head & back with black spots.
- b) Reddish.
- c) Ventral

Algal waters; Beach Candy, Hazi Ali, Doodhi Beach, Thana.
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<tr>
<td>13. Oligolepis cylindraceps</td>
<td>1. Two longitudinal mucous canals over cheek. 2. Cheek and opercle naked. 3. Caudal oblong. 4. On head round dark spots. 5. First dorsal with minute black spots, with heavy black markings between IV &amp; V ray.</td>
<td>D.1 VI; D.2. 1/9; A.1/9; L. tr. 5.</td>
<td>a) Yellowish with 7-11 vertical bands. b) A number of black spots along middle sides.</td>
<td>Head dusky.</td>
<td>Back waters: Mahim, Thana.</td>
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<td><strong>15. Quisquillus eugenius</strong></td>
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<tr>
<td><strong>1.</strong> Tongue bilobiate.</td>
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<tr>
<td><strong>2.</strong> Twelve transverse bands on body with VI, VIII and IX extending upwards on dorsal fins.</td>
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<td><strong>3.</strong> Dorsal fins close together.</td>
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<tr>
<td><strong>D.1: VI; D.2: I/10-11; A. I/8-9; P.18-19</strong></td>
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<tr>
<td>a) Yellowish. b) Head and body dotted with small black spots. c) Dorsal fins &amp; caudal with minute spots.</td>
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<td><strong>Intertidal pools: Ali-bag, Colaba, Beach Candy, Bandra Bandstand.</strong></td>
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<th><strong>16. Glossogobius biocellatus</strong></th>
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<tbody>
<tr>
<td><strong>1.</strong> Iris of the eye with a process in pupil.</td>
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<tr>
<td><strong>2.</strong> First dorsal with 2 ocelli.</td>
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<tr>
<td><strong>3.</strong> A crest from snout to temporal.</td>
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<tr>
<td><strong>4.</strong> Caudal rounded.</td>
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<tr>
<td><strong>5.</strong> Fins bluish to orange.</td>
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<tr>
<td><strong>D.1: VI; D.2: I/9; A. I/8; P. 17-19; L. tr. 7-8; Pre-dorsal scales 14-17.</strong></td>
</tr>
<tr>
<td>a) Greenish black. b) Body with shiny green spots and 5-6 larger blotches alternating. c) Pectoral with dark spot above the base.</td>
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<td><strong>Intertidal pools: Mahim &amp; Versova.</strong></td>
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<th><strong>17. Glossogobius giruris</strong></th>
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<tr>
<td><strong>1.</strong> Iris without process in pupil.</td>
</tr>
<tr>
<td><strong>2.</strong> First dorsal with one or without spot.</td>
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<tr>
<td><strong>3.</strong> Caudal oblong.</td>
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<td><strong>4.</strong> Fins yellowish green.</td>
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<tr>
<td><strong>D.1: VI; D.2: I/8-9; A. I/7-8; P. 17-21; L. tr. 8-14; Pre-dorsal scales 12-30.</strong></td>
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<tr>
<td>a) Olive green lighter below. b) Head with irregular dark to violet spots. c) Alternating bands with 4-6 dark blotches.</td>
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<tr>
<td><strong>Intertidal pools: Mahim, Versova.</strong></td>
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<td>Genera &amp; Species</td>
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<tr>
<td>18. <em>Stigmogobius javanicus</em></td>
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<td>19. <em>Ctenogobius criniger</em></td>
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<td>Species</td>
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REFERENCES


DAY, F. 1967. Fishes of India, Fish 1 and 2: 1889.


