

Literature: Feltes *in* Carpenter (2003).

Remarks: Although *Polydactylus oligodon*, originally described from Rio de Janeiro, Brazil and Jamaica on the basis of 2 specimens, had long been regarded as a junior synonym of *P. virginicus* by many authors, Randall (1966) recognized the former as valid and designated a lectotype for the species. Randall (1966) noted differences between *P. oligodon* and *P. virginicus* in the shape of the posterior margin of the maxilla, and certain meristic characters (including numbers of lateral-line scales, pectoral-fin rays and anal-fin rays) and proportional measurements (including length of anal-fin base). In particular, the rounded shape of the posterior margin of the maxilla has been subsequently treated as a diagnostic character for *P. oligodon* (versus truncate to concave in *P. virginicus*) in many publications (e.g. Randall *in* Fischer, 1978; Cervigón *in* Cervigón *et al.*, 1993; Randall, 1996). According to Feltes *in* Carpenter (2003) and confirmed by examination by the author, however, that character shows considerable individual variation and it is difficult to clearly distinguish between *P. oligodon* and *P. virginicus* on that basis.

Although *P. oligodon* and *P. virginicus* are very similar to each other and distinction between the 2 species in recent literature is somewhat confused, *P. oligodon* can be distinguished from the latter by the higher counts of pored lateral-line scales [67 to 73 (mode 70) versus 54 to 63 (mode 58) in the latter].

***Polydactylus opercularis* (Gill, 1863)**

Fig. 112; Plate IVb

Trichidion opercularis Gill, 1863: 168 (type locality: west coast of Central America, probably Cape San Lucas, Baja California, Mexico; holotype apparently lost, see Motomura, Kimura and Iwatsuki, 2002).

Synonyms: *Polynemus melanopoma* Günther, 1864: 148 [type locality: San José, Guatemala; holotype (BMNH 1864.1.26.321, 263 mm standard length)].

FAO Names: En - Yellow bobo; Fr - Barbure jaune; Sp - Barbudo amarillo.

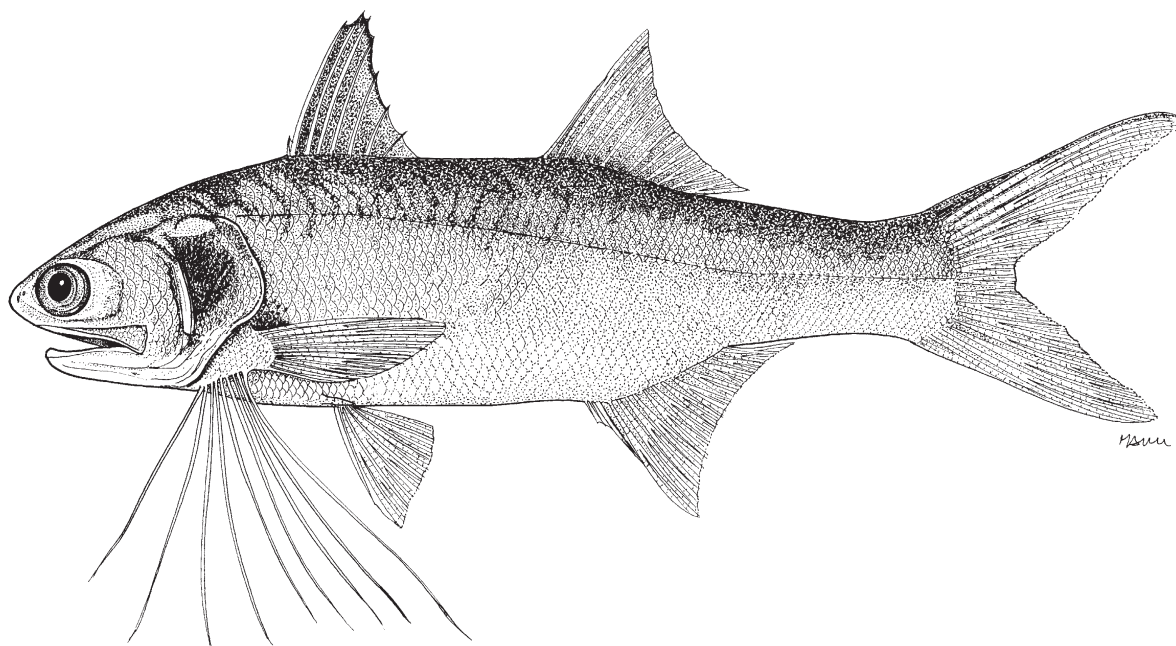


Fig. 112 *Polydactylus opercularis*

Diagnostic Features: A medium-sized species. Body depth at first dorsal-fin origin 25 to 29% (mean 27%) of standard length; head length 29 to 33% (mean 31%) of standard length. Snout pointed; occipital profile nearly straight throughout life. Posterior margin of maxilla extending well beyond level of posterior margin of adipose eyelid; maxilla covered with small deciduous scales; upper-jaw length 16 to 18% (mean 17%) of standard length; depth of posterior margin of maxilla less than eye diameter; anterior parts of lower jaw with villiform teeth extending onto lateral surface, adjacent portion of lip poorly developed in larger specimens; teeth villiform in broad bands on vomer, palatines and ectopterygoids; tooth plate on palatines wider than those on ectopterygoids; shape of vomerine tooth plate nearly square. Posterior margin of preopercle serrated. First dorsal fin with VIII spines, thickness of all first dorsal-fin spine bases similar; second dorsal fin with I spine and 11 to 13 (mode 12) soft rays; anal fin with III spines and 12 to 14 (mode 13) soft rays, anal-fin base slightly greater than second dorsal-fin base; pectoral fin with 14 to 16 (mode 15) rays (all rays unbranched), its length 20 to 24% (mean 22%) of standard length, posterior tip not reaching to level of posterior tip of pelvic fin; pectoral filaments 9 (rarely 8 or asymmetrically 8 and 9), first filament shortest, not reaching to or extending slightly beyond level of posterior tip of pelvic fin; lengths of

second to ninth pectoral filaments similar, its length 30 to 41% (mean 36%) of standard length, extending beyond level of posterior tip of pelvic fin or level of anal-fin origin, sometimes not reaching to level of posterior tip of pelvic fin; entire well-developed membranes present on dorsal margins of pectoral filaments; caudal fin deeply forked, upper and lower caudal-fin lobes not filamentous, upper caudal-fin lobe 31 to 38% (mean 35%) and lower lobe 30 to 36% (mean 33%) of standard length. Pored lateral-line scales 66 to 74 (mode 70); lateral line simple, extending from upper end of gill opening to upper end of lower caudal-fin lobe; scale rows above lateral line 7 to 10 (mode 8), below 12 to 15 (mode 13). Gillrakers 13 to 18 (mode 16) on upper limb, 17 to 20 (mode 19) on lower limb, 31 to 37 (mode 34) total. Vertebrae 10 precaudal and 14 caudal; supraneural bones 2. Swimbladder absent. **Colour:** Head and body pale green dorsally, silver ventrally; posterior margins of first and second dorsal fins dark yellow, remaining parts dusky; pectoral fin dusky; base of pectoral filaments white, becoming yellow on posterior tips; posterior tip of pelvic fin yellow, remaining parts white; base of anal fin white, remaining parts vivid yellow; lower caudal-fin lobe dark yellow, upper lobe dusky.

Geographical Distribution: Currently known from the eastern Pacific Ocean (Fig. 113), where it ranges from northern Los Angeles Harbor, California, USA to off Paita, Peru, being relatively rare north of Baja California, Mexico. The record from off Paita, Peru was based on a single juvenile specimen (12 mm total length; Hildebrand, 1946).

Habitat and Biology: Generally inhabits muddy or sandy bottoms in coastal waters and estuaries, but also occurs along sandy beaches (Allen and Robertson, 1994). Most of the collection data available indicates it occurs in depths less than 46 m.

Size: Maximum total length at least 45 cm (Allen and Robertson, 1994).

Interest to Fisheries: Esteemed as a food fish throughout the tropical eastern Pacific.

Local Names: COLOMBIA: Barbeta; MEXICO: Barbudo amarillo.

Literature: Motomura, Kimura and Iwatsuki (2002).

Remarks: *P. melanopoma*, originally described by Günther (1864) from San José, Guatemala on the basis of a single specimen (BMNH 1864.1.26.321, 263 mm standard length), was synonymized under *P. opercularis*, originally described by Gill (1863) (as *Trichidion opercularis*) on the basis of a single specimen (apparently lost) (Motomura, Kimura and Iwatsuki, 2002).

Polydactylus opercularis is easily distinguished from other congeners by having usually 9 pectoral filaments (usually 4 to 8 filaments in the latter). The number of pectoral filaments in an Atlantic west coast species, *P. octonemus*, although usually 8, infrequently number 9, thereby overlapping with *P. opercularis* which has 8 pectoral filaments on rare occasions. However, *P. octonemus* differs from the latter in having lower pored lateral-line scale counts [56 to 64 (mode 59) versus 66 to 74 (mode 70) in *P. opercularis*], well-developed lower-jaw lips throughout life (lips on anterior parts of lower jaws poorly developed in larger specimens of *P. opercularis*) and a swimbladder present (absent in *P. opercularis*). The condition of the lower jaw lips and teeth (anterior parts of lower jaw with villiform teeth extending onto lateral surface, adjacent portion of lip poorly developed) found in larger *P. opercularis* is unique among the genus, although the condition is also found in all stages of *Leptomelanosoma indicum* and larger *Parapolyneemus verekeri*.

Polydactylus opercularis lacks a swimbladder, and 3 Indo-West Pacific *Polydactylus* species, *P. multiradiatus*, *P. nigripinnis* and *P. siamensis* also lack a swimbladder. *Polydactylus opercularis* can be easily distinguished from the others by having 9 pectoral filaments (5 in *P. siamensis*, 6 in *P. nigripinnis* and 7 in *P. multiradiatus*). Comparisons of *P. opercularis* with a eastern Pacific species, *P. approximans* are given in the account of the latter.

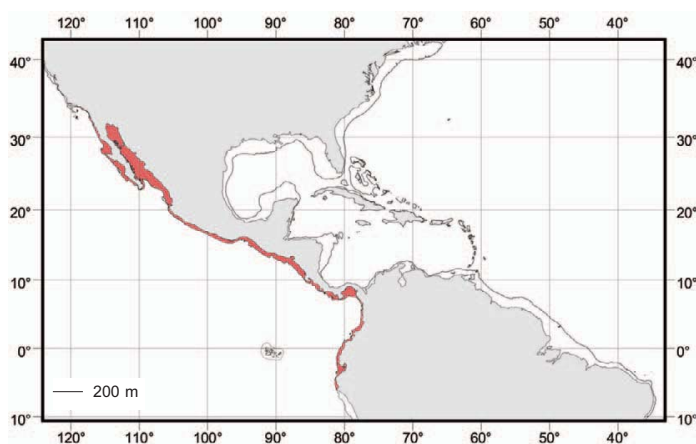


Fig. 113 *Polydactylus opercularis*
■ Known distribution

***Polydactylus persicus* Motomura and Iwatsuki, 2001**

Fig. 114; Plate IVc

Polydactylus persicus Motomura and Iwatsuki, 2001b: 347, figs. 5, 7D [type locality: Kuwait Bay, Kuwait, Persian Gulf (29°30'N, 47°50'E); holotype (MCZ 60001, 121 mm standard length); 12 paratypes (AMS I. 40432-001, 103 mm standard length; BMNH 2000.9.25.1, 93 mm standard length; KU 10528, 112 mm standard length; MCZ 59251 (5 specimens, including 1, 63 mm standard length, cleared and stained), 48-80 mm standard length; MCZ 158350 (2), 92-121 mm standard length; MUFS 20410, 124 mm standard length; USNM 363075, 96 mm standard length)].

Synonyms: None.

FAO Names: **En** - Persian blackspot threadfin; **Fr** - Barbure à tâche noire de Perse; **Sp** - Barbudo de mancha negra persa.

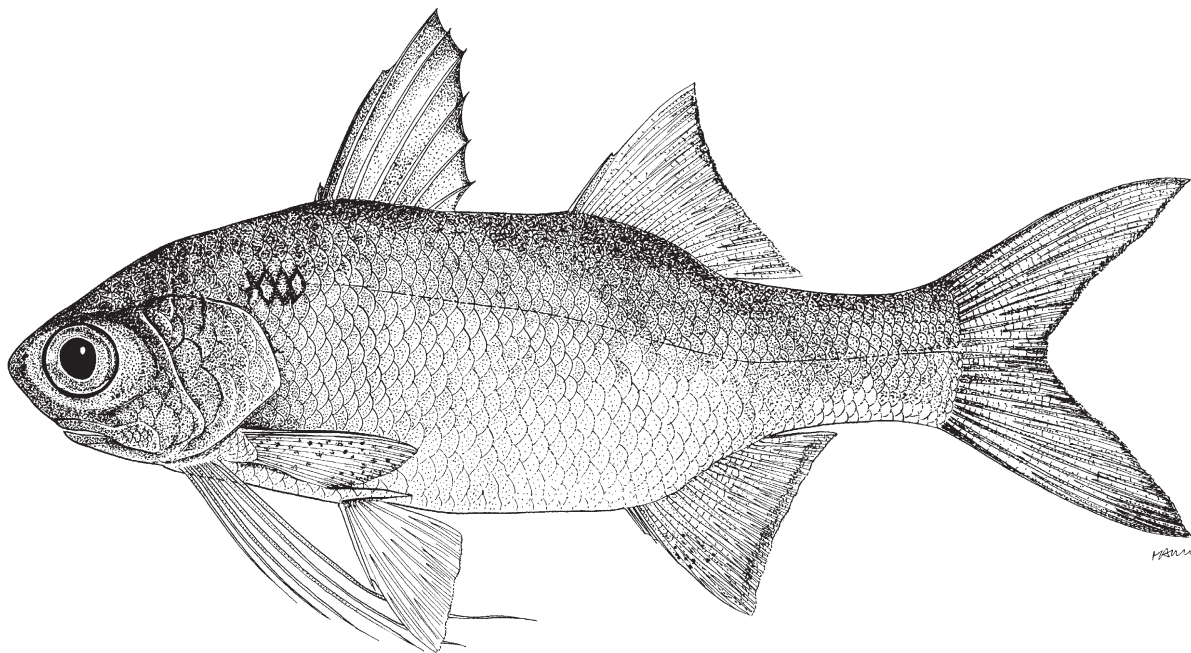


Fig. 114 *Polydactylus persicus*

Diagnostic Features: A small- to medium-sized species. Body depth at first dorsal-fin origin 33 to 35% (mean 34%) of standard length; head length 31 to 34% (mean 33%) of standard length. Snout pointed; occipital profile nearly straight. Posterior margin of maxilla not reaching to level of posterior margin of adipose eyelid; upper-jaw length 13 to 15% (mean 14%) of standard length; depth of posterior margin of maxilla less than eye diameter; lip on lower jaw well developed, dentary teeth restricted to dorsal surface; teeth villiform in broad bands on palatines and ectopterygoids; vomerine tooth plate covered with skin and teeth absent; palatines straight anteriorly. Posterior margin of preopercle serrated. First dorsal fin with VIII spines, second spine slightly more robust than others; second dorsal fin with I spine and 12 or 13 (mode 13) soft rays; anal fin with III spines and 12 soft rays, anal-fin base approximately equal to second dorsal-fin base; pectoral fin with 12 to 14 (mode 12) rays (all rays unbranched, except uppermost 1 or 2), its length 18 to 20% (mean 19%) of standard length, posterior tip not reaching to level of posterior tip of pelvic fin; pectoral filaments 6, first filament shortest; sixth pectoral filament longest, its length 26 to 36% (mean 32%) of standard length, extending well beyond level of posterior tip of pectoral fin; caudal fin deeply forked, upper and lower caudal-fin lobes not filamentous, upper caudal-fin lobe 35 to 40% (mean 38%) and lower lobe 34 to 44% (mean 37%) of standard length. Pored lateral-line scales 46 to 49 (mode 48); lateral line simple, extending from upper end of gill opening to upper end of lower caudal-fin lobe; scale rows above lateral line 5 or 6 (mode 6), below 8 or 9 (mode 9). Gillrakers 12 to 16 (mode 13) on upper limb, 17 to 20 (mode 19) on lower limb, 29 to 35 (mode 32) total. Vertebrae 10 precaudal and 14 caudal; supraneural bones 3. Swimbladder present, well developed. **Colour:** Head and upper sides of trunk with slightly darkish silver tinge, becoming lighter on lower sides; snout semi-translucent; posterior margin of first and second dorsal fins and caudal fin indistinctly blackish, other parts translucent; pectoral-fin membrane white with scattered melanophores; pectoral filaments whitish, becoming blackish on posterior tips; pelvic fin whitish; a large black spot anteriorly on lateral line.

Geographical Distribution: Currently known only from the Persian Gulf (Fig. 115).

Habitat and Biology: Occurs on sandy and muddy bottoms in shallow waters (less than 10 m). No other data are available.

Size: Maximum standard length at least 16 cm.

Interest to Fisheries: An important fishery species in Kuwait, caught mainly by trawl and gill net.

Local Names: ISLAMIC REPUBLIC OF IRAN: Taer; KUWAIT: Ghazal.

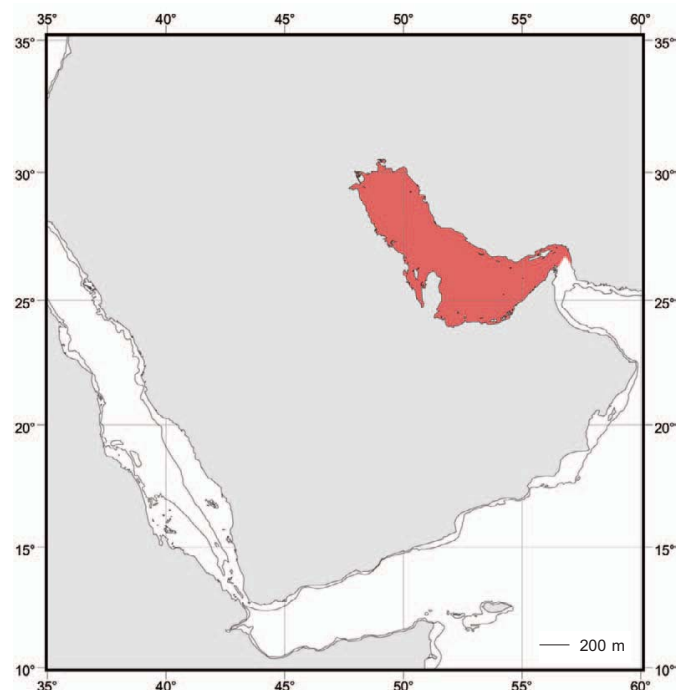


Fig. 115 *Polydactylus persicus*
■ Known distribution

Literature: Motomura and Iwatsuki (2001b); Motomura (2002).

Remarks: *P. persicus*, previously identified as *P. sextarius* (e.g. Kuronuma and Abe, 1972; Randall, 1995; Carpenter *et al.*, 1997), was recently described as a new species on the basis of 13 specimens (Motomura and Iwatsuki, 2001b).

Five *Polydactylus* species: *P. malagasyensis*, *P. microstomus*, *P. mullani*, *P. persicus* and *P. sextarius*, are characterized by having all pectoral-fin rays branched, except the uppermost 1 or 2, the vomer without teeth and a large black spot anteriorly on the lateral line. *Polydactylus persicus* can be easily distinguished from *P. microstomus* and *P. mullani* by the number of pectoral filaments [6 versus 5 (rarely asymmetrically 5 and 6) and 7 (rarely asymmetrically 6 and 7), respectively, in *P. microstomus* and *P. mullani*].

Polydactylus persicus differs from *P. sextarius* in having a well-developed swimbladder (length about 40 to 45% of standard length versus an atrophied, string-like swimbladder, about 20% of standard length in the latter; see Motomura and Iwatsuki, 2001b: fig. 7), higher counts of gillrakers [29 to 35 (mode 32) versus 25 to 30 (mode 28) in *P. sextarius*]. Furthermore, the second dorsal-fin spine length in *P. persicus* [6 to 9% (mean 7%) of standard length] is significantly longer than that of *P. sextarius* [5 to 8% (mean 6%) of standard length]. Comparisons of *P. persicus* with *P. malagasyensis* are given in the account of the latter.

Polydactylus plebeius (Broussonet, 1782)

Fig. 116; Plate IVd-h

Polynemus plebeius Broussonet, 1782: described on twentyseventh page from the table of contents, eighth plate (seventh species) (no pagination) [original locality: Tahiti, Society Islands and Tanna Island, New Hebrides Islands, Vanuatu; type locality: Tahiti, Society Islands, based on a neotype (FMNH 108655, 88 mm standard length) designated by Motomura, Iwatsuki and Yoshino, 2001].

Synonyms: *Polynemus emoi* Lacepède, 1803: 410, 412 (type locality: Tahiti, Society Islands, replacement name for *P. plebeius* Broussonet; no types known, see Motomura, Iwatsuki and Yoshino, 2001). *Polynemus lineatus* Lacepède, 1803: 410, pl. 13, fig. 2 [type locality: Réunion Island, Mascarene Islands; holotype (MNHN A. 5440, stuffed specimen, 255 mm standard length)]. *Polynemus niloticus* Shaw, 1804:151 [type locality: Nile River, Africa (but probably erroneous, see Motomura, Iwatsuki and Yoshino, 2001), based on a figure and description by J. Bruce; no types known]. *Polynemus commersonii* Shaw, 1804: 156 (type locality: Indian seas, based on a figure by P. Commerson; replacement name for *P. lineatus* Lacepède; no types known, see Motomura, Iwatsuki and Yoshino, 2001). *Polynemus lineatus* Günther, 1860 (not of Lacepède): 327 (primary homonym of *P. lineatus* Lacepède). *Polynemus taeniatus* Günther, 1860: 526 [type locality: Ambon, Indonesia and Guadalcanal, Solomon Islands; replacement name for *P. lineatus* Günther; 2 syntypes (BMNH 1855.11.7.35, 139 mm standard length; BMNH 1858.4.21.85, 147 mm standard length)]. *Polydactylus agonasi* Jordan and McGregor, 1906: 814, unnumbered figure on page 815 [type locality: Tokyo, Japan; holotype (USNM 55608, 155 mm standard length); 2 paratypes (CAS 109879, 105 to 148 mm standard length)]. *Polynemus lydiae* Curtiss, 1938: 43 (type locality: Tahiti, Society Islands; no types known, see Motomura, Iwatsuki and Yoshino, 2001).

FAO Names: En - Striped threadfin; Fr - Barbure rayé; Sp - Barbudo rayado.

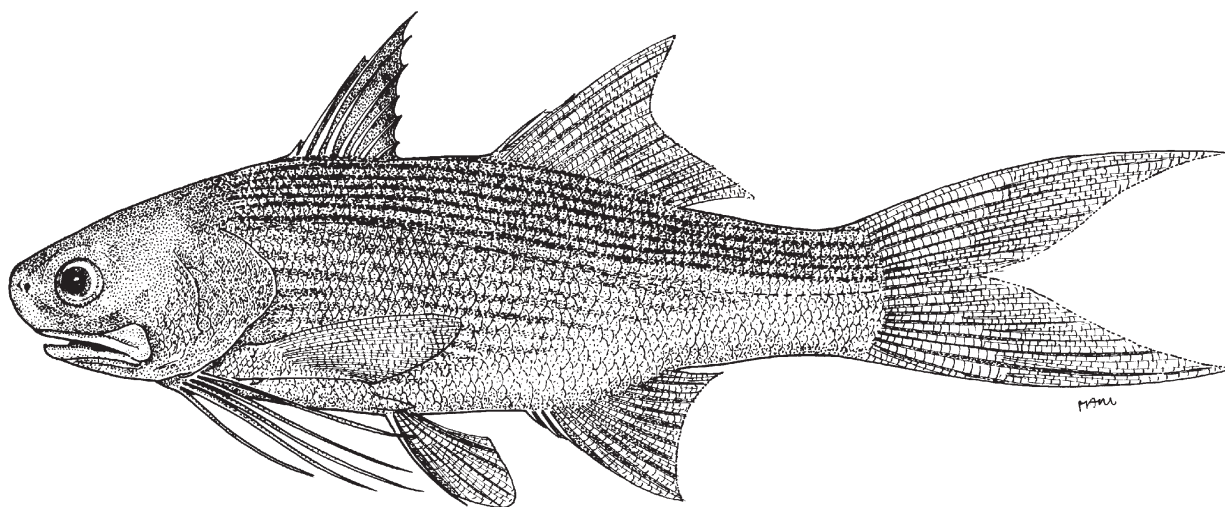


Fig. 116 *Polydactylus plebeius*

Diagnostic Features: A medium-sized species. Body depth at first dorsal-fin origin 25 to 32% (mean 28%) of standard length; head length 25 to 34% (mean 31%) of standard length. Snout pointed; occipital profile nearly straight. Posterior margin of maxilla reaching to or extending slightly beyond level of posterior margin of adipose eyelid; upper-jaw length 13 to 16% (mean 15%) of standard length; depth of posterior margin of maxilla less than eye diameter; lip on lower jaw well developed, dentary teeth restricted to dorsal surface; teeth villiform in broad bands on vomer, palatines and ectopterygoids. Posterior margin of preopercle serrated. First dorsal fin with VIII spines, all spine bases of similar thickness; second dorsal fin with I spine and 12 or 13 (mode 13) soft rays; anal fin with III spines and 11 or 12 (mode 11) soft rays, anal-fin base approximately equal to second dorsal-fin base; pectoral fin with 16 to 18 (mode 17, rarely 15) rays (all rays unbranched), its length 17 to 28% (mean 20%) of standard length, posterior tip not reaching to level of posterior tip of pelvic fin; pectoral filaments 5; first pectoral filament shortest, just short of or reaching to level of pelvic-fin origin; second to fourth pectoral filaments not reaching to level of posterior tip of pelvic fin; fifth pectoral filament longest, its length 22 to 40% (mean 32%) of standard length, reaching to or extending beyond level of posterior tip of pelvic fin; caudal fin deeply forked, upper and lower caudal-fin lobes not filamentous, upper caudal-fin lobe 33 to 44% (mean 39%) and lower lobe 30 to 41% (mean 36%) of standard length. Pored lateral-line scales 60 to 68 (mode 63); lateral line simple, extending from upper end of gill opening to upper end of lower caudal-fin lobe; scale rows above lateral line 8 or 9 (mode 8), below 12 or 13 (mode 12). Gillrakers 9 to 14 (mode 11) on upper limb, 13 to 18 (mode 15) on lower limb, 24 to 32 (mode 26) total. Vertebrae 10 precaudal and 14 caudal; supraneural bones 3. Swimbladder present. **Colour:** Head and upper sides of trunk tinged slightly blackish silver, becoming lighter silver on lower sides; abdominal region white; snout semi-transparent; first and second dorsal fins and caudal fin pale with blackish posterior margins; pectoral-fin membrane blackish; pectoral filaments white; anterior margins and origins of pelvic and anal fins white, other parts dusky yellowish white; 7 or 8 prominent dark stripes along scale rows above lateral line, 7 to 9 faint stripes below.

Geographical Distribution:

Widely distributed in the Indo-Pacific ranging from South Africa to French Polynesia (Fig. 117). In the Pacific Ocean, the northernmost and southernmost recorded ranges of the species are Korea and Port Stephens, New South Wales, Australia, respectively. There are no records of *P. plebeius* having been collected from the Red Sea or Persian Gulf.

Habitat and Biology: Occurs along shallow, sandy or muddy coastal beaches to relatively deep waters (less than 122 m), as well as in estuaries. The species also occurs offshore in Miyazaki, southern Japan during the rainy (June and July)

and typhoon seasons (September and October) (Motomura, Iwatsuki and Yoshino, 2001). Apparently, *P. plebeius* usually inhabits estuaries and shallow coastal waters at Miyazaki, but migrates during periods of high rainfall. Large numbers of juveniles are taken from river mouths. The species usually forms loosely-associated schools throughout life.

Hida (1967) reported the sex composition of 10 specimens (180 to 264 mm standard length) of *P. plebeius* from western Pakistan as: 1 hermaphrodite, 1 immature male and 8 immature females. No other biological studies, including maturation, size at maturity, spawning, spawning grounds or age, have been published.

Venkataramam (1960) examined the stomachs of 42 specimens (99 to 185 mm standard length) from inshore waters off Kozhikode, southwestern India, finding 15 specimens to be empty and the remainder gorged with a crab, *Emerita asiatica*. In addition, a congener, *P. mullani*, was found in the stomach of a single individual *P. plebeius* from Pakistan (Hida, 1967). Feeding behaviour of the species in an aquarium was reported by Motomura, Sado and Kimura (2002).

Size: Maximum standard length at least 45 cm (Feltes in Carpenter and Niem, 2001).

Interest to Fisheries: An important fishery species for South Asia, Southeast Asia, and (especially) Melanesia and Polynesia, caught by trawls, gill nets, handlines and beach seines.

Local Names: FIJI: Uculuka; INDONESIA: Kuro, Lajan, Lausan, Mamangi, Manangi, Sumbal, Tapasan; JAPAN: Tsubame-konoshiro; MALAYSIA: Senangin, Senangin buih; MARIANAS: Pááwánér; MAURITIUS: Mulet bâtard, Thread-fish; MOZAMBIQUE: Barudo raiado; MYANMAR: Za yaw; NEW CALEDONIA: Hwa-n le kale-n, Noxan; PAPUA NEW GUINEA: Common threadfin; SAMOA: l'ausi, Umi'umia; SOMALIA: Samaduul; SOUTH AFRICA: Gestreepe, Striped threadfin; SRI LANKA: Barmeen, Polekala; TAHITI: Moi; UNITED REPUBLIC OF TANZANIA: Kupe, Mkizi komo maji; TUAMOTO: Moi.

Literature: Motomura, Iwatsuki and Yoshino (2001); Motomura (2002).

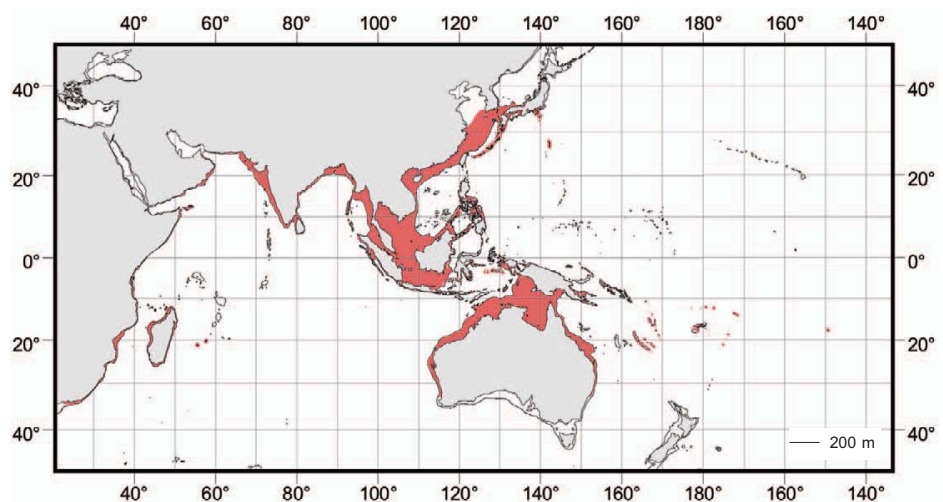


Fig. 117 *Polydactylus plebeius*

Known distribution

Remarks: *P. plebeius*, which is the oldest available name for Indo-Pacific species in that genus, was originally described by Broussonet (1782) from Tahiti, Society Islands and Tanna Island, New Hebrides Islands, Vanuatu (syntypes apparently lost). Although the original description of *P. plebeius* is very poor, the figure clearly shows 16 pectoral fin rays, 5 pectoral filaments and several longitudinal dark stripes along each scale row on the lateral body surface.

The holotype (a dried specimen) of *Polynemus lineatus*, 2 syntypes of *P. taeniatus* and the holotype and 2 paratypes of *Polydactylus agonasi* were all found to be conspecific with *P. plebeius* (see Motomura, Iwatsuki and Yoshino, 2001). Günther (1860) described *Polynemus lineatus* as a new species on the basis of 2 specimens from Ambon, Indonesia and Guadalcanal, Solomon Islands. Because that name was preoccupied by *P. lineatus* of Lacepède (1803), Günther (1860) proposed a replacement name, *P. taeniatus*, in an addenda to the original description of the species. In addition, Günther (1860) described *P. plebejus* (sic) (= *plebeius*) as being characterized by 5 pectoral filaments and a black blotch on the lateral line near its origin. Because the characters for *P. plebejus* given by Günther (1860) agree with those diagnostic of *Polydactylus microstomus*, it is considered that he had misidentified examples of the latter.

Lacepède (1803) and Shaw (1804) proposed new names, *Polynemus emoi*, for *P. plebeius* and *P. commersonii* for *P. lineatus*, respectively, but did not list any specimens. The new names have no standing in nomenclature, because the principle of priority was not followed, contrary to the requirements of Article 23 (ICZN-1999). *Polynemus niloticus* was described by Shaw (1804) as a new species on the basis of a description and figure by J. Bruce. According to Shaw (1804), the species had a unique character, a reddish snout. However, the snout of polynemid fishes is semi-transparent and cartilagenous and easily damaged, causing a reddish coloration. *Polynemus niloticus* is also considered conspecific with *Polydactylus plebeius* (Cantor, 1849; Daget and Njock in Daget *et al.*, 1986; Motomura, Iwatsuki and Yoshino, 2001).

Polynemus lydiae was described by Curtiss (1938) as a new species from Tahiti, Society Islands (no types known). According to the original description, the species was characterized by 5 pectoral filaments and longitudinal black stripes on the lateral body surface, characteristics being consistent with those of *Polydactylus plebeius*. Therefore, *Polynemus lydiae* is also regarded as a junior synonym of the latter (Motomura, Iwatsuki and Yoshino, 2001).

Fricke (1999) was synonymized *Sciaena pentadactyla* Lacepède, 1802 with *P. plebeius*. However, Motomura, Iwatsuki and Yoshino (2001) recognized that *S. pentadactyla* is not a junior synonym of *P. plebeius*, although the taxonomic status of the former is still unknown (treated as *nomen dubium*).

To date, only *P. plebeius* has been recognized as having 5 pectoral filaments and several prominent dark stripes along the longitudinal scale rows above and below the lateral line. Two other species, *P. bifurcus* and *P. siamensis*, with the characters has recently been described from Indonesia and Thailand, respectively. Comparisons of *P. plebeius* with *P. bifurcus* are given in the account of the latter.

Although *P. plebeius* is very similar to *P. siamensis* in having the above characters, the former differs in having higher counts of pectoral-fin rays [16 to 18 (mode 17; rarely 15, 1 of 100 specimens examined by Motomura, Iwatsuki and Yoshino, 2001) versus 15 in the latter], scales above and below the lateral line [8 or 9 (mode 8) and 12 or 13 (mode 12), respectively versus 7 and 10 or 11 (mode 11), respectively in *P. siamensis*], pored lateral-line scales [60 to 66 (mode 63; rarely 68, 1 of 96 specimens) versus 54 to 58 (mode 54) in *P. siamensis*] and gillrakers [9 to 14 (mode 11) upper series, 13 to 18 (mode 15) lower and 24 to 30 (mode 26; rarely 32, 1 of 96 specimens) total versus 9 or 10 (mode 10), 13 or 14 (mode 13) and 22 to 24 (mode 23), respectively in *P. siamensis*] (see Motomura, Iwatsuki and Yoshino, 2001: table 3). Furthermore, *P. plebeius* tends to have a slightly shorter upper jaw [13 to 16% (mean 15%) of standard length] than *P. siamensis* [16 to 17% (mean 17%) of standard length], although the proportional measurements for upper-jaw length overlapped between the 2 species (Motomura, Iwatsuki and Yoshino, 2001: fig. 3).

Polydactylus quadrifilis (Cuvier, 1829)

Fig. 118; Plate Va

Polynemus quadrifilis Cuvier in Cuvier and Valenciennes, 1829: 390, pl. 68 [type locality: Senegal; holotype (MNHN 756, lacking caudal fin and half of caudal peduncle, 380 mm from anterior tip of snout to posterior end of remaining peduncle)].

Synonyms: None.

FAO Names: **En** - Giant African threadfin; **Fr** - Gros capitaine; **Sp** - Barbudo gigante africano.

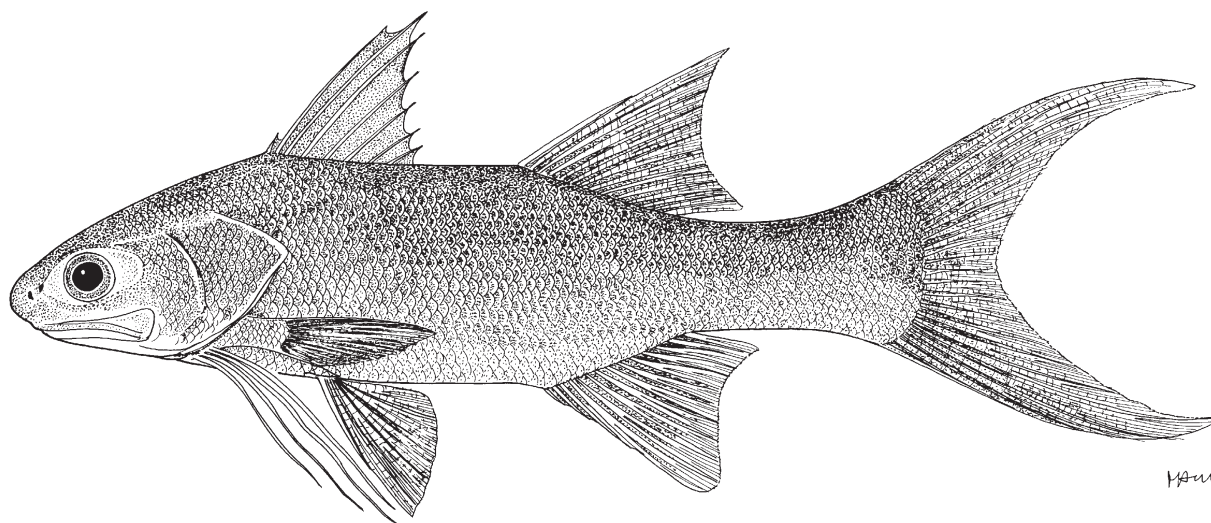


Fig. 118 *Polydactylus quadrifilis*

Diagnostic Features: A large species. Body depth at first dorsal-fin origin 24 to 27% (mean 25%) of standard length; head length 30 to 34% (mean 32%) of standard length. Snout pointed; occipital profile nearly straight. Posterior margin of maxilla not reaching to or just reaching to level of posterior margin of adipose eyelid; upper-jaw length 13 to 14% (mean 14%) of standard length; depth of posterior margin of maxilla less than eye diameter; lip on lower jaw well developed, dentary teeth restricted to dorsal surface; teeth villiform in broad bands on vomer, palatines and ectopterygoids. Posterior margin of preopercle serrated. First dorsal fin with VIII spines, second spine more robust than others; second dorsal fin with I spine and 13 soft rays; anal fin with III spines and 11 soft rays, anal-fin base approximately equal to second dorsal-fin base; pectoral fin with 12 or 13 (mode 13) rays (all rays unbranched), its length 20 to 24% (mean 22%) of standard length, posterior tip not reaching to level of posterior tip of pelvic fin; pectoral filaments 4; first (shortest) to third pectoral filaments, extending beyond level of pelvic-fin origin, but not reaching to level of posterior tip of pelvic fin; fourth pectoral filament longest, its length 27 to 39% (mean 33%) of standard length, just short of or extending slightly beyond level of posterior tip of pelvic fin; caudal fin deeply forked, upper and lower caudal-fin lobes not filamentous, upper caudal-fin lobe 34 to 41% (mean 38%) and lower lobe 33 to 40% (mean 37%) of standard length. Pored lateral-line scales 70 or 71 (mode 70); lateral line simple, extending from upper end of gill opening to upper end of lower caudal-fin lobe; scale rows above lateral line 8 or 9 (mode 9), below 11 to 13 (mode 11). Gillrakers 8 or 9 (mode 9) on upper limb, 12 to 14 (mode 14) on lower limb, 21 to 23 (mode 23) total. Vertebrae 10 precaudal and 14 caudal; supraneural bones 2. Swimbladder present, well developed. **Colour:** Head and upper sides of trunk tinged slightly blackish silver, becoming lighter silver on lower sides; abdominal region white; snout semi-transparent; first and second dorsal fins and caudal fin pale with blackish posterior margins; pectoral fin vivid yellow; pectoral filaments white; anterior margins and origins of pelvic and anal fins white, other parts dusky.

Geographical Distribution: On the west coast of Africa ranging from Senegal to the Congo (Fig. 119).

Habitat and Biology: Occurs on sandy and muddy bottoms in shallow waters (less than 55 m), sometimes also in brackish waters. Feeds mainly on crabs (Longhurst, 1960: table 1) and fishes.

Size: Maximum total length 2 m (Daget and Njock *in* Daget *et al.*, 1986; Njock *in* Quéro *et al.*, 1990), common to 1.5 m (Allen *in* Fischer *et al.*, 1981).

Interest to Fisheries: One of the most important fishery (see Table 3; mainly caught by trawl, gill net and beach seine) and sport species on the west coast of Africa.

Local Names: ANGOLA: Barbudo; BENIN: Chikoué, Gainfio; CAPE VERDE: Barbo, Barbudo-gigante, Capitão, Peixe-barba; GUINEA: Sori; SENEGAL: Capitaine, Njaane, Njaane jaara.

Literature: Allen *in* Fischer *et al.* (1981); Daget and Njock *in* Daget *et al.* (1986); Njock *in* Quéro *et al.* (1990).

Remarks: *P. quadrifilis* is easily distinguished from other congeners by having 4 pectoral filaments (5 to 9 in all other congeners).

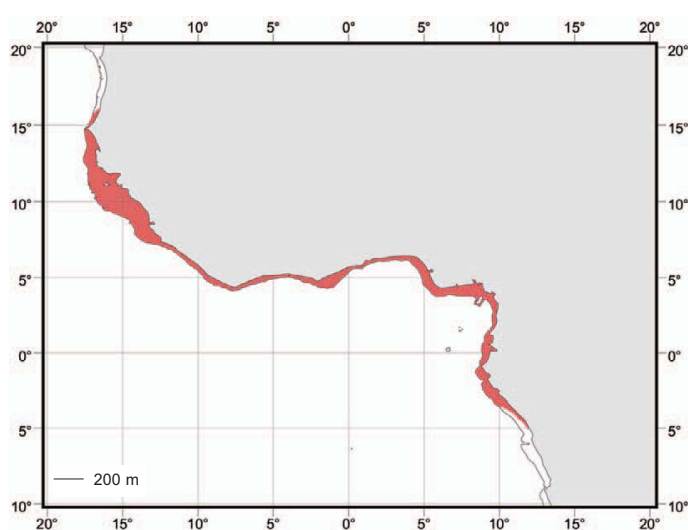


Fig. 119 *Polydactylus quadrifilis*
■ Known distribution