

**Diagnostic Features** : Jaws subequal; barbel longer than eye. Second dorsal fin with 59 to 70 rays; anal fin with 57 to 66 rays; pelvic fin not reaching beyond end of pectoral fin. **Colour**: dorsally reddish brown, shading to white ventrally; posterior areas of vertical fins dark with pale margins.

**Geographical Distribution** : Barents Sea and Iceland to Morocco; rare in the northwestern Mediterranean, off southern Greenland, and Canada (Fig. 119).

**Habitat and Biology** : Demersal on rocky bottoms at depths of 15 to 600 m or more, commonly from 100 to 400 m. Young up to 1-2 years of age are coastal (15-20 m depth) and pelagic; fish of 3 years migrate to greater depths. First maturity is reached at 5 years for males (80 cm) and 5-6 years for females (90-100 cm). Spawning occurs from March to July and eggs are pelagic. Fecundity may reach 20 to 60 million eggs per female. Major spawning grounds are located at 200 m depth from the Bay of Biscay to the Gulf of Norway at 100 to 300 m off southern Iceland, and at 50 to 300 m in the Mediterranean Sea. Growth is rapid (8-10 cm/year): at 1 year, 20 cm; 2 years, 31-35 cm; 3 years, 31-35 cm; 4 years, 73-83 cm. Females grow faster than males. The maximum age is 10 years for males and 14 for females (ca. 200 cm total length). Feeds mostly on fish (cod, herring, flatfish) but also on crustaceans (lobsters), cephalopods and echinoderms (starfishes).

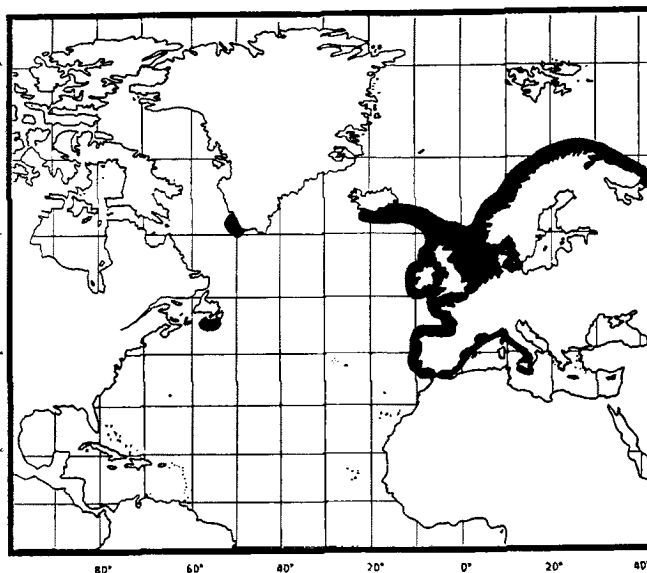


Fig. 119

**Size** : Reaching 200 cm total length; common from 63 to 160 cm .

**Interest to Fisheries** : Locally abundant. The catch reported for 1987 in the FAO Yearbook of Fishery Statistics totalled 58 124 metric tons, all from the northeastern Atlantic (Norway: ca. 20 500 t, France: ca. 13 000 t, UK: ca. 7 500 t, Spain: ca. 6 500 t, Iceland: ca. 4 000 t, Faeroe Islands: ca. 3 000 t, Denmark: ca. 1 500, and others). Fished with bottom trawls, longlines, gillnets and handlines. Marketed frozen, as fresh fillets, dried, salted, in brine and also as fishmeal.

**Local Names** : ALGERIA: Lingue; BELGIUM: Leng; BULGARIA: Molva; DENMARK : Lange; FINLAND: Molva, Pyjoreapyrstoinen; FRANCE : Elingue, Lingue, Lingue franche, Julienne, Morue lingue, Tutchuela; GERMANY: Leng; GREECE: Pentiki, Pontikópsaro; ICELAND: Langa; ITALY: Molva; MALTA: Lipp; NETHERLANDS: Leng; NORWAY: Lange; POLAND: Molwa; PORTUGAL : Donzela; SPAIN : Lengua de bacalá, Maruca; SWEDEN: Langa; TURKEY: Gelincik; UK : Ling; USSR: Molva; YUGOSLAVIA: Mantiz morski.

**Literature** : Svetovidov (1948); Fraser-Brunner & Palmer (1951); Andriashev (1954); Bini (1969)

### Phycis

### GADI Phyc

**Genus with Reference** : *Phycis* Artedi, 1792, in Walbaum, *Artedi Gen.Pisc.*, 575.

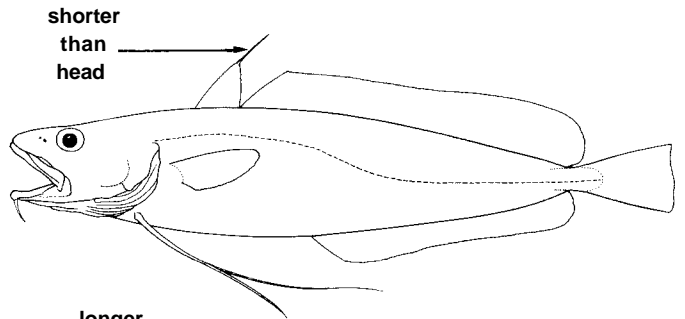
**Diagnostic Features** : Two dorsal fins and one anal fin, neither connected with caudal fin; first dorsal fin with eight or more rays; anal fin not greatly indented; pectoral fin not reaching beyond anal fin origin; pelvic fin with two elongated rays. Lateral-line system on head with pores. Opisthotic bone at rear of skull with large processes for attachment of pectoral girdle; post-temporal and supracleithrum well developed.

**Habitat, Distribution and Biology** : Three North Atlantic benthopelagic species.

**Interest to Fisheries** : Two eastern Atlantic species of minor importance.

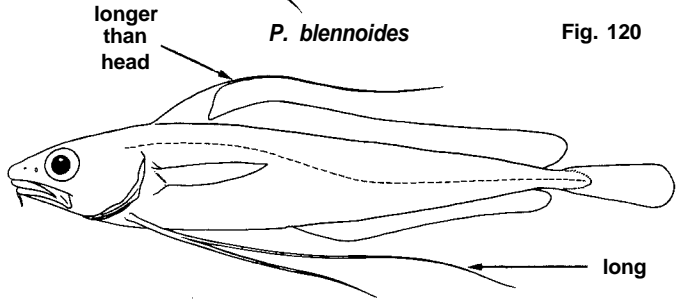
**Key to species:**

- 1a. Elongated rays of pelvic fin reaching beyond origin of anal fin. Scale rows between first dorsal fin and lateral line 5 to 7
  - 2a. Longest ray in first dorsal fin no longer than head. Longest ray in pelvic fin falling far short of end of anal fin base (Fig. 120) ..... ***P. blennoides***
  - 2b. Longest ray in first dorsal fin longer than head. Longest ray in pelvic fin reaching nearly to or beyond end of anal fin base (Fig. 121) ..... ***P. chesteri***
- 1b. Elongated rays of pelvic fin not reaching beyond origin of anal fin base. Scale rows between first dorsal fin and lateral line 11 or 12 (Fig. 122) ..... ***P. phycis***



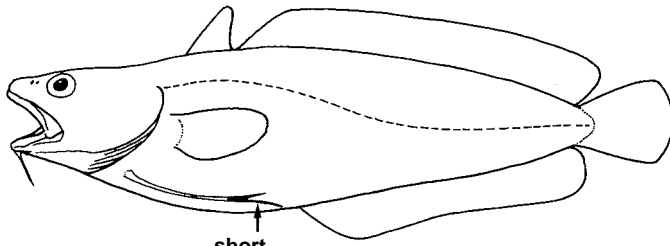
***P. blennoides***

**Fig. 120**



***P. chesteri***

**Fig. 121**



***P. phycis***

**Fig. 122**

***Phycis blennoides*** (Brunnich, 1768)

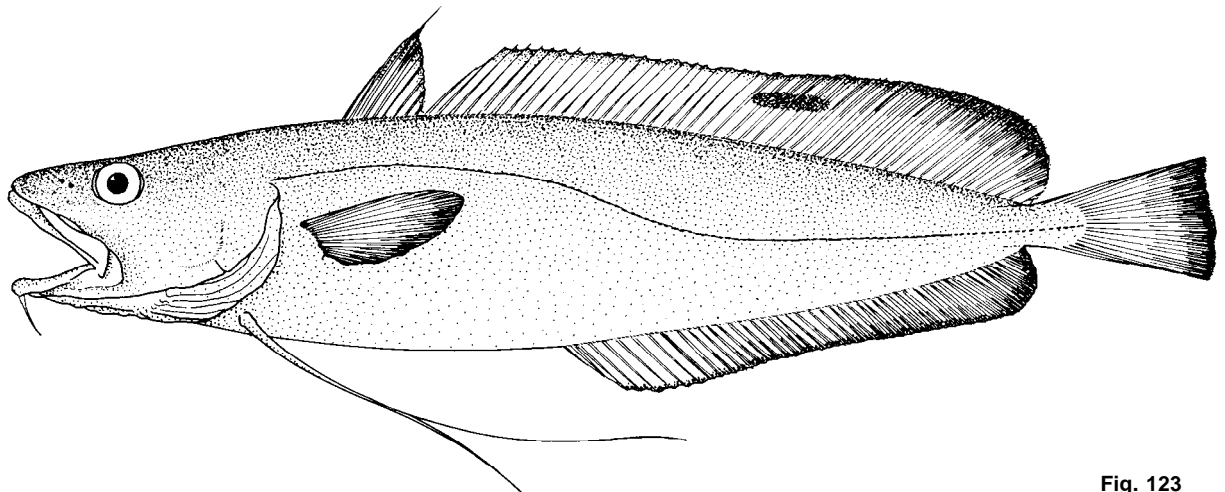
**Fig. 123**

**GADI Phyc 1**

**Scientific Name with Reference :** *Gadus blennoides* Brunnich, 1768, Ichth.Massil.:24.

**Synonyms :** *Gadus albidus* Gmelin, 1789; *Gadus bifurcus* Walbaum, 1792; *Blennius gadoides* Lacépède, 1800; *Phycis tinca* Bloch & Schneider, 1801; *Batrachoides gmelini* Risso, 1810; *Phycis furcatus* Fleming, 1828.

**FAO Names :** En - Greater forkbeard; Fr - Physis de fond; Sp - Brótola de fango.



**Fig. 123**

**Diagnostic Features** : First dorsal fin with an elongate ray; elongated rays of pelvic fin reaching well beyond origin of anal fin; 5 or 6 scales between first dorsal fin and lateral line. **Colour**: brown to red-grey dorsally, ventrally pale. Vertical fins with dark margins, often an elongate dark blotch at midlength of the second dorsal.

**Geographical Distribution** : From Norway at about 69°N and Iceland to Cape Blanc, West Africa, and including the Mediterranean (Fig. 124)

**Habitat and Biology** : Benthopelagic over sand and mud bottoms from 10 to 800 m depth, mostly at 100 to 450 m. Young are more coastal and live on the continental shelf while adults migrate along the slope. Reaches first maturity at 18 cm (males) and 33 cm (females). Spawns from January to May in the Mediterranean and from spring, extending to beginning of summer in the northeastern Atlantic. Growth is slow; females grow faster: at 4 years, 24 cm females and 23 cm males; 5 years, 26 cm females and 24 cm males; 6 years, 28 cm females and 25 cm males. Maximum age, 20 years. Feeds mainly on crustaceans and fishes. Individuals smaller than 15 cm do not eat fish, and adults do not feed on copepods and amphipods.

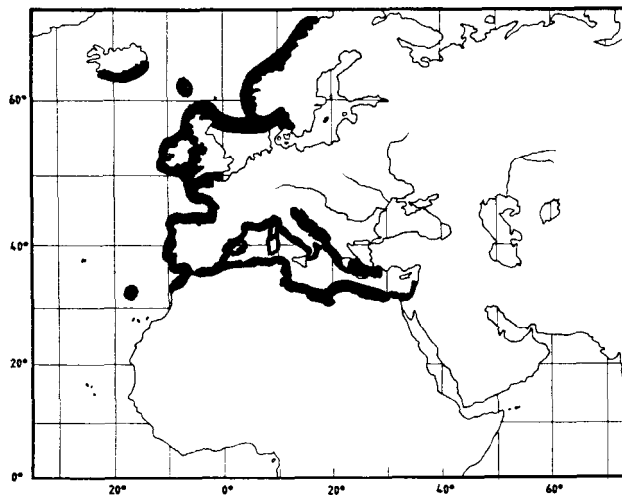


Fig. 124

**Size** : Reaching 110 cm total length, but commonly less than 45 cm.

**Interest to Fisheries** : Of rather minor importance. The catch reported for 1987 in the FAO Yearbook of Fishery Statistics totalled 1 612 metric tons, of which 814 t were taken in the northeastern Atlantic (mostly by Spain and France); and 655 t in the Mediterranean (Spain); and 143 t in the Eastern Central Atlantic. Caught mainly with bottom trawls and longlines, also with gillnets and handlines. Marketed fresh and as fillets (also fishmeal). It is difficult to preserve.

**Local Names** : ALBANIA: Peshk-fik i bardhë; CYPRUS: Malactos; DENMARK: Skaelbrosme; FRANCE : Capelan, Loche, Longue barbe, Moille, Moustelle, Mostelle de fond, Moustelo blanco, Moustelo de roco, Mustella, Phycis de fond; GERMANY: Gabeldorsch; GREECE: Lasposalouvardos, Ponticos; ISRAEL: Dunim ha-mikhmoret; ITALY: Musdea, Musdea bianca, Pastenula; MALTA: Lipp abjad; MAROC: Bartola, Mostela; MONACO: Mustela de fundu; NETHERLANDS: Gaffelkabeljauw; NORWAY: Skellbrosme; POLAND: Bialy widlak; PORTUGAL: Abrotea, Ricardo; SWEDEN: Fjallbrosme, Kumrill; SPAIN: Brotola de fango, Mollera pigada; SYRIA: Kharraye mouassata; TUNISIA: Mostia kabirah; TURKEY: Gelincik; UK: Greater fork-beard; USSR: Bolsheglaziy niteperiy nalim; YUGOSLAVIA: Tabinja bjaltica.

**Literature** : Svetovidov (1948); Bini (1969); Fischer, Bauchot & Schneider, eds (1987).

*Phycis chesteri* Goode & Bean, 1878

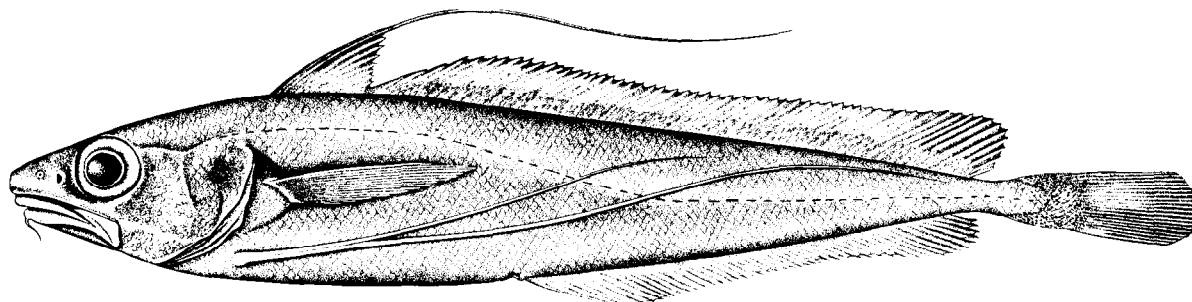
Fig. 125

GADI Phyc 3

**Scientific Name with Reference** : *Phycis chesteri* Goode & Bean, 1878, Proc.US Nat.Mus., 1:256.

**Synonyms** : None.

**FAO Names** : En- Longfin hake; Fr- Merluche à longues nageoires.



(drawing by K. Moore, Washington)

Fig. 125

**Diagnostic Features** : Longest ray in first dorsal fin longer than head; longest ray in pelvic fin reaching to or beyond posterior end of anal fin base. **Colour**: olive on sides, belly pale; margins of dorsal, caudal and anal fins darker.

**Geographical Distribution** : Outer continental shelves and slopes of the western North Atlantic from at least 56°N to the straits of Florida, but not abundant south of Cape Hatteras (Fig. 126).

**Habitat and Biology** : Benthopelagic, living on or near the bottom at depths ranging from 90 to ca. 1 400 m, but most abundant between 360 and 800 m. The sex ratio is 1 male for 2.85 females. Spawning occurs on the continental slope from late September to April with a peak in December and January. A 36 cm fish could lay 1 300 000 eggs. Feeds mostly on crustaceans but also on molluscs and fishes.

**Size** : Reaches nearly 40 cm total length.

**Interest to Fisheries** : An abundant but rather soft-bodied fish. It has never been fished commercially, but is trawled on the continental slope from Nova Scotia to southern Virginia at 230 to 1 370 m depth. It was found to be most abundant between 500 and 700 m depth. Perhaps a potential fishery. Separate statistics are not reported for this species.

**Local Names** : CANADA: Longfin hake, Merluche à longues nageoires; USA: Longfin hake

**Literature** : Wenner (1983) gives an excellent discussion of the life history.

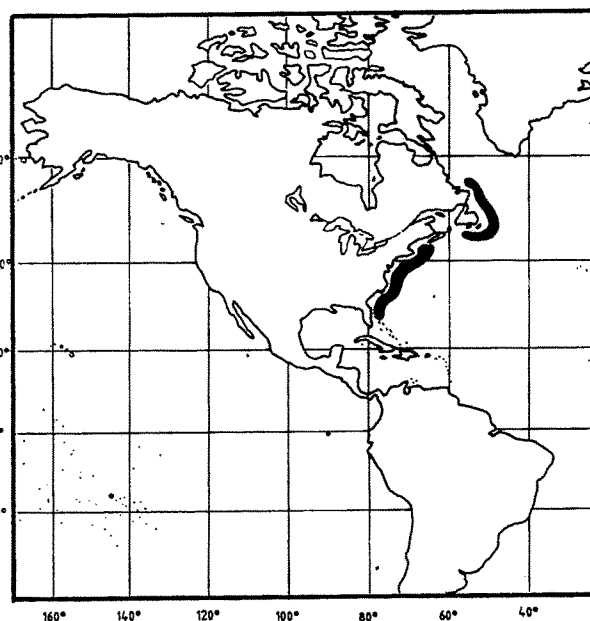


Fig. 126

**Phycis phycis** (Linnaeus, 1766)

Fig. 127

GADI Phyc 2

**Scientific Name with Reference** : *Blennius phycis* Linnaeus, 1766, *Syst.Nat.*, ed. 12:442

**Synonyms** : *Tinca marina* Walbaum, 1792; *Phycis mediterraneus* Delaroche, 1809; *Phycis furcatus* S. Bowdick 1825; *Phycis limbatus* Valenciennes, 1838.

**FAO Names** : En - Forkbeard; Fr - Phycis de roche; Sp - Brótola de roca.

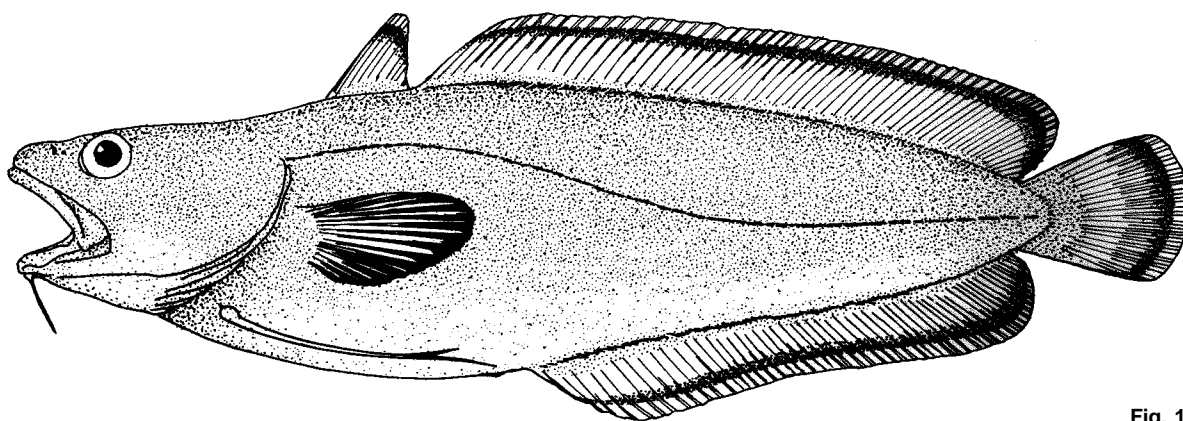


Fig. 127

**Diagnostic Features** : First dorsal fin with no elongate ray; elongated rays of pelvic fin reaching at most to origin of anal fin; 11 or 12 scale row between first dorsal fin and lateral line. **Colour**: brownish-red dorsally, somewhat paler ventrally; vertical fins distally dark, sometimes with a pale margin.

**Geographical Distribution** : Northeast Atlantic from the Bay of Biscay to Morocco, south to Cape Verde and including offlying islands. Also in the Mediterranean and at the Azores (Fig. 128).

**Habitat and Biology** : Benthopelagic, on hard and on sandy-muddy bottoms near rocks at 100 to 650 m, but sometimes taken at greater depths. Common from 100 to 200 m depth. Active at night and hides between rocks during the day. Spawns from January to May throughout its entire Mediterranean range. Feeds on small fish and various invertebrates.

**Size** : May reach 60 cm total length, but more commonly 25 cm or less.

**Interest to Fisheries** : Limited. Caught with trawls, gill nets, longlines, traps and hand lines, incidental to other fishing. Marketed regularly in Spain, Morocco, Italy and Yugoslavia, usually fresh. Separate statistics are not reported for this species.

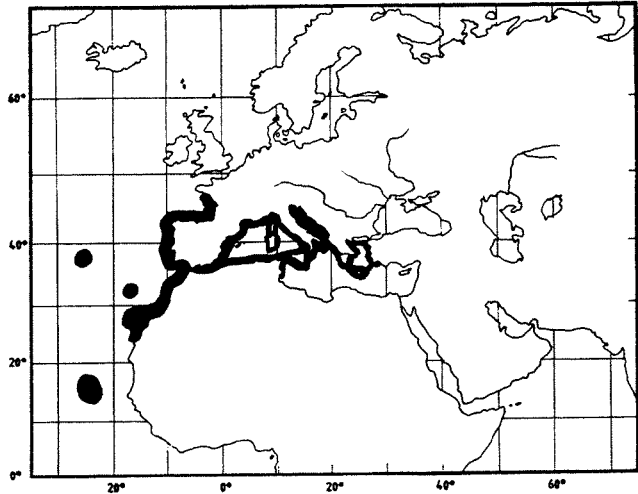


Fig. 128

**Local Names** : ALBANIA: Peshk-fik i zi; CYPRUS: Salouvardas; FRANCE: Mostelle de roche, Phycis de roche; GREECE: Petrosaloulvartos; ISRAEL: Dunim ha-sel'aim; ITALY: Musdea, Musdea Bianca; MALTA: Lipp tal-qawwi; MONACO: Moustela de rocas, PORTUGAL: Abrotia; SPAIN: Brótola de roca, Móllera roquera; TUNISIA: Mostia saghirah; TURKEY: Gelincik; UK: Fork-beard; USSR: Obyknovenniy niteperiy nalim; YUGOSLAVIA: Tabinja mrkulta.

**Literature** : Svetovidov (1948); Bini (1969); Fischer, Bauchot & Schneider, eds (1987).

## Pollachius

## GADI PoI

**Genus with Reference** : *Pollachius* Nilsson, 1832, *Prodr.Ichth.Scand.*:43.

**Diagnostic Features** : Lower jaw longer than upper. Three dorsal fins and two anal fins; dorsal fins relatively close together; first anal fin base longer than one-half of preanal distance. Lateral-line canals on head with pores. Lateral line continuous to about middle of third dorsal fin.

**Habitat, Distribution and Biology** : Benthopelagic to pelagic, mostly in coastal waters, generally at depths less than 300 m in the temperate to arctic North Atlantic and adjacent seas.

**Interest to Fisheries** : Only one of the two known species is commercially important

**Key to Species**

- 1a. Barbel absent at tip of lower jaw. Lateral line with a sharp dip between first and second dorsal fins (Fig. 129) . . . ***P. pollachius***
- 1b. A small barbel present at tip of lower jaw. Lateral line smooth along its entire length (Fig.130) . . . . . ***P.virens***

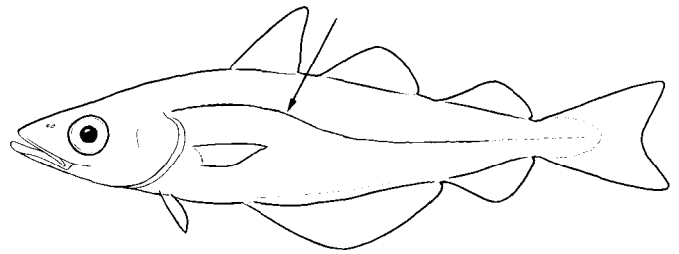
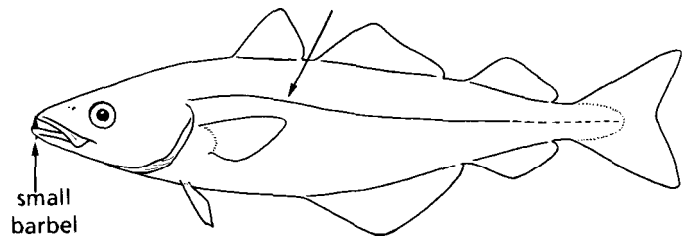
***P. pollachius*****Fig. 129*****P. virens*****Fig. 130*****Pollachius pollachius*** (Linnaeus, 1758)

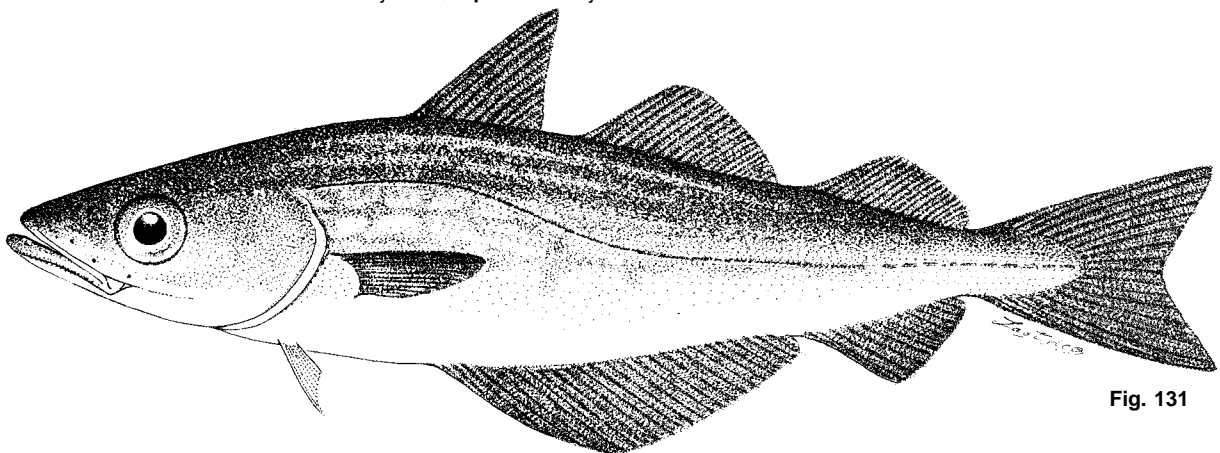
Fig. 131

**GADI Pol 1**

**Scientific Name with Reference** : *Gadus pollachius* Linnaeus, 1758, *Syst.Nat.*, ed. 10:254

**Synonyms** : *Gadus lycostomus* Faber, 1828; *Merlangus pollachius*, Fleming, 1828; *Pollachius typus* Bonaparte, 1846; *Gadus viridis* Gronow, 1854; *Pollachius linnei* Malm, 1877; *Merlangus pollachius*, Moreau, 1881.

**FAO Names**: **En** - Pollack; **Fr** - Lieu jaune; **Sp** - Abadejo.

**Fig. 131**

**Diagnostic Features** : No barbel at tip of lower jaw. Lateral line with a sharp dip between first and second dorsal fins. **Colour**: variable, dorsally dark, sharply distinguished from silver-grey sides and belly, upper part of body with yellow to orange streaks or blotches. Fins uniformly dark except for yellowish pelvics. Lateral line greenish.

**Geographical Distribution** : Northeastern Atlantic from Norway, the Faeroes (rare) and Iceland to the Bay of Biscay (Fig. 132).

**Habitat and Biology** : Pelagic to benthopelagic, mostly close to shore but up to 200 m depth over hard bottoms. Young are pelagic and live near the coast up to 3 years, then migrate to the open sea where they are found mostly between 40 and 100 m depth. Spawns in March in the Bay of Biscay, in February in Spain, and in May in Norway, at ca. 150 m depth. Growth is rapid but slower in the north. At 5 years, the fish attain lengths of 63 cm in the Bay of Biscay, 65 cm off Spain, 59 cm in the Celtic Sea and 52 cm off W. Ireland. Maximum age and size are 8 years and 75 cm. Feeds mostly on fish and incidentally on cephalopods and crustaceans (shrimps and crabs).

**Size** : Possibly reaching 130 cm total length, but 75 cm is more common.

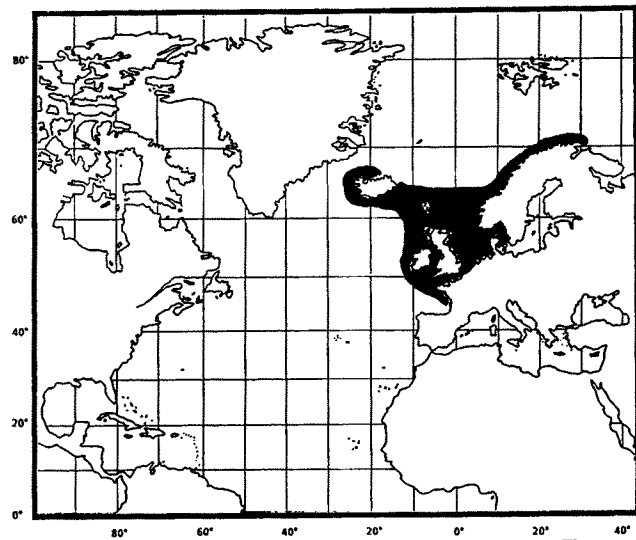


Fig. 132

**Interest to Fisheries** : Not particularly important commercial fish. The catch for 1987 reported in the FAO Yearbook of Fishery Statistics totalled 17 900 metric tons, all from the northeastern Atlantic (France: ca. 8 300 t; Spain: ca. 2 900 t; UK: ca. 2 600 t; Norway: ca. 1 500 t; Denmark: 1 100 t; Ireland: 950 t and others). The major fishing grounds are the Celtic Sea, the English Channel, and the northern Bay of Biscay. Caught with bottom or pelagic trawls, longlines and gillnets. Marketed fresh and frozen.

**Local Names** : DENMARK: Lubbe; FRANCE: Colin, Lieu jaune, Merluche blanche; GERMANY : Pollack; ITALY: Merluzzo giallo; NETHERLANDS: Pollak, Witte koolvis; NORWAY: Lyr; POLAND: Graziak, Rdzawiec; PORTUGAL: Bacalhau; SWEDEN: Bleka, Lyrorsk; UK: Lythe, Pollack.

**Literature** : Svetovidov (1948); Andriashev (1954); Wheeler (1969).

**Pollachius virens** (Linnaeus, 1758)

Fig. 133

GADI PoI 2

**Scientific Name with Reference** : *Gadus virens* Linnaeus, 1758, *Syst.Nat.*, ed. 10:254.

**Synonyms** : *Gadus carbonarius* Linnaeus, 1758; *Gadus colinus* Lacépède, 1800; *Gadus sey* Lacépède, 1800; *Gadus purpureus* Mitchell, 18-15; *Merlangus virens* Fleming, 1828; *Merlangus carbonarius*, Fleming, 1828; *Merlangus purpureus*, Storer, 1846; *Pollachius carbonarius*, Gill, 1864.

**FAO Names** : En - Saithe; Fr - Lieu noir; Sp - Carbonero

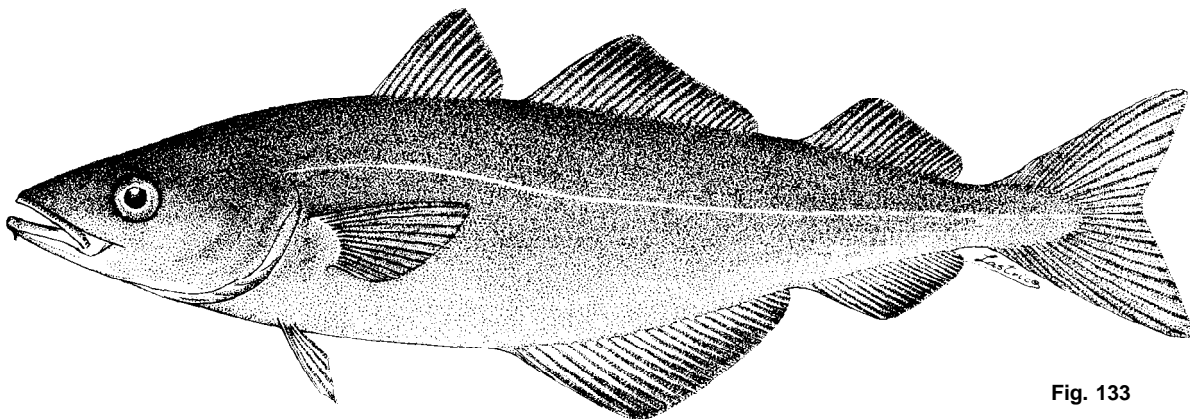


Fig. 133

(adapted from Svetovidov, 1948)

**Diagnostic Features** : A small barbel at tip of lower jaw. Lateral line smooth along its entire length. **Colour**: brownish-green dorsally, only slightly paler ventrally; fins coloured like the body, except for pelvics which are pale; lateral line pale.

**Geographical Distribution** : Barents Sea and Spitsbergen to Bay of Biscay, around Iceland, southwest Greenland, and in the western Atlantic from Hudson Strait to North Carolina, although rare at the extremes of the range (Fig. 134).

**Habitat and Biology** : An active, gregarious, pelagic fish occurring in inshore and offshore waters to about 200 m depth. Migrations are known to occur, especially for spawning, to coastal waters in spring and to deeper waters in winter. Also, long-distance north-south migrations are known, both for Europe and America. During their first 2-3 years of age, saithe remain in shallow coastal waters. Growth is rapid: at 1 year, ca. 20 cm, 2 years, 35 cm, 3 years, 50 cm, 5 years, 60-65 cm, 10 years, 94-97 cm, 15 years, 108 cm. Maximum age is 25 years. European saithe grow faster in the southern part of their range, but it is not known whether this also applies to the North American population. First maturity is reached between 5 and 10 years of age in the European population, and apparently earlier (at 3 years) in the

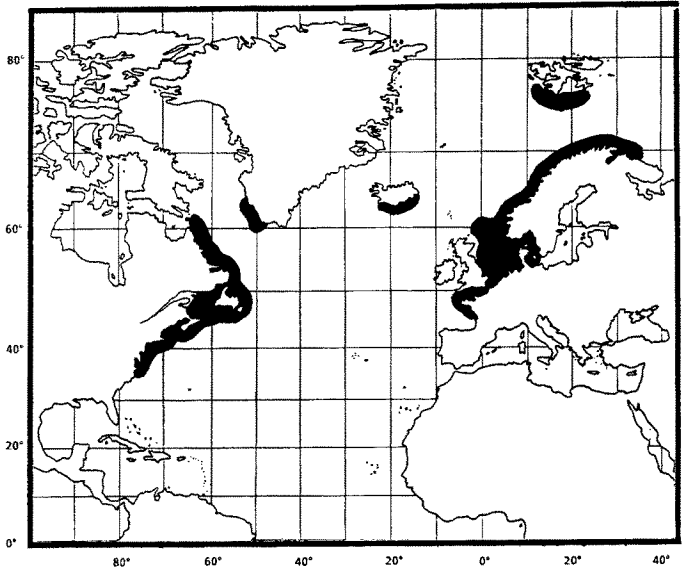


Fig. 134

Gulf of Maine. Spawning occurs in late fall and winter; in the western North Atlantic it begins in September and ends in March, with a peak from November to February. Average females lay about 220 000 eggs, but in large fish, the fecundity may reach 4 000 000 eggs per female. Smaller fish in inshore waters feed on small crustaceans (copepods, amphipods, euphausiids) and small fish, while the large saithe prey predominantly upon fishes.

**Size** : Reaches nearly 130 cm total length; common from 30 to 110 cm

**Interest to Fisheries** : An important commercial species, similar to cod and haddock which it replaces in some products. The catch reported for 1987 in the FAO Yearbook of Fishery Statistics totalled 475 981 metric tons, of which 404 102 t, were taken in the northeastern Atlantic (Norway: ca. 148 000 t, Iceland: ca. 78 200 t, France: ca 69 900 t, Faeroe Islands: ca 41 600 t, Germany: ca. 28 800 t, UK: ca. 22 700 t, Denmark: ca. 8 200 t, and others), and 71 879 metric tons in the northwestern Atlantic (Canada: ca. 47 700 t, UK: ca. 20 700 t, France: ca 2 700 t and others). In the northwestern Atlantic, 80% of the catches are taken from October to December when this fish forms large schools. Saithe are caught with purse and Danish seines, trawls (bottom and pelagic), and longlines; also trolling with spoons is used. They are marketed fresh, chilled as fillets, and frozen; also canned, dried-salted and in brine.

**Local Names** : BELGIUM: Koolvis; CANADA: Pollock; DENMARK: Sej; FRANCE: Colin, Colin noir, Greslin, Lieu noir, Merlan vert, Merluche; GERMANY : Kohler Seelachs; ITALY: Merluzzo nero; NETHERLANDS: Koolvis; NORWAY: Sei; POLAND: Czarniak; PORTUGAL: Badejo; SPAIN: Bacalao, Carbonero; SWEDEN: Garsej; UK : Coalfish, Coley, Saithe; USA: Pollock; USSR: Saida.

**Literature** : Svetovidov (1948); Bigelow & Schroeder (1953); Andriashev (1954); Wheeler (1969).



**Raniceps**

GADI Ran

**Genus with Reference** : *Raniceps* Cuvier in Oken, 1817, Isis: 1182.

**Diagnostic Features** : See species.

**Remarks** : A single species.

***Raniceps raninus* (Linnaeus, 1758)**

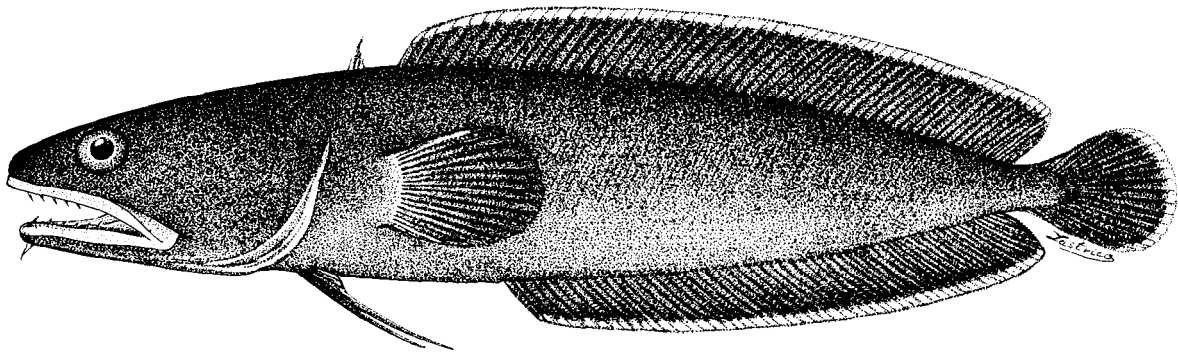
Fig. 135

GADI Ran 1

**Scientific Name with Reference** : *Blennius raninus* Linnaeus, 1758, Syst. Nat., ed. 10:258

**Synonyms** : *Blennius fuscus* Müller, 1776; *Blennius raninus*, Müller, 1776; *Gadus fuliginosus* Walbaum, 1784; *Gadus raninus*, Müller, 1788; *Gadus trifurcus* Walbaum, 1792; *Gadus minimus* Walbaum, 1792; *Batrachoides blennioides* Lacépède, 1800; *Phycis ranina*, Schneider, 1801; *Blennius trifurcatus* Shaw, 1803; *Batrachocephalus blennioides*, Hollberg, 1819; *Raniceps jago* Fleming, 1828; *Raniceps trifurcatus*, Fleming; *Raniceps niger* Nilsson, 1832; *Raniceps fuscus*, Kroyer, 1843-45.

**FAO Names** : En - Tadpole fish; Fr - Trident.



(after Svetovidov, 1948)

Fig. 135

**Diagnostic Features** : Head notably depressed. Lower jaw shorter than upper. Chin barbel present. Dorsal fins two, the first poorly developed, with only three short rays; anal fin one, not indented, long based, about equal in length to preanal distance; dorsal and anal fins separate from caudal; pelvic fin somewhat elongated. Neither lateral line on body nor pores on head. Colour: a uniform dark brown or bluish brown; lips and distal areas of all fins paler, except for the pectorals.

**Geographical Distribution** : Found from Trondheim on the Norwegian coast to the Bay of Biscay; also around the British Isles (Fig. 136).

**Habitat and Biology** : Lives in coastal waters at shallow depths, generally from 10 to 20 m, more seldom from 75 to 100 m, on rocky bottoms with seaweeds. Solitary and secretive, undertakes only limited local movements. Spawns from May to September at 50 to 75 m depth near the shore throughout its entire range. Feeds on sea stars, crustaceans, worms, molluscs and small fish.

**Size** : Reaches 25-30 cm total length.

**Interest to Fisheries** : Of no economic importance. Caught occasionally in trawls and on hook and line, but practically useless as food.

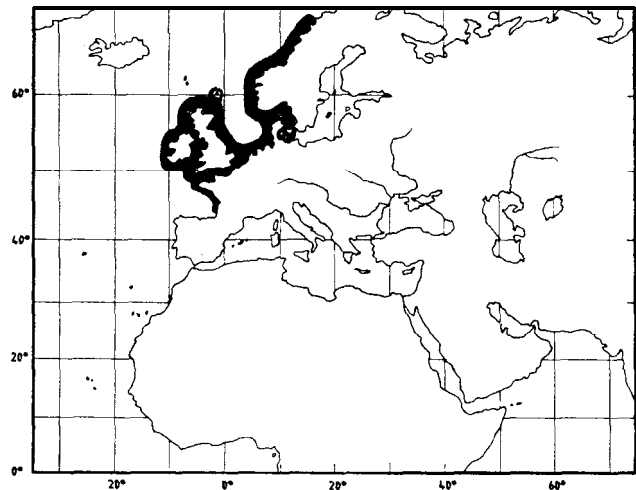


Fig. 136

**Local Names** : DENMARK: Sortvels; FRANCE: Trident; GERMANY: Froschdorsch; NETHERLANDS: Vorschkval; NORWAY: Paddetorsk

**Literature** : Svetovidov (1948); Wheeler (1969)

**Remarks** : Considered a separate family by some ichthyologists (see papers by Dunn, Howes & Markle, *in* Cohen, 1989).

**Theragra**

**GADI Ther**

**Genus with Reference** : *Theragra* Lucas, 1899, *in* Jordan & Gilbert, *Rept.Fur-seal Rept.Invest.*, vol. III:486

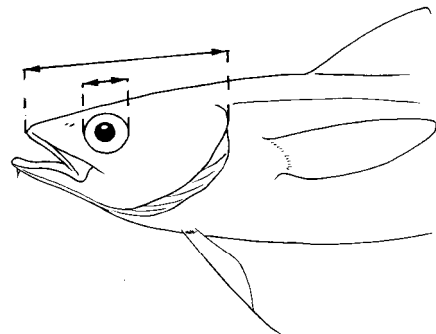
**Diagnostic Features** : Lower jaw projecting slightly. Small chin barbel present. Three dorsal fins and two anal fins, all separate from each other; second anal fin with a short base, less than two times the length of first dorsal fin base; pectoral fin usually reaching at least to anal fin origin; pelvic fin with a slightly elongated filament. Lateral line continuous to at least rear end of first dorsal fin base, interrupted posteriorly; head with lateral line pores. Parapophyses not expanded at their tips.

**Habitat, Distribution and Biology** : Generally pelagic. Widely distributed in the temperate to boreal North Pacific. Also a very rare species off Finmark in the Northeast Atlantic

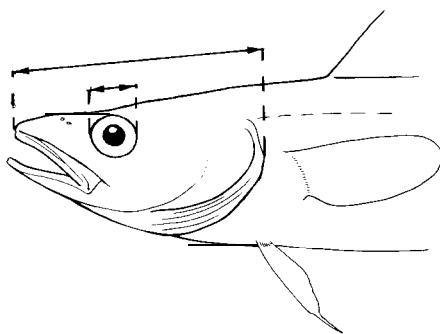
**Interest to Fisheries** : In the Pacific, a very important fish

**Key to species** :

- 1a. Eye 3.9 to 4.8 times in head length (Fig. 137) ..... *T.chalcogramma*
- 1b. Eye 5.0 to 5.2 times in head length (Fig. 138) ..... *T.finnmarchica*



*T. chalcogramma* Fig. 137



*T. finnmarchica* Fig. 138

***Theragra chalcogramma*** (Pallas, 1811)

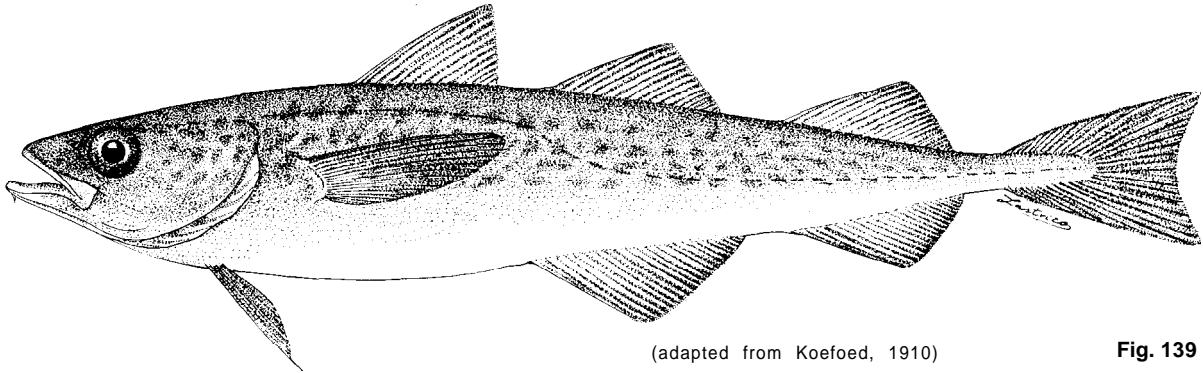
Fig. 139

GADI Ther 1

**Scientific Name with Reference** : *Gadus chalcogrammus* Pallas, 1811, *Zoogr.Rosso-Asiat.*, 3: 198.

**Synonyms** : *Gadus periscopus* Cope, 1873; *Pollachius chalcogrammus*, Jordan & Gilbert, 1881; *Gadus minor* Döderlein, 1887; *Pollachius chalcogrammus fucensis* Jordan & Gilbert, 1894; *Theragra fucensis*, Jordan & Evermann, 1898; *Theragra chalcogramma chalcogramma natio fucensis*, Svetovidov, 1948.

**FAO Names** : En - Alaska pollock; Fr - Lieu de l'Alaska; Sp - Colin de Alaska.



(adapted from Koefoed, 1910)

Fig. 139

**Diagnostic Features** : Eye 20.7 to 25.7% of head length. Predorsal length 28.1 to 29.2 % total length. Caudal peduncle depth 3.0 to 3.5 % of total length. **Colour**: olive green to brown dorsally, often mottled or blotched; silvery on sides, pale ventrally; fins darker.

**Geographical Distribution** : Widely distributed in the temperate to boreal North Pacific, from Central California into the eastern Bering Sea, along the Aleutian arc, around Kamchatka, in the Okhotsk Sea and into the southern Sea of Japan (Fig. 140).

**Habitat and Biology** : Generally demersal, from 30 to below 400 m depth, sometimes near the surface; performs diurnal vertical migrations. Reaches first maturity at 3-4 years (30 to 38 cm total length). Fecundity varies with age: 4 years: 520 000 eggs; 11 years: 15 million eggs for the W Bering Sea stock. Congregates in dense schools to spawn, usually at 50 to 250 m depth. The length of the spawning season varies by area, from 2 to 7 months. Spawns mostly from January to March in the Strait of Georgia and the Aleutian Basin, but spawning occurs much later to the northwest of the Pribilof Islands (extending to August) than in the southeastern Bering Sea. Grows rapidly and lives to 14-15 years. The young feed mainly on copepods and their eggs. Adults prey upon shrimps, sand lance and herring in British Columbia, on pink, chum and coho salmon in Alaska; and on mysids, euphausiids, silver smelt, and capelin in Asian waters. Alaska pollock is preyed upon by fur seals.

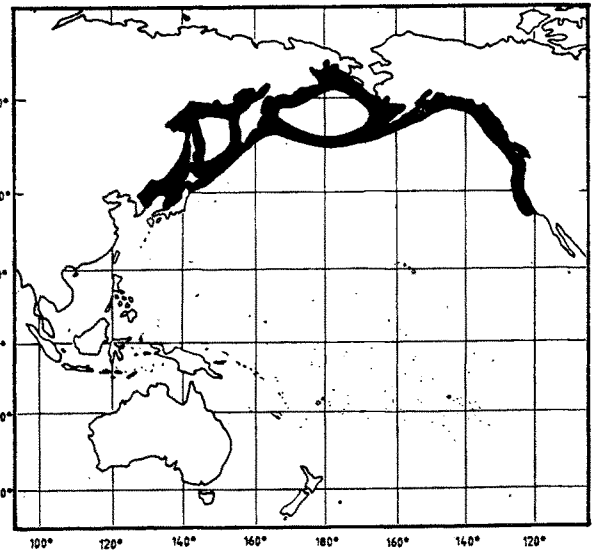


Fig. 140

**Size** : Reaches 80 cm total length.

**Interest to Fisheries** : This species contributes the largest of all demersal fish resources; it is composed of 12 major stocks distributed in different areas of the North Pacific. The catch recorded for 1987 in the FAO Yearbook of Fishery Statistics totalled 6 703 868 metric tons, of which 5 009 466 t were taken in the western North Pacific (USSR: ca. 3 420 000 t; Japan: ca. 1 216 000 t; Poland: ca. 230 000 t; and Republic of Korea: ca. 142 200 t), and 1 694 402 t in the eastern North Pacific (USA: ca. 1 38 000 t; Republic of Korea: ca. 289 000 t; Japan: ca. 97 000 t; and others). The largest catches come from the outer shelf and slope of the eastern Bering Sea between the eastern Aleutians and the Pribilof Islands, and from waters southwest of St. Mathew Islands. Fishing depth ranges from 90 and 300 m in the Bering Sea, and from 50 to 200 m in the Gulf of Alaska (100-200 m in winter and 50 to 150 m in summer).

The Alaska pollack is caught mostly by pair and stern trawls, Danish seines and longlines; gillnets and dragnets are also used in inshore areas. Trawl and longline fishing is most productive in daytime when the schools are more concentrated near the bottom. Some time ago it was used only for animal feeds, but it has now become an important food resource for humans in the form of frozen blocks (whole or fillets), roe, and salted products.

**Local Names** : CANADA : Walleye pollock; JAPAN: Sukesu-dara; USA: Alaska pollock; USSR: Mintai.

**Literature** : Svetovidov (1948); Andriashev (1954); Hart (1973); Niggol (1982); Balykin (1986).

**Remarks** : Svetovidov (1948), suggested that *T. chalcogramma* divides into geographical races, some of which have been named (see synonymy). Other ichthyologists recognize but a single, named species.

***Theragra finnmarchica* Koefoed, 1956**

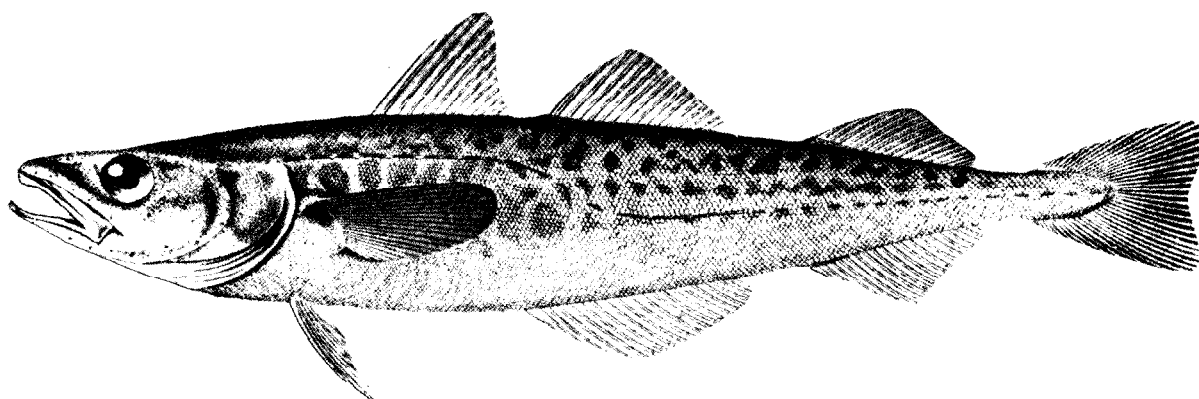
Fig. 141

GADI Ther 2

**Scientific Name with Reference** : *Theragra finnmarchica* Koefoed, 1956, Fiskeridirekt.Skr., ser. Havunders., 11(5):3

**Synonyms** : None.

**FAO Names** : **En** - Norwegian pollock; **Fr** - Lieu de Norvège; **Sp** - Colin de Noruega.



(from Svetovidov, 1959)

Fig. 141

**Diagnostic Features** : Eye 19.2 to 19.9 % of head length. Predorsal length 29.9 to 31.9 % of total length. Caudal peduncle depth 4.0 to 4.6% of total length. **Colour** : Fresh specimens blue dorsally, pale silver-white ventrally.

**Geographical Distribution** : Known only from the northern tip of Norway (Fig. 142).

**Habitat and Biology** : Probably a benthopelagic species occurring mainly in midwaters.

**Size** : Reaches at least 50 cm total length.

**Interest to Fisheries** : None

**Local Names** : NORWAY: Berlevagfish.

**Literature** : Svetovidov (1959)

**Remarks** : A rare species, known only from 4 specimens, three caught in 1932, a fourth in 1957.

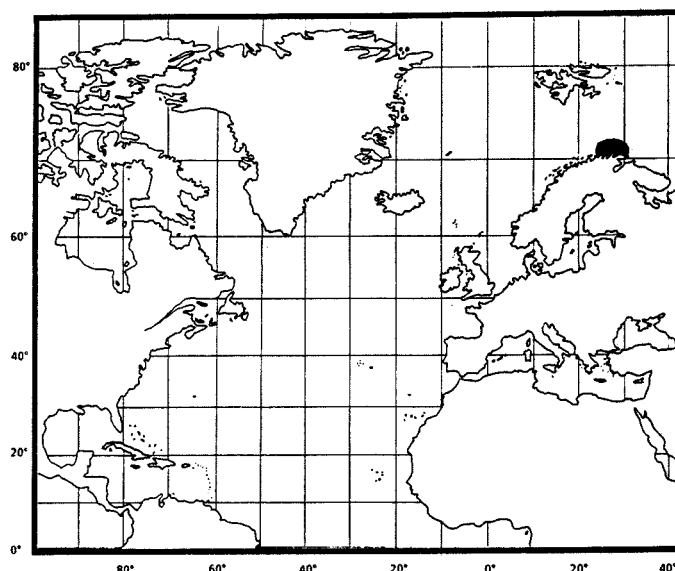


Fig. 142