

ON THE SYSTEMATICS AND IDENTITY OF FOUR PELAGIC  
SHARKS OF THE FAMILY CARCHARHINIDAE  
FROM INDIAN REGION

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ABSTRACT

Four species of pelagic sharks of the family Carcharhinidae belonging to the genera *Scoliodon*, *Loxodon* and *Rhizoprionodon* viz., *Scoliodon laticaudus* Muller and Henle, *Loxodon macrorhinus* Muller and Henle, *Rhizoprionodon (Rhizoprionodon) acutus* Ruppell and *Rhizoprionodon (Protozygaena) oligolinx* Springer which constitute a good fishery along the west and southeast coasts of India are described. Since there is confusion about the systematic position and identity of these species, an attempt is made to give detailed description of all the four species collected from different centres of both the coasts.

INTRODUCTION

Although *Scoliodon*, *Loxodon* and *Rhizoprionodon* have been recognised as separate genera under the family Carcharhinidae by Muller and Henle (1841), Garman (1913), Whitley (1929), Fowler (1941) and Bigelow and Schroeder (1948), sharks belonging to these genera have been till recently included by some authors either under the subgenus *Scoliodon* of genus *Carcharias* (Gunther, 1870; Day, 1878) or under the genus *Scoliodon* (Setna and Sarangdhar, 1946, 1949; Misra, 1947, 1959) based on common characters such as the presence of oblique teeth with smooth cusps and the labial furrows in the corner of the mouth. *Scoliodon sorrakowah* (Cuvier), *S. acutus* (Setna and Sarangdhar), *S. palasorrah* (Cuvier) and *S. walbeehmi* (Bleeker) are the four species of *Scoliodon* frequently mentioned as occurring in Indian waters. Gunther (1870) and Day (1878) have described three species from Indian coasts under the subgenus *Scoliodon* of the genus *Carcharias*, while Setna and Sarangdhar (1946) dealt with all the four species under the genus *Scoliodon* based on the teeth structure. Misra (1947, 1959) has also listed three species of *Scoliodon* from Indian waters viz., *Scoliodon sorrakowah*, *Scoliodon walbeehmi* and *Scoliodon palasorrah*.

Recently Springer (1964) has made a taxonomic revision of the carcharhinid genera *Scoliodon*, *Loxodon* and *Rhizoprionodon* and dealt with diagnostic characters of species belonging to the three genera. The genus *Scoliodon* is characterised by the posterior tip of first dorsal fin extending to or beyond the

middle of pelvic fin base and both the tip and inner corner of pectoral fin being well in advance of the level of the origin of first dorsal. In *Loxodon* the tip of posterior margin of first dorsal fin does not reach beyond the level of pelvic origin, hyomandibular pores usually do not form a discrete enlarged series on either side of the corner of the mouth and the pores are frequently not distinguishable. The diagnostic features of *Rhizoprionodon* are the pectoral fin origin in between the third and fourth gill opening, enlarged hyomandibular pores forming a distinct series on the outer side of each corner of the mouth and labial furrow on upper jaw being usually well developed. Based on Springer's revision four species viz., *Scoliodon laticaudus* Muller and Henle, *Loxodon macrorhynchus* Muller and Henle, *Rhizoprionodon (Rhizoprionodon) acutus* Ruppell and *Rhizoprionodon (Protozygaena) oligolinx* Springer have been recognised from Indian waters. The systematics, identity, synonyms, diagnostic characters and distribution of the four species of sharks which contribute to the commercial fishery along the west coast and Gulf of Mannar are dealt with in this paper.

The total length of specimens, measurements of the different parts of the body and mean percentage of measurements of body parts in total length of the four species of sharks are given in Tables 1 and 2.

*Scoliodon laticaudus* Muller and Henle  
(Fig. I A — F)

"Pala Sorra"	Russell, 1803:9
<i>Carcharias (Scoliodon) laticaudus</i>	Muller and Henle, 1841:28 (India)
<i>Carcharias (Physodon) mulleri</i>	Valenciennes in Muller and Henle, 1841:30 (Bengal)
<i>Carcharias (Scoliodon) macrorhynchus</i>	Bleeker, 1852:31
<i>Carcharias palasorra</i>	Bleeker, 1853:9 (Coromandel)
<i>Carcharias laticaudus</i>	Gunther, 1870:358; Day, 1878:712; Day, 1889:9; Sorely, 1933:159 (India)
<i>Scoliodon sorrakowah</i>	Garman, 1913:36 (Singapore); Thilayampalam, 1928:8 (India); Fowler, 1941:140; Setna and Sarangdhar 1946:251; Misra, 1947:14-15 (India)
<i>Carcharias laticaudatus</i>	Llyod, 1907:220; Pillay, 1929:350 (Travancore)
<i>Scoliodon laticaudus</i>	Springer, 1964:574

Distance from snout-tip to eye 7.6-9.4, snout-tip to pectoral origin 22.1-25.1, internarial distance 5.3 to 6.5, mouth width 5.6-6.6, mouth length 4.6-5.6, head length 16.9-19.7, lower labial furrow length 0.8-1.3, horizontal diameter of eye 1.3-1.8, predorsal distance 35.1-38.7, pectoral length 10.5-12.2, pectoral base length 5.1-6.2 length of first dorsal base 8.5-9.9, anal base length 7.8-8.4 and length of upper caudal lobe 19.7-24.2 in per cent of total length.

TABLE 1.

Total length (mm)	<i>Scotiodon laticaudus</i>											<i>Loxodon macrorhinus</i>						
	528	571	465	526	339	393	331	549	502	535	Mean	413	781	765	750	446	455	Mean
Sex	F	F	M	M	M	F	M	F	F	F	%	M	F	F	M	F	F	%
Snout-tip to anterior margin of eye	48	49	38	40	31	37	28	47	43	45	8.6	32	63	56	56	33	35	7.6
Snout-tip to pectoral origin	121	137	104	117	80	98	80	127	115	118	23.2	83	165	150	145	89	91	20.0
Internarial distance	30	33	25	28	22	24	19	31	27	29	5.7	22	42	39	39	24	23	5.2
Mouth width	31	38	26	31	20	24	21	32	30	32	6.0	20	45	43	42	23	24	5.4
Mouth height	24	26	21	26	19	20	17	28	24	25	4.9	18	38	27	27	18	19	4.1
Head length	99	107	81	89	67	77	63	98	86	91	18.2	74	132	127	124	78	77	17.0
Lower labial furrow length	7	6	5	5	4	5	4	6	4	5	1.1	2.6	5	7	6	—	—	0.8
Horizontal diameter of eye	8	10	7	7	6	7	6	10	7	9	1.6	14	21	19	19	14	15	2.9
Predorsal distance	196	215	169	190	124	152	125	210	184	188	37.0	139	258	251	248	132	135	31.2
Pectoral base length	27	30	26	27	19	21	17	33	31	31	5.5	16	33	34	31	17	18	4.1
Length of pectoral	60	70	49	59	38	43	36	63	56	60	11.2	51	99	96	89	55	55	12.3
1st dorsal base length	48	55	41	47	29	39	30	50	44	47	9.1	27	56	54	56	31	32	7.0
Anal base length	37	44	36	43	28	32	28	39	40	40	7.8	18	32	35	34	16	16	4.1
Length of upper caudal lobe	125	132	107	123	81	91	76	133	99	127	23.1	136	212	204	200	142	146	29.5
Clasper length	—	—	46	53	20	—	32	—	—	—	8.9	19	—	—	61	—	—	6.3

M = Male; F = Female.

TABLE 2.

Total length (mm)	<i>Rhizoprionodon acutus</i>											<i>Rhizoprionodon oligolinx</i>										
	788	508	437	850	875	810	335	492	433	528	Mean	571	596	627	600	668	443	408	485	640	530	Mean
Sex	M	M	F	F	F	M	M	M	F	F	%	F	M	F	M	F	M	F	M	F	M	%
Snout-tip to anterior margin of eye	55	41	34	55	59	56	26	37	32	40	7.3	39	41	47	38	42	31	31	39	43	36	7.0
Snout-tip to pectoral origin	172	113	100	174	180	168	74	108	96	118	21.7	117	123	126	125	140	100	87	127	132	109	21.4
Internarial distance	36	25	22	38	41	36	17	24	20	26	4.7	26	26	27	25	28	21	19	25	27	23	4.5
Mouth width	56	31	29	55	52	48	25	31	27	33	6.4	38	39	41	39	40	29	26	37	39	31	6.5
Mouth height	34	23	19	38	39	34	16	21	20	24	4.4	25	29	31	23	30	21	19	28	30	26	4.7
Head length	144	100	84	155	163	153	64	93	82	98	18.8	101	108	110	107	121	82	76	107	114	93	18.4
Length of upper labial furrow	14	9	8	18	15	15	3	8	4	8	1.6	2	—	3	—	4	—	4	—	3	—	0.6
Length of lower labial furrow	11	10	7	15	15	10	4	9	7	9	1.6	8	8	10	9	9	4	6	8	7	6	1.3
Horizontal diameter of eye	16	13	11	20	20	16	9	13	10	7	2.3	11	12	12	12	12	10	9	11	12	12	2.0
Pectoral base length	39	23	22	46	46	36	17	23	24	22	4.9	29	31	42	31	36	21	21	31	35	26	5.4
Pectoral length	104	65	54	120	119	106	43	65	56	66	13.1	69	71	81	67	87	53	51	71	87	63	12.6
1st dorsal base length	75	43	39	74	80	79	35	43	43	47	9.2	58	62	65	62	73	43	43	62	66	51	10.5
Anal base length	36	24	20	34	40	32	16	23	20	19	4.7	23	25	29	26	29	21	18	27	31	26	4.6
Length of upper caudal lobe	202	137	118	203	215	205	86	134	114	143	25.9	150	146	160	150	167	119	110	149	163	142	26.3
Clasper length	61	13	—	—	—	83	9	13	—	—	5.2	—	44	—	47	—	15	—	49	—	40	7.2

M = Male; F = Female.

Head long and depressed, snout pointed, elongate and tapering from the eye, hyomandibular pores absent, labial furrow short and present only in the lower jaw; nostrils nearer to the mouth than to the tip of snout, length of snout equal to or little more than the distance from eye to the first gill slit, posterior margin of the first dorsal fin extending behind the origin of pelvic base, almost reaching the middle of pelvic fin; origin of pectoral fin below or slightly in advance of the level of the fifth gill opening, outer and inner corners of pectoral fin are in advance of the origin of first dorsal fin; origin of second dorsal just above the posterior third of anal base, which is more than double that of second dorsal base and equals to its distance from the ventrals. Trunk laterally compressed in the posterior region of body.

Dermal denticles three-ridged and tridentate, scales intricate with quadrangular base.

Teeth  $\frac{12-1-12}{12-12}$  to  $\frac{15-1-15}{15-15}$ . Upper jaw with a median straight tooth, all

teeth in lower jaw with a basal notch and the cusp oblique and smooth; lower jaw has no median tooth, in both the jaws all teeth except the median are with smooth oblique cusps and teeth tend to decrease in size posteriorly.

Total vertebrae 148-171 (Springer, 1964). Centra short in the monospondylous region.

Body colour pale greyish brown above, dull white at the sides; fins darker than the body.

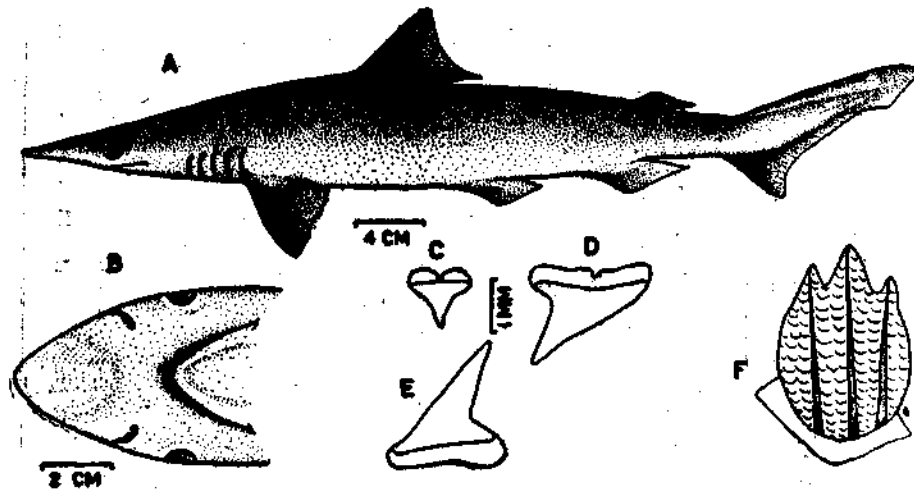


FIG. 1. *Scoliodon laticaudus*.

- A. left side; B. underside of head; C. upper median tooth;  
D. upper lateral tooth; E. lower lateral tooth;  
F. Placoid scale.

Embryos of this species have long flattened appendicula which are not closely packed; appendicula much elongated and forked at their distal end.

Small sharks, ranging in total length from 331-571 mm. The largest specimen collected is 581 mm (Springer, 1964).

*Remarks:* *Carcharias laticaudus* (Gunther, 1870; Day, 1889), *Scoliodon sorrakowah* (Garman, 1913; Thillayampalam, 1928; Fowler, 1941; Setna and Sarangdhar, 1946 and Misra, 1947) and *Carcharias laticaudatus* (Llyod, 1907) are all synonyms of *Scoliodon laticaudus* Muller and Henle, since their descriptions agree with that of the latter. Fowler (1941) has treated all of them under *Scoliodon sorrakowah*.

*Material:* Bombay (7:528 mm, male; 571 mm, female; 465 mm, male; 526 mm, male; 339 mm, female; 393 mm, male; 331 mm, male). Quilon (1:549 mm, female) and Pamban (2:502 mm, female; 535 mm, female).

*Distribution:* India, Ceylon, Singapore, Gulf of Thailand, Java, East Indian Archipelago, China and Japan.

*Loxodon macrorhinus* Muller and Henle

(Fig. 2A — G)

<i>Loxodon macrorhinus</i>	Muller and Henle, 1841:61, pl. 25 (Locality not known); Dumerill, 1865:395 (Compiled); Gunther, 1891:510; Garman, 1913:107 (Mauritius), Wheeler, 1959:106-107 (Zanzibar); Gohar and Mazhar, 1964:33-36 (Red Sea); Springer, 1964:583-589 (Philippines).
<i>Carcharias (Scoliodon) dumerilli</i>	Bleeker, 1856:70 (Amboina)
<i>Scoliodon jordani</i>	Ogilby, 1908:88 (Queensland)
<i>Scoliodon affinis</i>	Ogilby, 1912:29 (Queensland)
<i>Scoliodon ceylonensis</i>	Setna and Sarangdhar, 1946:252 (Bombay)
<i>Scoliodon acutus</i>	Setna and Sarangdhar, 1949:125 (Bombay)

Distance from snout-tip to anterior margin of eye 7.3-8.1, snout-tip to origin of pectoral 19.3-21.1, internarial distance (5.11-5.4) mouth width 4.8-5.8, mouth length 3.5-4.9, head length 16.5-17.9, lower labial furrow 0.6-0.9, horizontal diameter of eye 2.4-3.4, predorsal distance 29.6-33.7, length of pectoral 11.9-12.7, pectoral base 3.9-4.4, first dorsal base 6.5-7.5, anal base 3.5-4.1 and caudal upper lobe 26.7-32.9 in per cent of total length.

Head long and pointed, hyomandibular pores not distinct; labial furrow confined to the corner of mouth, often short and present only in the lower jaw; a small spiracle present behind the eye at a distance equal to half the diameter of the eye, spiracle more distinct in embryos than in adults, a characteristic

shallow notch is present in the posterior rim of the orbit. Diameter of eye double that of nostril length, width of mouth greater than the length of mouth; posterior margin of first dorsal nearest to the origin of pelvic; pectoral appressed to the side of the body, reaches only to the origin of first dorsal base; pectoral origin in between the third and fourth gill openings. Second dorsal origin above or slightly in advance of the end of anal base and its basal length is half that of anal; anal origin nearer to the lower caudal pit than to the origin of pelvic; pelvic origin nearer to the hind end of first dorsal base than to the origin of anal.

Dermal denticles imbricate with three ridges and three to four teeth; basal plate quadrangular with sharp or somewhat rounded angles.

Teeth  $\frac{12-1-12}{12-1-12 \text{ to } 13-0-13}$ . Upper median tooth with straight cusp; teeth

bases with distinct notch, all except the median teeth are oblique and smooth in upper jaw; first tooth on either side of middle of lower jaw erect; teeth tend to decrease towards the posterior side of the jaws. Lower jaw has all smooth teeth.

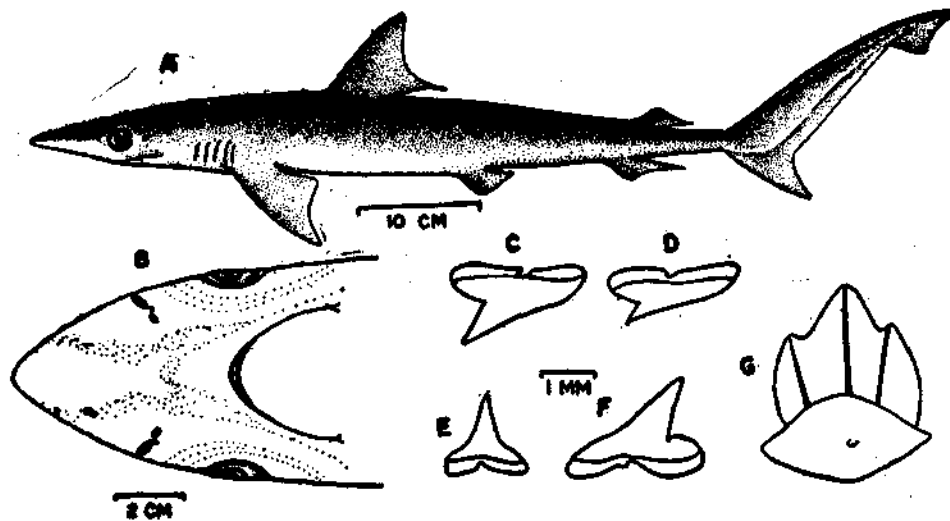


FIG. 2. *Loxodon macrorhinus*.

A. left side; B. underside of head; C. upper median tooth;  
D. upper lateral tooth; E. lower median tooth;  
F. lower lateral tooth; G. Placoid scale.

Fresh fish greyish brown along the dorsal side of the body and the colour fades towards the sides to become white ventrally; posterior margin of upper caudal lobe black.

Embryos of this species have fleshy ribbon-like lobes as outpushings from the placental cord corresponding to the appendicula of other species. These fleshy lobes are seen enlarged towards the yolk end of the cord and in advanced stages these outpushings tend to become much flattened and thin.

*Remarks:* The small spiracles present in the embryo and a prominent notch at the posterior rim of the orbit in the adult are the diagnostic characters of this species. The presence of well developed labial furrow and the structure of the placental cord of *Scoliodon acutus* of Setna and Sarangdhar (1949) fully agree with those of *L. macrorhinus*. Though Setna and Sarangdhar (1949) have reported this species as uncommon in Indian waters, the present study shows that they form a regular fishery at Tuticorin and are occasionally caught at Pamban on the south east coast of India and at Quilon and Vizhinjam on the south west coast of India.

*Material:* Pamban (5:413 mm, male; (embryo); 446 mm, female (embryo); 455 mm, female (embryo); 765 mm, female (pregnant); 750 mm, (male). Tuticorin (1:781 mm, female).

*Distribution:* Mauritius, Zanzibar, Seychelles, Red Sea, India, Amboina, Philippines, Formosa and Japan.

*Rhizoprionodon (Rhizoprionodon) acutus* (Ruppell)

(Fig. 3A — F)

"Sorra Kowah"	Russell, 1803:9, Fig. 15.
<i>Carcharias acutus</i>	Ruppell, 1835:65, pl. 18, Fig. 4.
<i>Carcharias sorkakowah</i>	Bleeker, 1853:9 (Vizagapatnam)
<i>Carcharias (Scoliodon) walbeehmi</i>	Bleeker, 1853:253 (Bintang)
<i>Carcharias walbeehmii</i>	Day, 1878:712 (India, Malaya and Japan)
<i>Carcharias (Scoliodon) crenidens</i>	Klunzinger, 1879:426 (Queensland)
<i>Scoliodon longimani</i>	Ogilby, 1912:116 (Morten Bay).
<i>Scoliodon walbeehmi</i>	Garman, 1913:112 (Singapore, Colombo; Penang); Thillayampalam, 1928:8 (India); Herre, 1941:332; Setna and Sarangdhar, 1946:252; Misra, 1947:15 (India); Gohar and Mazhar, 1964:48-51 (Red Sea).
<i>Carcharias eumeces</i>	Pietschmann, 1913:173 (Bibundi)
<i>Scoliodon vagatus</i>	Garman, 1913:116 (Zanzibar)
<i>Carcharias walbeehmi</i>	Pillay, 1929:350 (Travancore)
<i>Scoliodon walbeehmii</i>	Fowler, 1941:134-137 (Manila)
<i>Rhizoprionodon</i>	
<i>(Rhizoprionodon) acutus</i>	Springer, 1964:559-632.



Distance from snout-tip to anterior margin of eye 6.4-8.1, snout-tip to pectoral origin 20.5-22.9, internarial distance 4.5-5.1, mouth width 5.9-7.5, mouth length 4.2-4.8, head length 18.2-19.7, length of upper labial furrow 0.9-2.1, lower labial furrow 1.2-1.9, horizontal diameter of eye 1.3-2.6, pectoral length 12.4-14.1, length of pectoral base 4.2-5.4, length of first dorsal base 8.5-10.4, length of anal base 3.6-4.8 and length of upper caudal lobe 23.9-27.2 in per cent of total length.

Body elongate with pointed head; hyomandibular pores prominent, often more than sixteen in both the jaws; labial furrows well developed, lower shorter than the upper; internarial distance equal to that of nostrils to tip of snout, diameter of eye greater than the length of upper labial furrow and equal to the length of first gill opening; origin of first dorsal fin slightly in advance of the appressed pectoral inner corner, outer corner of pectoral reaches middle or a little behind the middle of first dorsal base, second dorsal origin above posterior third of anal base, pelvic origin nearer to the hind end of first dorsal base than to the origin of anal; posterior extension of first dorsal, second dorsal and anal tapering.

Dermal denticles five ridged; imbricate with fine teeth, basal plate quadrangular.

Teeth  $\frac{11-1-11}{11-11}$  to  $\frac{13-1-13}{12-12}$ . Cusps of median teeth serrulate, all other

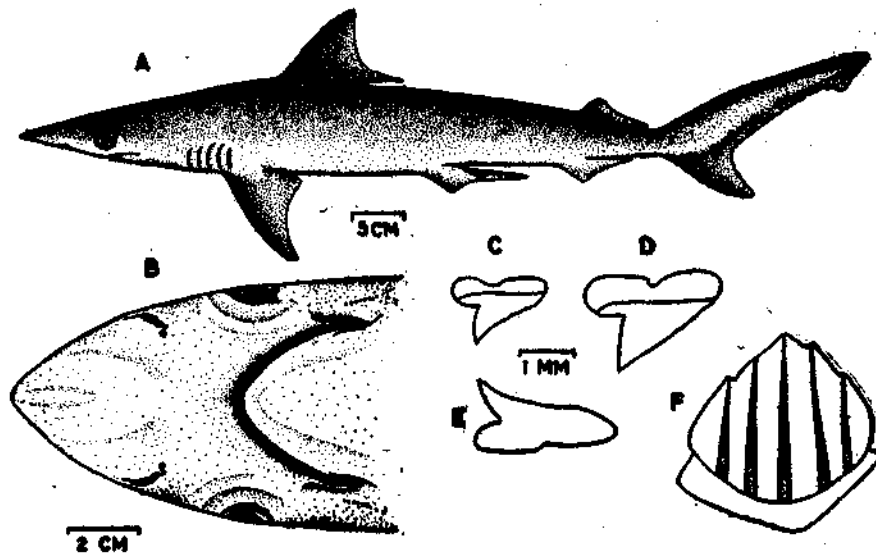


FIG. 3. *Rhizoprionodon acutus*.

A. left side; B. underside of head; C. upper median tooth;  
D. upper lateral tooth; E. lower lateral tooth;  
F. Placoid scale.

teeth smooth and oblique, lower middle teeth faintly serrulated, the size tends to decrease posteriorly in both the jaws.

Total vertebrae vary from 121-162 (Springer, 1964). Precaudal centra elongate in the posterior monospondylous region.

Colouration slimy grey dorsally and white ventrally, fins dark with light margin, upper caudal margin black.

Embryos of this species have closely packed short appendicula, each branch of the appendicula broad at its proximal end and narrow at the distal end, appendicula round in cross section.

*Remarks:* The earlier descriptions of *Scoliodon walbeehmi* by Garman 1913; Thillayampalam, 1928; Herre, 1941; Setna and Sarangdhar, 1946; Misra, 1947; Gohar and Mazhar, 1964, *Carcharias walbeehmi* by Pillay, 1928 and *Scoliodon walbeehmii* by Fowler, 1941 agree with the description of *R. acutus* and therefore they are treated as junior synonyms. There is complete agreement in the arrangement of teeth and also in the nature of labial furrow.

*Rhizoprionodon (Rhizoprionodon) acutus* is differentiated from *Scoliodon* and *Loxodon* by the presence of a long and prominent labial furrow in both the jaws. This species is placed in the subgenus *Rhizoprionodon* owing to the presence of elongate precaudal monospondylous centra and a well developed upper labial furrow. In the other subgenus *Protozygaena* all the species possess scarcely elongate centra in monospondylous region and short labial furrow as noticed in *Rhizoprionodon (Protozygaena) oligolinx*.

*Material:* Pamban (5:875 mm, female; 788 mm, male; 810 mm, male; 850 mm, female; 437 mm, female). Kilakarai (5:335 mm, male, 433 mm, male; 492 mm, male; 508 mm, male; 528 mm, female).

*Distribution:* West and east of Africa, Madagascar, Gulf of Aden, Red Sea, Gulf of Oman, India, Thailand, Malaya, Queensland, Australia, Philippines, and Japan.

*Rhizoprionodon (Protozygaena) oligolinx* Springer.

(Fig. 4A — F)

*Rhizoprionodon (Protozygaena) oligolinx* Springer, 1964:621 (Thailand)

Distance from snout-tip to anterior margin of eye 6.3-8.0, snout-tip to pectoral origin 20.1-26.2, internarial distance 4.2-5.2, mouth width 5.8-7.6, mouth length 3.8-5.8, head length 17.5-22.1, upper labial furrow 0.4-1.0, lower labial furrow 0.9-1.6, horizontal diameter of eye 1.8-2.3, pectoral length 11.2-14.6, pectoral base 4.9-6.7, length of first dorsal base 9.6-12.8, length of anal base 4.0-5.6, and length of upper caudal lobe 24.5-30.7 in per cent of total length.

Snout pointed, upper labial furrow poorly developed, lower short and confined to the corner of the mouth; hyomandibular pores less than 16 in both the jaws; diameter of eye equal to the length of first gill opening; pectoral appressed to the side of the body reaches anterior one third of first dorsal base; pectoral origin in between third and fourth gill openings; second dorsal origin just in advance of anal axil and its base is half that of anal base; anal origin nearer to the lower caudal pit than to the pelvic origin.

Dermal denticles five ridged with corresponding teeth, basal plate quadrangular with angles rounded, teeth of denticles much pointed and sharp; scales imbricate.

Teeth  $\frac{11-1-11}{11-11}$  to  $\frac{12-1-12}{12-12}$ . Upper median teeth straight and smooth, all

other teeth oblique; lower jaw without a median tooth, bases of each cusp with prominent notch. In mature males the anterior two to three rows of teeth of lower jaw are highly oblique.

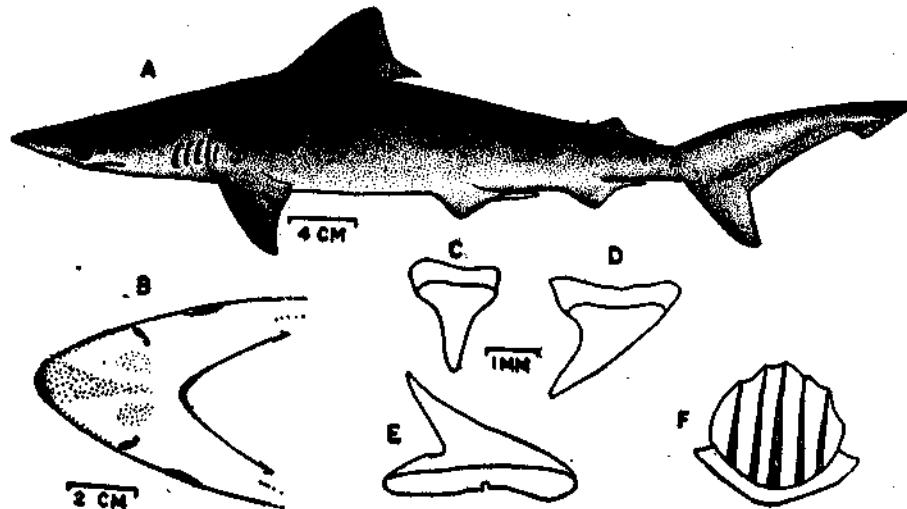


FIG. 4. *Rhizoprionodon oligolinx*.

A. left side; B. underside of head; C. upper median tooth;  
D. upper lateral tooth; E. lower lateral tooth;  
F. Placoid scale.

Vertebral number varies from 151-162 (Springer, 1964); precaudal monospondylous vertebrae not elongate.

Colouration dorsally grey in fresh material, gradually fades towards the ventral side, belly whitish; fins yellowish especially pectorals, upper caudal margin black.

Embryos with closely packed appendicula, which are highly branched; branches long and flattened, each branch swollen at the terminal end.

*Remarks:* Springer (1964) assigned this species to the subgenus *Protozygaena* based on the lesser number of teeth, short labial furrow, precaudal monospondylous vertebrae with short centra, more precaudal vertebrae than caudal and males maturing at less than 600 mm length. According to him *Rhizoprionodon (Protozygaena) oligolinx* has been frequently described as *Scoliodon palasorrah*, which he designates as a junior synonym of *Scoliodon laticaudus*. Descriptions of *Scoliodon palasorrah* by Thillayampalam (1928) Setna and Sarangdhar (1946) and Misra (1959) completely agree with those of *Rhizoprionodon oligolinx* given by Springer (1964). Therefore, the description of *Scoliodon palasorrah* from Indian waters is referable to *Rhizoprionodon (Protozygaena) oligolinx*.

*Material:* Pamban (3:571 mm, female; 596 mm, male; 627 mm, female). Kilakarai (7:408 mm, male; 443 mm, male; 485 mm, male; 600 mm, female; 640 mm, female; 668 mm, female; 530 mm, male).

*Distribution:* Persian Gulf, Gulf of Thailand, India, Ceylon, Malaya, Sumatra, Madura Straits, Japan, East Indian Archipelago.

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