

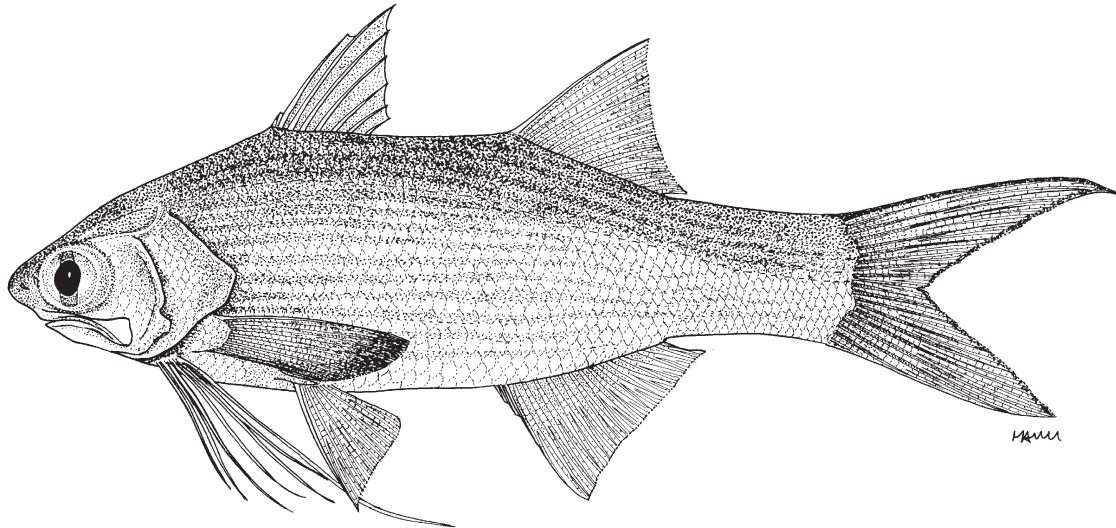
***Polydactylus virginicus* (Linnaeus, 1758)**

**Fig. 126; Plate Vh**

*Polynemus virginicus* Linnaeus, 1758: 317 (type locality: America; no types known).

**Synonyms:** *Polynemus naso* Walbaum, 1793: 108 (type locality: probably Brazil; no types known). *Polynemus mango* Lacepède, 1803: 411, 413 (type locality: America; no types known). *Polydactylus plumierii* Lacepède, 1803: 419, 420, pl. 14, fig. 3 (type locality: unknown; no types known). *Polynemus americanus* Cuvier 1829a: 155 [type locality: American seas; 3 syntypes (MNHN 5504, 141 mm standard length; MNHN A. 3028, 157 mm standard length; MNHN A. 3031, 121 mm standard length)]. *Polynemus antillarum* Perugia, 1896: 16 [type locality: St. Pierre, Martinique Island, West Indies; holotype (MSNG 6695, 84 mm standard length)].

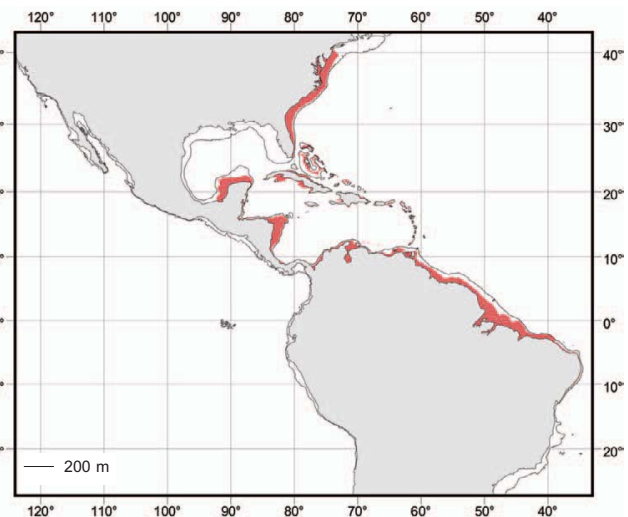
**FAO Names:** En - Barbu; Fr - Barbure de flaque; Sp - Barbudo de charco.



**Fig. 126 *Polydactylus virginicus***

**Diagnostic Features:** A medium-sized species. Body depth at first dorsal-fin origin 29 to 32% (mean 30%) of standard length; head length 29 to 34% (mean 32%) of standard length. Snout pointed; occipital profile nearly straight. Posterior margin of maxilla just short of or reaching to level of posterior margin of adipose eyelid; upper-jaw length 13 to 16% (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, all spine bases of similar thickness; second dorsal fin with I spine and 11 or 12 (mode 12) soft rays; anal fin with III spines and 11 to 14 (mode 13) soft rays, anal-fin base greater than second dorsal-fin base; pectoral fin with 14 to 16 (mode 15) rays (all rays unbranched), its length 23 to 28% (mean 26%) of standard length, posterior tip not reaching to, just reaching to or extending slightly beyond level of posterior tip of pelvic fin; pectoral filaments 7; first pectoral filament shortest, not reaching to or extending slightly beyond level of pelvic-fin origin; second to fifth pectoral filaments extending beyond level of pelvic-fin origin; sixth pectoral filament just short of or extending beyond level of posterior tip of pelvic fin; seventh pectoral filament longest, its length 36 to 47% (mean 42%) of standard length, extending beyond level of anal-fin origin, sometimes extending beyond level of midpoint of anal-fin base; caudal fin deeply forked, upper and lower caudal-fin lobes not filamentous, upper caudal-fin lobe 35 to 41% (mean 38%) and lower lobe 32 to 41% (mean 36%) of standard length. Pored lateral-line scales 54 to 63 (mode 58); lateral line bifurcated on caudal fin, extending to posterior margins of upper and lower caudal-fin lobes; scale rows above lateral line 6 to 8 (mode 7), below 10 to 12 (mode 11). Gillrakers 26 to 30 (mode 28). Vertebrae 10 precaudal and 14 caudal; supraneural bones 3. Swimbladder present, well developed. **Colour:** Upper sides of head and trunk with slightly darkish silver tinge, becoming lighter on lower sides; snout semi-translucent; margins of second dorsal and caudal fins blackish, other parts translucent; intensity of pigmentation of pectoral and upper parts of first dorsal fin very variable; pectoral filaments, pelvic and anal fins white.

**Geographical Distribution:** In the western Atlantic Ocean, ranging from New Jersey, USA to Salvador, Brazil (Fig. 127). However, the species does not occur in the northern and western Gulf of Mexico.



**Fig. 127 *Polydactylus virginicus***  
■ Known distribution

**Habitat and Biology:** Inhabits sandy and muddy bottoms in coastal waters, estuaries and mangroves, as well as sometimes occurring in the surf. A large number of young specimens aggregate in river mouths. The species feeds primarily at night (Austin and Austin, 1971), taking mainly crustaceans, followed by chaetognaths, plant material and polychaetes. It appears to have a prolonged spawning season because juveniles are commonly found throughout the year.

**Size:** Maximum total length 33 cm (Feltes *in* Carpenter, 2002).

**Interest to Fisheries:** Caught incidentally by seines and trawls and is of little commercial importance.

**Local Names:** BARBADOS: Beard fish; BELIZE: Barbú; CUBA: Barbi, Barbu, Barbudo, Catfish; DOMINICA: Barbudo; DOMINICAN REP.: Barbú; GUADELOUPE: Barbi, Barbu argenté, Threadfin; GUYANA: Chinese nose, Threadfin, Threadfish; HAITI: Sevenfingeread threadfin; MARTINIQUE: Barbi, Barbu argenté, Threadfin; NICARAGUA: Barbudo de charco; PUERTO RICO: Barbudo, Threadfin; ST. LUCIA: Barbu; SURINAME: Barbu; Sardijntje.

**Literature:** Feltes *in* Carpenter (2003).

**Remarks:** *Polydactylus virginicus*, the most common species in the western Atlantic, has been regarded as a senior synonym of *Polydactylus plumierii*, *Polynemus americanus* and *P. mango* (see Eschmeyer, 1998). The holotype (MSNG 6695, 84 mm standard length) of *Polynemus antillarum* is also conspecific with specimens considered here as *Polydactylus virginicus*, the former herein being regarded as a junior synonym of the latter.

*Polynemus naso* was originally described by Walbaum (1793) as a species locally named "Piracoada", which occurred off the Atlantic coast of Brazil. Although Eschmeyer (1998) believed that the species does not belong to the family Polynemidae, Walbaum (1793) stated that *P. naso* is characterized by having 6 pectoral filaments and a cartilaginous snout, which are included in the diagnostic characteristics of the family. Therefore, *P. naso* clearly belongs to the family Polynemidae. Two polynemids, *Polydactylus oligodon* and *P. virginicus*, are also known to occur in Brazil (type locality of *Polynemus naso*). Because *Polydactylus virginicus* is more common than *P. oligodon* and occasionally has 6 pectoral filaments (as has *P. plumierii*), *Polynemus naso* is herein treated as a likely junior synonym of *Polydactylus virginicus*. However, *Polynemus naso* has at no time been reported during the 200 years following its original description. Therefore, if *P. naso* is a different species from *Polydactylus virginicus* and an earlier name of some other polynemid, the former cannot become a valid taxon under the Reversal of Precedence (treated as *nomen oblitum*; Article 23.9, ICZN-1999).

*Polydactylus virginicus* and 2 other species, *P. octonemus* and *P. oligodon*, occur in the western Atlantic, being very similar to each other in overall body appearance. Comparisons of *P. virginicus* with *P. octonemus* and *P. oligodon* are given in the accounts of the latter 2 species.

### *Polynemus* Linnaeus, 1758

*Polynemus* Linnaeus, 1758: 317 (type species: *Polynemus paradiseus* Linnaeus, 1758, see Opinion 93, ICZN-1926).

**Synonyms:** *Polistonemus* Gill, 1861: 277 (type species: *Polynemus multifilis* Temminck and Schlegel, 1843).

**Diagnostic Features:** Body and head elongate. Adipose eyelid poorly developed; eye diameter less than snout length. Lip on lower jaw well developed, dentary teeth restricted to dorsal surface; width of tooth band on upper and lower jaws greater than space (on symphysis) separating tooth bands on opposing premaxillae; teeth villiform in broad bands on jaws, palatines and ectopterygoids, vomerine tooth plate without teeth in some species. Posterior margin of maxilla extending well beyond level of posterior margin of adipose eyelid. Posterior margin of preopercle serrated. Basisphenoid absent; sphenotics not visible dorsally between anterior margins of parietal and pterotic. First dorsal fin with VII or VIII spines; second dorsal fin with I spine and 13 to 18 soft rays; anal fin with II or III spines and 10 to 14 soft rays; anal-fin base less than head length; pectoral fin with 14 to 19 rays, all unbranched; pectoral-fin insertion near midline of body; pectoral-fin base (including base of pectoral filaments) less than upper-jaw length; pectoral filaments 7 to 16, extending beyond level of posterior tip of caudal fin; caudal fin deeply forked, but upper and lower caudal-fin lobes not filamentous. Pored lateral-line scales 66 to 109; scale rows above lateral line 6 to 12, below 10 to 22. Total gillrakers 23 to 34. Vertebrae 10 precaudal and 15 caudal; supraneural bones 2. Swimbladder present or absent.

**Habitat and Biology:** *Polynemus* species are generally found on sandy or muddy bottoms in fresh-water rivers, estuaries and coastal waters, being more heavily dependent upon a fresh-water habitat than other genera. With the exception of *P. paradiseus*, no biological information for members of the genus has been reported, owing to the confusion surrounding specific identifications. Information on *P. paradiseus* is given below under the species' account.

**Geographic Distribution:** Indo-West Pacific, ranging over continental shelves from western India to southern Viet Nam, including Southeast Asian countries, but has at no time been recorded from the Philippines or Papua New Guinea.

**Interest to Fisheries:** Important commercial fishes in South Asia and Southeast Asia, especially in India, Thailand and Viet Nam. Some species have been exported to Japan as aquarium fishes.

**Species:** The genus comprises 8 species:

*Polynemus aquilonaris*: Thailand, Cambodia, Viet Nam and Lao People's Democratic Republic.

*Polynemus dubius*: Malaysia and Indonesia.

*Polynemus hornadayi*: Sarawak, Malaysia.

*Polynemus kapuasensis*: Kapuas River, Kalimantan

*Polynemus melanochir dulcis*: Lake Tonle Sap, Cambodia.

*Polynemus melanochir melanochir*: Lower Mekong River and related rivers, and Kalimantan.

*Polynemus multifilis*: Thailand and Indonesia.

*Polynemus paradiseus*: India to Thailand.

**Remarks:** *Polynemus*, which is the oldest available generic name for the family Polynemidae, was originally described by Linnaeus (1758), who simultaneously included 3 species, *P. paradiseus*, *P. quinquarius* and *P. virginicus*, in the genus. *Polynemus paradiseus* was later established as the type species of *Polynemus* by ICZN (1926). *Polynemus quinquarius* and *P. virginicus* are presently regarded as members of *Pentanemus* and *Polydactylus*, respectively.

*Polistonemus* was originally proposed for *Polynemus multifilis* by Gill (1861), but characters of the former are identical with *Polynemus* in all respects, except for an increased number of pectoral filaments. Accordingly, *Polistonemus* is considered a junior synonym of *Polynemus* (e.g. Roberts, 1989).

*Polynemus* and *Parapolyneumus* are characterized by the following characters: eye diameter 1.3 or more in snout length (1.3 or less in other genera); pectoral-fin insertion near midline of body (well below midline of body); pectoral filaments longer than standard length (shorter than standard length in other genera, except in *Pentanemus* and *Polydactylus macrophthalmus*). *Polynemus* differs from *Parapolyneumus* in having the posterior margin of the preopercle serrated (largely not serrated in the latter), higher counts of caudal procurrent rays (15 to 19 versus 12 to 14) and pectoral-filament length greater than 1.5 total length (less than 1.5 total length). Further detailed comparisons of the 2 genera were given by Feltes (1993).

### Key to the Species of *Polynemus*

- 1a. Pectoral filaments 13 or more . . . . . → 2  
 1b. Pectoral filaments 7 . . . . . → 3
- 2a. Pectoral filaments usually 15 on each side of body; pored lateral-line scales 100 to 110 (mode 103); scale rows above lateral line 9 to 11 (mode 10), below 17 to 20 (mode 18); posterior tip of pectoral fin not extending beyond level of anal-fin origin in adults (Fig. 128, Plate VI d) . . . . . ***Polynemus kapuasensis***  
 (Kapuas river, Kalimantan)
- 2b. Pectoral filaments usually 14 of each side of body; pored lateral-line scales 83 to 99 (mode 86); scale rows above lateral line 7 or 8 (mode 8), below 14 to 18 (mode 15); posterior tip of pectoral fin reaching or extending beyond level of anal-fin origin throughout life (Fig. 129, Plate VI g) . . . . . ***Polynemus multifilis***  
 (Thailand and Indonesia)
- 3a. First dorsal-fin spines VII; anal-fin spines II or III . . . . . → 4  
 3b. First dorsal-fin spines VIII (first spine minute); anal-fin spines III . . . . . → 5

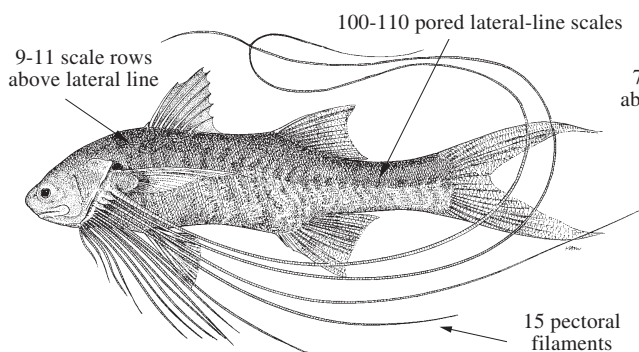


Fig. 128 *Polynemus kapuasensis*

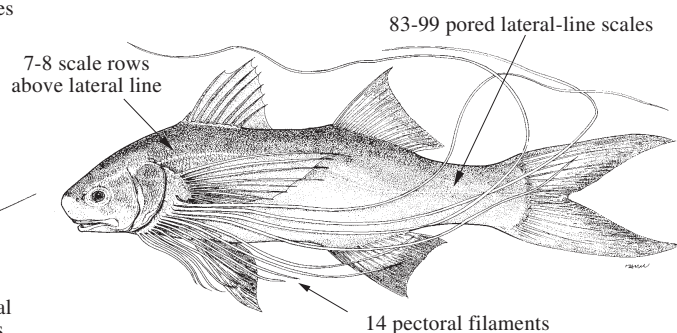
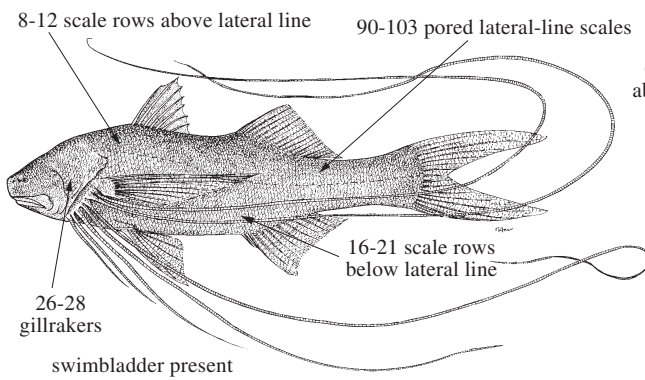


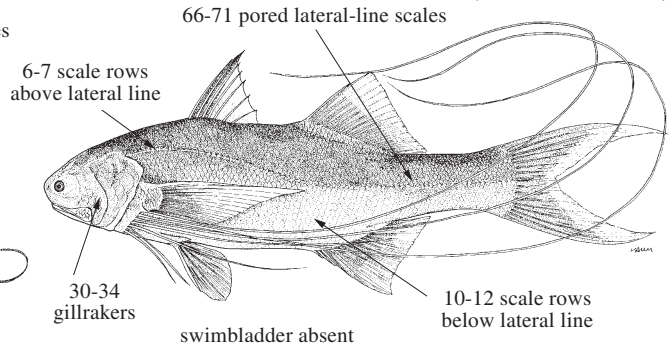
Fig. 129 *Polynemus multifilis*



- 4a. Pored lateral-line scales 90 to 103 (mode 94); scale rows above lateral line 8 to 12 (mode 11), below 16 to 21 (mode 18); gillrakers 26 to 28 (mode 26); occipital profile strongly concave; swimbladder present, well developed (Fig. 130, Plate VIc) . . . . . ***Polynemus hornadayi***  
(Sarawak, Malaysia)
- 4b. Pored lateral-line scales 66 to 71 (mode 70); scale rows above lateral line 6 or 7 (mode 7), below 10 to 12 (mode 11); gillrakers 30 to 34 (mode 32 or 33); occipital profile nearly straight; swimbladder absent (Fig. 131, Plate VIh) . . . . . ***Polynemus paradiseus***  
(India to Thailand)

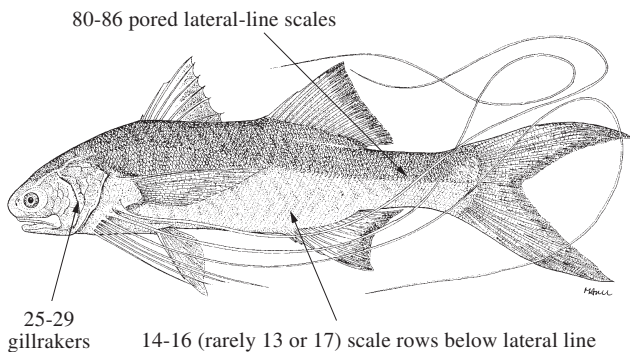


**Fig. 130 *Polynemus hornadayi***

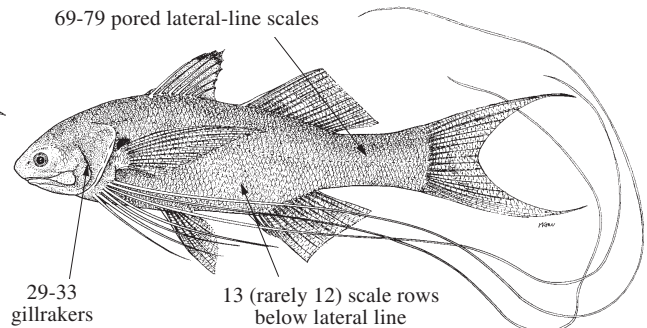


**Fig. 131 *Polynemus paradiseus***

- 5a. Vomer with teeth; pectoral fin usually not black . . . . . → **6**
- 5b. Vomer without teeth; pectoral fin usually black . . . . . → **7**
- 6a. Pored lateral-line scales 80 to 86 (mode 81); scale rows below lateral line 14 to 16 (mode 14, rarely 13 or 17); gillrakers 25 to 29 (mode 27) (Fig. 132, Plate VIa) . . . . . ***Polynemus aquilonaris***  
(Thailand, Cambodia, Viet Nam and Lao People's Democratic Republic)
- 6b. Pored lateral-line scales 69 to 79 (mode 78); scale rows below lateral line 13 (rarely 12); gillrakers 29 to 33 (mode 30) (Fig. 133, Plate VIb) . . . . . ***Polynemus dubius***  
(Malaysia and Indonesia)

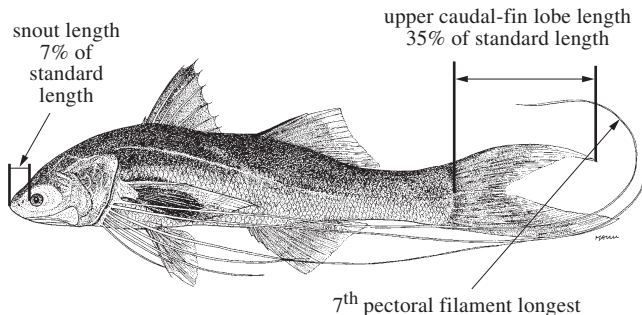


**Fig. 132 *Polynemus aquilonaris***

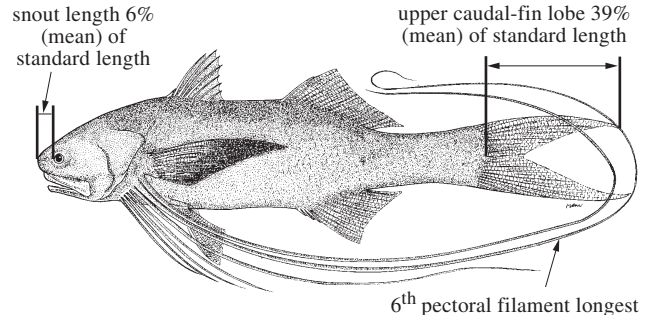


**Fig. 133 *Polynemus dubius***

- 7a. Snout length 7% of standard length; upper caudal-fin lobe length 34 to 35% (mean 35%) of standard length; seventh pectoral filament longest (Fig. 134; Plate VIe) . . . . . ***Polynemus melanochir dulcis***  
(Lake Tonle Sap, Cambodia)
- 7b. Snout length 5 to 6% (mean 6%) of standard length; upper caudal-fin lobe length 35 to 44% (mean 39%) of standard length; sixth pectoral filament usually longest (Fig. 135; Plate VI f) . . . ***Polynemus melanochir melanochir***  
(lower Mekong River and related rivers, and Kalimantan)



**Fig. 134 *Polynemus melanochir dulcis***



**Fig. 135 *Polynemus melanochir melanochir***