

**PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON**

A REPLACEMENT NAME FOR TANGIA CHAN (PISCES:
PERCIFORMES: LUTJANIDAE) WITH REDESCRIP-
TIONS OF THE GENUS AND TYPE-SPECIES

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Chan (1970) described a new lutjanid genus and species, *Tangia carnolabrum*, from specimens collected in the South China Sea. Since the publication of Chan's paper, material of that genus, obtained from the Philippine Islands and the Arabian Sea off Quilon (Kerala State), India, has been examined and compared with specimens of *carnolabrum* from the South China Sea. In view of the close agreement in meristic characters and overall morphology between the new material and that from the South China Sea, we conclude that all of the specimens of this genus examined are conspecific. Based on our studies of three of the paratypes and new material of *carnolabrum* and on the original descriptions, modified and updated descriptions of the genus and species and comments on relationships are presented. The name *Tangia* is preoccupied. Herein, we propose a replacement name.

The following abbreviations are used: BMNH, British Museum (Natural History), London; SIO, Scripps Institution of Oceanography, University of California, San Diego; USNM, U.S. National Museum of Natural History, Washington, D.C.; and ZSI, Zoological Survey of India, Calcutta.

Lipocheilus, new name

Tangia Chan, 1970:19–20 (type-species *Tangia carnolabrum* Chan, 1970, by original designation). Preoccupied by *Tangia* Stål, 1859, a genus of Hemiptera.

Description: Mouth nearly horizontal, terminal. Jaws almost equal in length. Lower jaw exceeded anteriorly by upper when mouth closed. Anterior end of upper lip of adults with thick, fleshy protrusion (Chan, 1970:23, pl. 1). Premaxillaries protractile. Maxillary scaleless and without series of ridges. Two narial openings on each side, close to each other and to eye. Interorbital region transversely somewhat flattened to slightly convex. A rather blunt projection (spinous in some specimens) at posterior end of bony opercle, dorsal to this on opercle a rounded bony projection. Gill openings extending somewhat anterior to a vertical from anterior border of orbit. Gill arches four, a slit behind the fourth. Pseudobranchiae present. Dorsal fin continuous and not incised at junction of spiny and soft portions. Spines of dorsal and anal fins robust, extremely well developed in large adults. Last dorsal and anal soft rays not produced, shorter than penultimate rays. Pectoral fin long. Caudal fin forked, but lobes not produced into filaments. Scales ctenoid. Cheek, postorbital region, proximal concave border of preopercle, opercle, subopercle, and interopercle with scales. A patch of scales in temporal region separated from postorbital scales below and dorsolateral scales of body above by narrow naked areas running obliquely posteriorly and ventrally from scaleless interorbital region. Snout, preorbital, interorbital, narrow zone immediately ventral and posterior to eye, maxillary, lower jaw, most of preopercle, and gular region without scales. Dorsal and anal fins scaleless except a few scales basally at posterior end of each fin. Pelvic axillary process present. Pectoral and caudal fins scaly basally. Lateral line complete, sensory tubules simple. Pelvic-fin rays I,5. Principal caudal-fin rays 17 (9 + 8), procurent rays 11 dorsally and 11 ventrally. Branchiostegal rays 7 (2 articulating with epiphyal, 5 with oeratohyal, arranged in two groups—an anterior group of 3 inserting along ventral edge of hyoid arch and a posterior group of 4 inserting laterally on arch). Vertebrae 24 (10 precaudal + 14 caudal). Three predorsal bones, anterior neural spines, and anterior dorsal pterygiophores in "Lutjanus-configuration" (Heemstra, 1974:23, fig. 4). Other characters those of the single species.

Etymology: The name *Lipocheilus* is from the Greek (lipos, fat; *cheilos*, lip) referring to the fleshy protrusion of the upper lip of adults of this genus. The gender is masculine.

Lipocheilus carnolabrum (Chan)

Figure 1; Tables 1 and 2

Tangia carnolabrum Chan, 1970:20–23, 27–33, pl. 1, figs. 1–9c, tables 1 and 2 (original description and illustrations; holotype BMNH 1969.3.24.76, 378 mm SL; type-locality ca. 145 km southeast of Hong

Kong in the South China Sea). Senta and Tan, 1975:21 (Andaman Sea).

Description: Chan (1970:22–23, figs. 1–9c) presented a description and illustrations of the osteology. The variable meristic data and selected morphometric data are given in Tables 1 and 2. Differences evident in Table 1, particularly those for gillrakers, lateral-line scales, and caudal-peduncle scales, may signify geographic variation. The variations shown in Table 2 by certain morphometric characters are apparently in large part due to allometric growth.

Dorsal-fin rays X,10. Anal-fin rays III,8. Two dorsalmost and the ventralmost pectoral-fin rays unbranched, other rays of pectoral fin branched. Fleshy protrusion at anterior end of upper lip well developed in adults, apparently developing in juveniles. Posterior end of maxillary reaching vertical through middle of eye. Posterior border of anterior nostril with flap of tissue which when reflected reaching to or very near posterior narial opening. Anterior narial opening usually rounded. Posterior narial opening elliptical, in adults notably larger than anterior opening, quite narrow posteriorly (sometimes almost a slit). Posterior-most point of head reaching a vertical through at least base of first dorsal spine (in one juvenile extending as far posteriorly as vertical through base of fourth dorsal spine). Premaxillary with an inner band of very small, essentially villiform, teeth and an outer series of conical teeth, a few of these at anterior end of jaw enlarged as canines; symphysis toothless. No teeth at symphysis of dentaries, but each dentary with patch of small (essentially villiform) teeth near *symphysis*, this patch extending posteriorly for some distance along jaw in adults; jaw with series of conical teeth on side beginning some distance back from anterior end and extending to rear; near anterior end of dentary two to four (frequently well exerted) canine to canine-like teeth. Vomer and palatine with villiform teeth, those on vomer in chevron-shaped patch with apex directed anteriorly, those on palatine in narrow, antero-posteriorly oriented band. No teeth on tongue or pterygoids. Preopercle serrate but without a spine at angle; vertical limb with fine serrae; serrae larger at angle; horizontal limb with fine serrae posteriorly, almost smooth to smooth anteriorly. Preopercular notch absent to slightly developed in adults, absent in juveniles. Margins of interopercle and subopercle essentially smooth. Body compressed, fairly deep, resembling that of *Apsilus*. Pectoral fin long, falcate in adults, reaching a vertical through base of second anal spine or beyond to as far as a vertical through base of fifth anal soft ray. Pelvic fin reaching a point just short of vent to as far posteriorly as first anal spine. First pelvic soft ray slightly produced in one juvenile. Anal fin rounded anteriorly; somewhat angulated posteriorly in adults. Predorsal scales beginning over posterior part of orbit. Scale rows above and below lateral line parallel to it.

In alcohol, one juvenile (Fig. 1) showing ground color of head darker than that of body; body with five dark vertical bars (about as dark as

TABLE 1. Meristic data for *Lipocheilus carnolabrum*. Paratypes are denoted by an asterisk. Standard length is in mm. For bilateral counts, the left side is presented first.

Character	Arabian Sea				Philippine Islands	South China Sea			
	ZSI F 6569/2		ZSI F 7183/2		USNM 184520	USNM 203859*		SIO75- 409	
Standard length	111	113	208	218	285	438	440	450	445
Pectoral-fin rays	15, 16	15, 15	15, 16	16, 16	16, 16	16, 16	16, 16	16, 16	16, 16
Gillrakers (including rudiments):									
Upper limb	7, 7	6, 6	5, 6	6, 7	6, 6	6, 6	—, 7	6, 6	7, 6
Lower limb	14, 14	14, 14	13, 13	14, 14	13, 12	12, 13	—, 13	11, 13	12, 12
Total	21, 21	20, 20	18, 19	20, 21	19, 18	18, 19	—, 20	17, 19	19, 18
Tubed lateral-line scales	49, —	49, 50	51, 50	49, 50	51, 52	51, 51	51, 54	52, 52	53, —
Scales above lateral line	—, 10	—, ca. 9	ca. 9, ca. 9	ca. 10, ca. 10	ca. 10, 10	9, 9	—, ca. 9	ca. 9, —	9, —
Scales below lateral line	ca. 18, —	ca. 18, —	ca. 18, —	ca. 18, —	18, ca. 18	17, 18	17, —	18, —	18, 18
Cheek-scale rows	—, ca. 9	ca. 8, —	ca. 8, 8	ca. 9, ca. 9	9, —	8, 8	ca. 8, —	—, 8	8, —
Predorsal scales	ca. 17	ca. 18	ca. 16	ca. 18	ca. 18	18	16	ca. 19	18
Caudal-peduncle scales	27	27	26	26	27	ca. 27	28	29	ca. 28
Scale rows between lat. line & mid-dorsal fin	6.0, 6.0	ca. 6.0, —	ca. 6.5, —	ca. 6.5, —	7.0, 7.0	6.5, 6.5	6.5, 6.5	7.5, 7.5	6.5, 6.5

head)—one just posterior to opercle, one ventral to spiny dorsal fin, one ventral to soft dorsal fin, and two on caudal peduncle—all more prominent dorsally and dorsolaterally than ventrally (becoming almost imperceptible at midventral line). Bars for most part wider than interspaces; widest bar beneath spiny dorsal fin—at fin base extending from ca. fourth through tenth dorsal spine, but narrowing considerably below lateral line. Fins with a little dusky pigment, except pectorals mostly pale. Coloration of body and fins of adults directly after capture: yellow with tinge of brown on dorsum of head and anterior part of lips and silvery sheen on lower side of body (Chan, 1970:22–23, pl. 1). Preserved adults at larger sizes retaining no distinctive pattern of coloration, but two smaller adults (ZSI F 7183/2, 208–218 mm SL) showing three posteriormost vertical bars of juvenile pattern of coloration.

Distribution: Chan (1970) reported that *Lipocheilus carnolabrum* is a moderately common constituent of the long-line fishery on the continental shelf off south China. The holotype of *L. carnolabrum* (BMNH 1969.3.24.76) and four of the paratypes (BMNH 1969.3.24.75, 1969.3.24.77, 1969.3.24.78, and 1969.4.30.1) were collected in approximately the same area of the South China Sea as the paratypes (USNM 203859) examined by us, but at a shallower depth, 110 to 130 m (Chan, 1970). Chan (in litt., 29 January 1975) informed us that this species was fairly common in 1974 at Phuket, Thailand, on the Andaman Sea, and Senta and Tan (1975) reported it from the Andaman Sea in depths of 94 (94–110) to 130 (112–130) m. This species, then, is known from off the Philippine Islands and the South China, Andaman, and Arabian seas in depths of 94 (94–110) to 300 m.

Material examined: We examined nine specimens, 111–450 mm SL. PARATYPES: USNM 203859 (3 specimens, 438–450 mm SL); South China Sea, N. Vereker Bank, ca. 145 km southeast of Hong Kong; 130–145 m; captured by a Hong Kong long-liner over a bottom of dead shells and corals; obtained from Hong Kong Aberdeen Wholesale Fish Market, 26 May 1968. OTHER MATERIAL: USNM 184520 (1, 285 mm SL); Philippine Islands, Jolo Market; obtained by personnel from the ALBATROSS, 11 February 1908. SI075-409 (1, 445 mm SL); obtained from Hong Kong Aberdeen Wholesale Fish Market. ZSI F 6569/2 (2, 111–113 mm SL); Arabian Sea, off Quilon (Kerala State), India, Lat. 8°45'N, Long. 75°50'E; 300 m; coll. by trawl, P. K. Talwar, 3 March 1971. ZSI F 7183/2 (2, 208–218 mm SL); same locality as ZSI F 6569/2; coll. by trawl, P. K. Talwar, 12 March 1975.

DISTINGUISHING CHARACTERISTICS AND RELATIONSHIPS

Adult *Lipocheilus carnolabrum* can be distinguished readily from other lutjanids by the thick, fleshy protrusion at the anterior end of the upper lip. Both juveniles and adults of this species are recognizable by the following combination of characters: upper jaw extending anteriorly beyond lower with mouth closed, maxillary without scales and without series

TABLE 2. Morphometric data for *Lipocheilus carnolabrum*. Paratypes are denoted by an asterisk. Standard length is in mm; other measurements are in percentage of standard length.

Character	Arabian Sea				Philippine Islands	South China Sea			
	ZSI F 6569/2		ZSI F 7183/2		USNM 184520	USNM 203859*		SI075-409	
Standard length	111	113	208	218	285	438	440	450	445
Head, length	45.3	44.2	44.2	44.9	37.0	35.5	36.9	35.6	35.5
Snout, length	12.6	11.1	14.4	15.1	14.0	13.5	14.6	15.0	14.6
Fleshy orbit, horizontal diameter	11.9	11.1	10.8	10.3	8.5	8.0	7.9	6.8	6.6
Postorbital length of head	22.7	21.7	21.6	21.1	16.0	15.8	16.6	16.0	16.0
Interorbital, least bony width	7.9	8.8	9.1	8.7	8.0	9.1	9.4	9.3	9.0
Suborbital, least width	4.1	3.5	4.3	4.4	5.5	5.3	6.6	5.8	6.2
Upper jaw, length	18.1	17.7	18.0	17.4	16.9	15.7	16.9	17.5	16.8
Lower jaw, length	20.7	21.2	19.7	19.5	18.3	17.5	17.9	17.6	17.1
Cheek, length	13.4	13.7	15.4	14.2	10.9	10.5	10.8	10.1	10.2
Body, depth	41.3	39.8	42.3	39.0	38.4	38.9	39.5	39.3	38.2
Predorsal length	45.7	42.9	43.3	43.1	41.6	40.0	41.8	40.7	40.2
Prepectoral length	42.5	39.4	39.4	39.4	34.6	33.6	35.6	34.4	34.6
Prepelvic length	44.6	41.6	44.2	42.2	41.3	38.9	39.5	39.3	39.5
Preanal length	67.3	64.6	61.1	62.4	67.4	68.0	67.0	66.4	66.5
Caudal peduncle, length	19.5	20.4	19.2	22.9	22.2	22.3	21.5	21.7	20.6
Caudal peduncle, least depth	12.3	12.4	12.0	11.2	12.1	11.4	11.8	11.9	11.8
Dorsal base, length	46.3	46.0	47.6	46.3	47.4	47.9	48.9	48.4	49.2
Depressed dorsal fin, length	58.5	60.2	59.1	56.9	59.7	58.7	58.9	57.8	59.0
First dorsal spine, length	8.2	6.6	6.7	5.9	6.7	6.2	—	5.9	—
Third dorsal spine, length	17.2	13.7	14.4	13.8	—	14.4	16.8	16.0	14.9

TABLE 2, continued.

Character	Arabian Sea				Philippine Islands	South China Sea			
	ZSI F 6569/2		ZSI F 7183/2		USNM 184520	U S N M	2 0 3 8 5 9 *	SIO75-409	
Longest dorsal spine, length	18.0 (4th)	17.7 (4th)	15.4 (4th)	15.1 (4th)	17.6 (4th)	16.7 (6th)	18.2 (4th)	16.6 (4th)	16.5 (5th)
Last dorsal spine, length	13.7	11.9	11.5	11.9	13.8	12.5	13.1	12.4	13.0
First dorsal soft ray, length	ca. 14.6	13.7	12.9	14.2	14.5	13.2	13.8	13.6	13.7
Longest dorsal soft ray, length	16.2 (6th)	18.6 (5th)	15.4 (5th, 6th)	15.1 (5th, 6th)	—	14.9 (4th)	16.0 (4th)	15.2 (4th)	15.1 (4th)
Last dorsal soft ray, length	ca. 11.4	9.7	11.1	10.8	—	9.9	10.1	10.1	9.8
Anal base, length	16.9	16.8	16.8	15.6	16.8	17.0	17.7	16.6	16.7
Depressed anal fin, length	29.1	28.3	27.9	27.1	28.7	26.7	28.7	27.9	27.9
First anal spine, length	8.2	6.6	6.0	5.7	7.4	5.7	6.2	6.5	6.7
Second anal spine, length	13.2	12.4	10.8	10.6	11.1	9.6	9.9	9.6	10.1
Third anal spine, length	13.5	12.4	10.8	11.0	12.4	11.5	—	11.4	11.7
First anal soft ray, length	15.3	13.7	14.4	14.2	14.3	12.8	—	13.2	13.3
Longest anal soft ray, length	15.3 (1st)	13.7 (1st)	14.4 (1st)	14.7 (2nd)	14.3 (1st)	13.4 (2nd)	13.5 (2nd)	13.7 (2nd)	13.5 (2nd)
Last anal soft ray, length	—	11.9	10.8	10.6	11.6	10.2	10.5	10.8	10.7
Pectoral fin, length	—	30.9	—	36.7	36.2	34.2	36.3	32.7	33.6
Pelvic fin, length	26.4	23.4	23.1	22.9	24.7	22.4	24.8	23.0	23.1
Pelvic spine, length	15.3	13.3	13.5	13.3	15.5	14.1	14.6	13.6	14.2

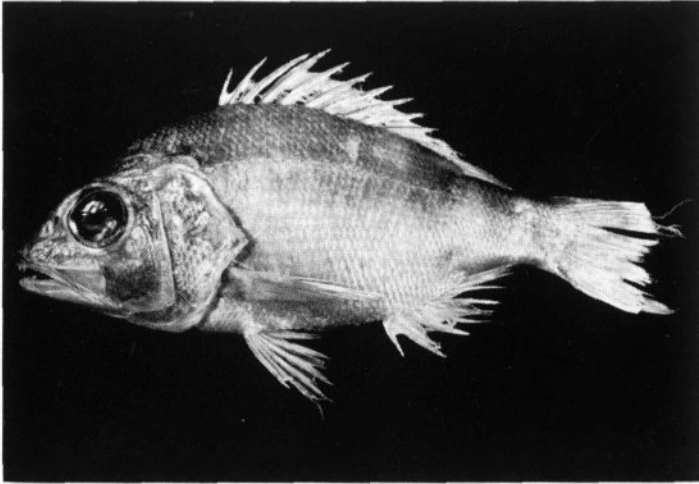


FIG. 1. Juvenile of *Lipocheilus carnolabrum* (Chan), ZSI F 6569/2, 111 mm SL (right side photographed, negative reversed during printing).

of longitudinal ridges, anterior and posterior nostrils close together and to eye, interorbital region transversely somewhat flattened to slightly convex, vomer and palatines with teeth, no teeth on tongue or pterygoids, no molariform teeth, dorsal fin continuous and not incised at junction of spiny and soft portions, dorsal and anal fins essentially scaleless, anterior soft rays of dorsal and anal fins not elongated, last dorsal and anal soft rays not produced—shorter than penultimate rays, dorsal-fin rays X,10, pectoral fin long, caudal fin forked but lobes not produced, adults mostly yellow, juveniles barred.

Chan (1970) considered *Lipocheilus* as an eteline lutjanid. Except for the fleshy protrusion of the upper lip, *Lipocheilus* closely resembles its relative, *Apsilus Valenciennes* which is known from the Indian Ocean, Red Sea, and both sides of the Atlantic. *Lipocheilus* and *Apsilus* together with the Indo-west Pacific *Paracaesto* Bleeker form a natural group which is intermediate in several respects to the Etelinae and Lutjaninae. This group shares with the etelines naked dorsal and anal fins, closely approximated nostrils, an ectopterygoid without a posterior extension, and high numbers of trisegmental pterygiophores and procurvent caudal rays, but also possesses a lutjanine type of neurocranium (without posterior frontal thickening forming a complete transverse ridge of demarcation anterior to the occipital region) and predorsal-bone configuration: and

¹ Two of eleven specimens examined of the western Atlantic species *Apsilus dentatus* Guichenot have the eteline configuration of predorsal bones (which is like that shown by Heemstra, 1974:23, fig. 4, except that the interdigitations of the predorsal bones and neural spines are altered so that the second and third predorsal bones are between the first and second neural spines).

like the lutjanines ultimate dorsal and anal soft rays which are shorter than the penultimate.

ACKNOWLEDGMENTS

Dr. S. Khera, Deputy Director-in-Charge, ZSI, encouraged this study. Shri M. C. Perumal, Director, Central Institute of Fisheries Operatives, Cochin, and Shri M. Devidas Menon, Director, Integrated Fisheries Project, Cochin, made available facilities aboard trawlers fishing in the Arabian Sea. Curators of the Division of Fishes, USNM, loaned us paratypes and provided space and facilities. Dr. W. L. Chan, Fisheries Research Station, Aberdeen, Hong Kong, furnished the specimen now deposited in the collections at SIO. Mr. B. M. Martin, Medical University of South Carolina, and Mr. James F. McKinney, USNM, made some of the radiographs used in this study. Mr. Joseph L. Russo, National Marine Fisheries, Systematics Laboratory, USNM, supplied Fig. 1. Mr. McKinney brought to our attention the preoccupation of the name *Tangia* and Dr. Chan very graciously allowed us to offer a replacement name. Drs. William R. Taylor and Stanley H. Weitzman (USNM) gave helpful comments on the manuscript.

This is contribution number 38 of the Grice Marine Biological Laboratory, College of Charleston.

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