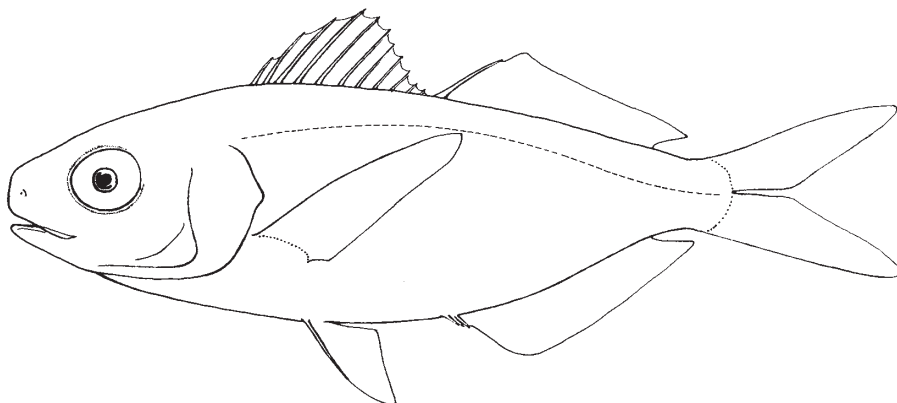


## NOMEIDAE

## Driftfishes (cigarfishes)

by P.R. Last

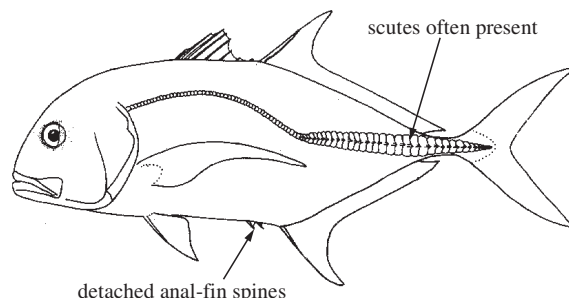
**Diagnostic characters:** Small to medium-sized (to 1 m) fishes with a compressed, slender to deep body, varying greatly with growth; flesh firm to flabby; mucous canal system beneath skin well developed, pores small or minute. **Caudal peduncle relatively short, deep, and compressed; no lateral keels near caudal-fin base.** Head moderately large, compressed, snout blunt; opercles very thin. Eye medium sized, located centrally or nearer to dorsal surface, surrounded by pale adipose tissue in most species; **low ridge extending over eye in some species.** **Mouth small and terminal, not protractile, maxilla barely reaching border of eye;** lacrimal (preorbital) bone partly or wholly covering upper jaw when mouth closed. **Teeth small, conical, mostly uniserial** (multicuspid in some *Psenes* species); **present on palatines and vomer.** **Branchiostegal rays 6.** Gill rakers slender and numerous, about 23 to 29 on outer gill arch. **Two distinct dorsal fins**, almost connected. First dorsal fin with IX to XII spines, its origin over pectoral-fin base, the spines delicate or rigid, depressible into a groove. Second dorsal fin with I or II weak spines and 15 to 30 soft rays, its height subequal or slightly shorter than height of first dorsal fin. Anal fin with I to III weak spines and 15 to 30 soft rays, similar to second dorsal fin in shape but slightly smaller. **Caudal fin deeply forked, lobes capable of complete or partial scissor-like overlap when folded.** Pectoral fins usually becoming long, falcate with growth. Pelvic fins small to large, their origin slightly forward to behind pectoral-fin insertion; innermost ray attached to abdomen by a membrane, fins folding into a median groove. **Lateral line on upper side**, often indistinct, **following dorsal profile** but rarely extending onto caudal peduncle; scales small to very large, cycloid or feebly ctenoid, thin, very deciduous; scales on bases of median fins; top of head variably scaly. Vertebrae 30 to 42. **Colour:** mostly uniform light to dark, sometimes with darker blotches or stripes, bases of median fins may be translucent; gill cavity dark.



**Habitat, biology and fisheries:** Oceanic fishes of almost all temperate and tropical seas with the apparent exception of the shallow South China Sea. The epipelagic juveniles and larvae are often found with jellyfish and siphonophores. Adults of most species occupy midwater habitats but some live demersally over continental slopes. Some species are of minor commercial value but catch statistics are generally unavailable.

**Similar families occurring in the area**

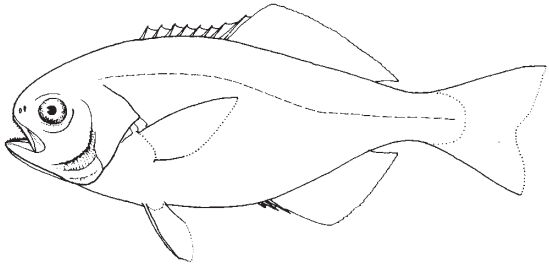
Carangidae: species of similar shape to nomeids have I or II separate spines preceding the anal fin (no spines detached in nomeids); many have scutes on the caudal peduncle (always absent in nomeids).



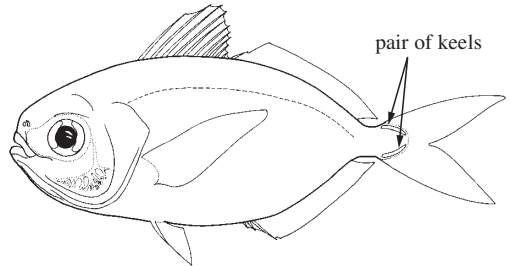
Carangidae

Centrolophidae: a single dorsal fin or with dorsal-fin spines much shorter than dorsal-fin rays (spines equal to or longer than rays in nomeids); no teeth on roof of mouth (present in nomeids); branchiostegal rays 7 (rather than 6).

Ariommatidae: closest to *Psenes* in appearance; caudal peduncle slender and not compressed (rather than deep and compressed); pair of low keels on each side of caudal-fin base (caudal keels absent in nomeids); no teeth on roof of mouth (present in nomeids).



Centrolophidae



Ariommatidae

**Key to the species of Nomeidae occurring in the area**

Note: members of some genera vary considerably in form with growth; the following key may not reliably identify juveniles (less than 8 cm standard length).

- 1a. Predorsal scales extending to or forward of vertical through anterior edge of eye (anterior scales small, sometimes indistinct in *C. whiteleggii*) (Fig. 1a); body not oval . . . . . (*Nomeus, Cubiceps*) → 2
- 1b. Anterior margin of predorsal scale patch above mideye or more posteriorly on head (Fig. 1b), or if present further forward (in *P. cyanophrys*), then body almost oval . . . . . (*Psenes*) → 7
- 2a. No teeth on tongue; juveniles (shorter than 15 cm standard length) with greatly enlarged pelvic fins and dark blotches on body and caudal fins; vertebrae 41 (Fig. 2). . . . . *Nomeus gronovii*
- 2b. Small teeth in a broad patch or single row on midline of tongue (except in the eastern Pacific *C. paradoxus*); juvenile form not as above; vertebrae 30 to 33 . . . . . (*Cubiceps*) → 3

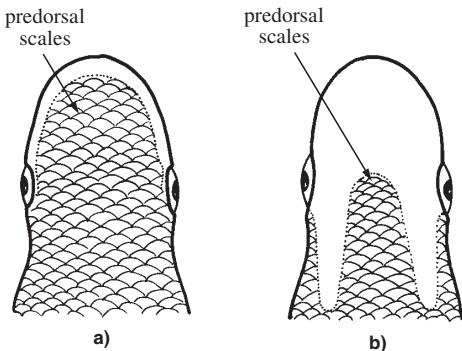


Fig. 1 dorsal view of head

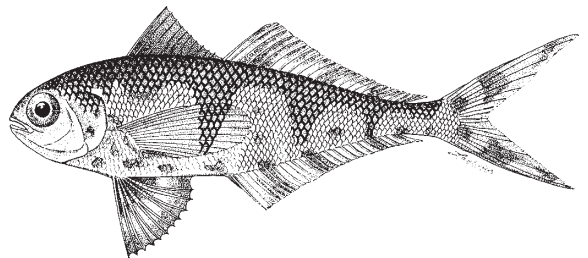


Fig. 2 *Nomeus gronovii* (juvenile)

- 3a. Teeth patches on midline of roof of mouth and tongue large, broad and granular (sometimes partly obscured by mucous) (Fig. 3a); anal-fin rays (excluding spines) 14 to 16 (rarely 17) (Fig. 4) . . . . . *Cubiceps pauciradiatus*
- 3b. Teeth on midline of roof of mouth and tongue in single rows (rows usually raised but sometimes partly obscured by mucous) (Fig. 3b); anal-fin rays (excluding spines) 17 or more (mostly 19 or more in other species) . . . . . → 4

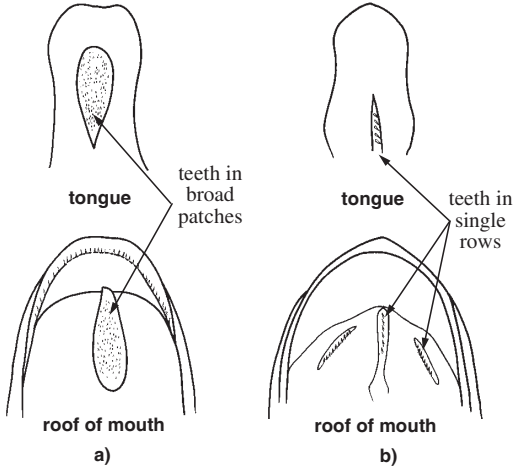


Fig. 3

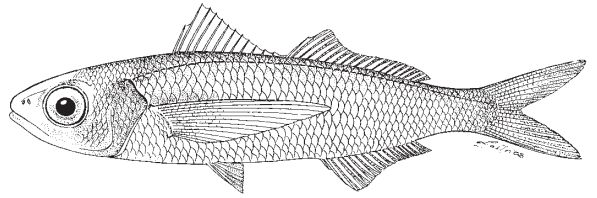


Fig. 4 *Cubiceps pauciradiatus*

- 4a. Scales on top of head of 2 distinct sizes with the boundary between patches sharply demarcated from each other above hind margin of eye (anterior scales very small and often indistinct) (Fig. 5a); anal-fin rays (excluding spines) usually 18 or 19 (rarely 17 or 20) (Fig. 6) . . . . . *Cubiceps whiteleggii*
- 4b. Scales on top of head of similar size (or graduating in size in *C. capensis*), not separable into distinct patches (pockets usually still evident when scales shed) (Fig. 5b); anal-fin rays (excluding spines) usually 20 to 23 (rarely 19 in *C. baxteri*) . . . . . → 5

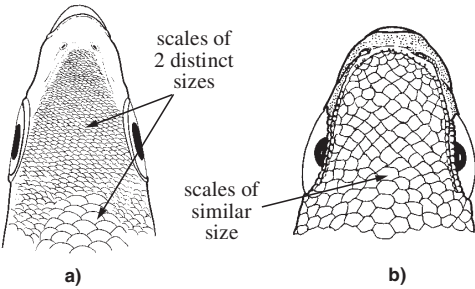


Fig. 5 dorsal view of head

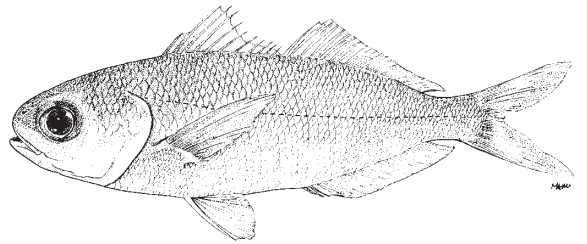


Fig. 6 *Cubiceps whiteleggii*

- 5a. Dorsal profile strongly convex; snout moderately bluntly pointed with jaws slightly inferior; vertebrae 32 (Fig. 7). . . . . *Cubiceps kotlyari*
- 5b. Dorsal profile only weakly convex; snout rounded with jaws terminal; vertebrae 31 . . . . . → 6

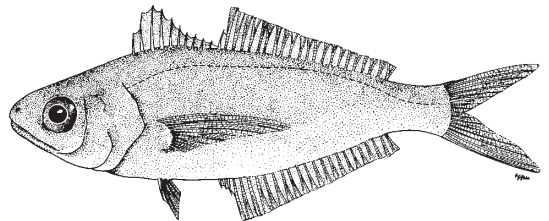


Fig. 7 *Cubiceps kotlyari*

- 6a. Preorbital snout covered with large predorsal scales similar to those between eyes (Figs 8a, 9) . . . *Cubiceps baxteri*
- 6b. Preorbital snout naked or with a few predorsal scales distinctly smaller than those between eyes (Figs 8b, 10) . . . . . *Cubiceps capensis*

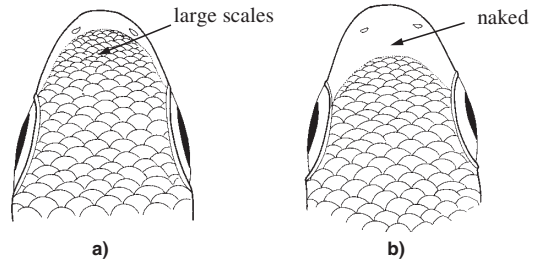


Fig. 8 dorsal view of head

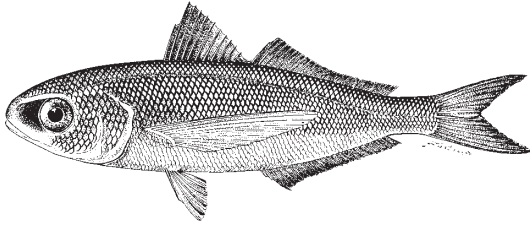


Fig. 9 *Cubiceps baxteri*

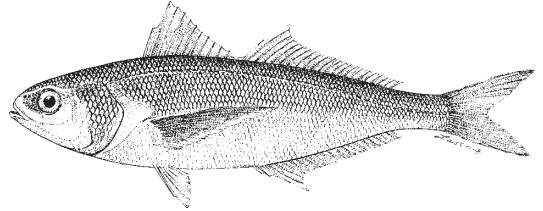


Fig. 10 *Cubiceps capensis*

- 7a. Scales on top of head of 2 distinct sizes (Fig. 5a), boundary between patches sharply demarcated from each other above front half of eye (anterior scales very small and extending forward to nostrils) (Fig. 11) . . . . . *Psenes cyanophrys*
- 7b. Scales on top of head of similar size, not separable into distinct patches . . . . . → 8

- 8a. Body very compressed, flabby at all sizes; second dorsal-fin rays (excluding spines) 27 to 32 (mostly 28 to 30); anal-fin rays (excluding spines) 26 to 31 (mostly 28 to 30) (Fig. 12) . . . . . *Psenes pellucidus*
- 8b. Body slightly compressed, moderately firm in specimens exceeding 15 cm standard length; second dorsal-fin rays (excluding spines) 19 to 22; anal-fin rays (excluding spines) 21 or 22 . . . . . → 9

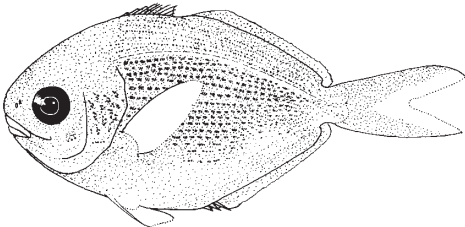


Fig. 11 *Psenes cyanophrys*

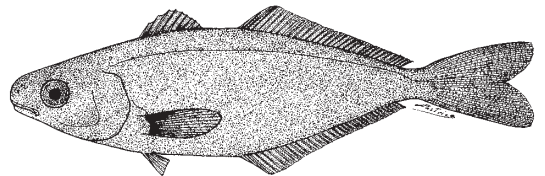


Fig. 12 *Psenes pellucidus*

- 9a. Body moderately deep; predorsal scales extending forward to about level of mid-eye; snout deep and evenly rounded (Fig. 13) . . . . . *Psenes arafurensis*
- 9b. Body moderately slender; predorsal scales extending forward to about level of hind margin of eye; snout somewhat angular and blunt (Fig. 14) . . . . . *Psenes sp.*

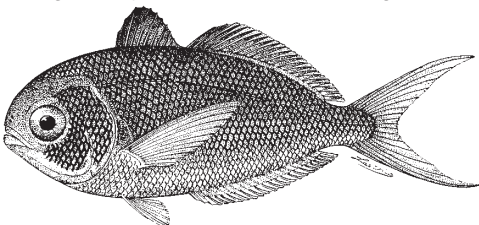


Fig. 13 *Psenes arafurensis*

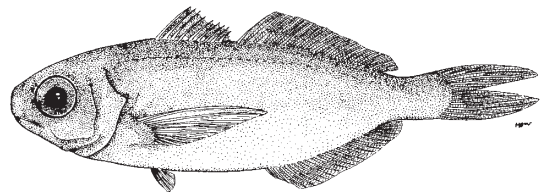













Fig. 14 *Psenes* sp.

**List of species occurring in the area**

The symbol  is given when species accounts are included.

-  *Cubiceps baxteri* McCulloch, 1923
-  *Cubiceps capensis* (Smith, 1849)
-  *Cubiceps kotlyari* Agafonova, 1989
-  *Cubiceps pauciradiatus* Günther, 1872
-  *Cubiceps whiteleggii* (Waite, 1894)
-  *Nomeus gronovii* (Gmelin, 1789)
-  *Psenes arafurensis* Günther, 1889
-  *Psenes cyanophrys* Cuvier and Valenciennes, 1833
-  *Psenes pellucidus* Lutken, 1880
-  *Psenes* sp.

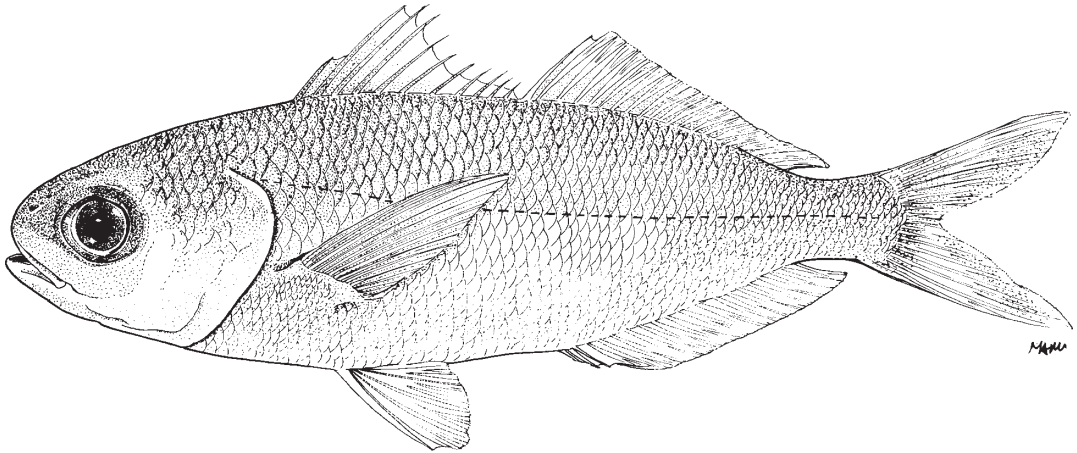
**Reference**

Agafonova, T.B. 1988. New data on the taxonomy and distribution of cigarfishes (*Cubiceps*, Nomeidae) of the Indian Ocean. *J. Ichthyol.*, 28(6):46-61.

***Cubiceps whiteleggii*** (Waite, 1894)

**Frequent synonyms / misidentifications:** *Cubiceps natalensis* Gilchrist and von Bonde, 1923; *C. squamiceps* (Lloyd, 1909); ? *Psenes hilli* Ogilby, 1915 / None.

**FAO names:** En - Indian driftfish; Fr - Derivant indien; Sp - Savorin indio.

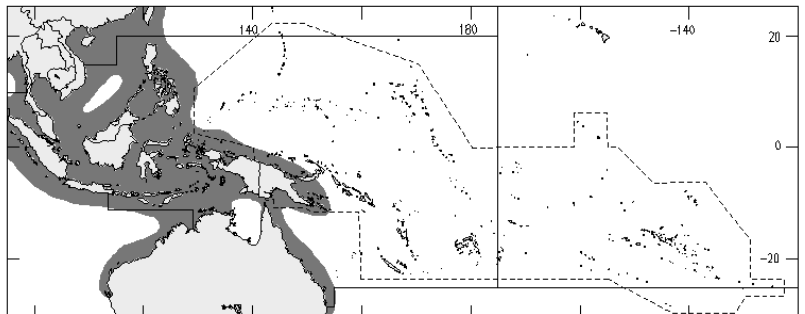


**Diagnostic characters:** Body moderately elongate and compressed; **ventral profile very convex**. Caudal peduncle moderately deep, compressed, lacking scutes or keels. Snout blunt, forehead slightly arched. Mouth small, **terminal or slightly inferior**, barely reaching beyond anterior margin of eye; upper jaw not protractile, almost totally covered by lacrimal (preorbital) bone when mouth closed. Eye large, its diameter subequal to snout length, slightly smaller than interorbit, **centred on upper half of head**; low ridge extending over eye. Jaw teeth small, in a single series; **palatine teeth more elongate, in single row; vomerine tooth patch small; single median row of teeth on tongue**. Gill rakers on outer gill arch 23 to 28. First dorsal fin with IX to XI long and fragile spines, its origin over pectoral-fin origin. **Second dorsal fin with 18 to 21 soft rays (mostly 19) preceded by I or II spines. Anal fin with III spines and 17 to 20 soft rays (mostly 18 or 20)**, slightly shorter than soft dorsal fin. **Caudal fin deeply forked but lobes capable of folding into a single lobe; upper procurent caudal-fin rays 8 or 9**. Pectoral fins long and falcate, directed upward from an almost horizontal base; **pectoral-fin rays 18 to 20. Pelvic fins relatively long (reaching anus)**, folding into a broad groove, its origin under end of pectoral-fin base. Scales moderately small, cycloid, and deciduous; present on cheek; **scales on top of head in 2 sizes which merge above hind margin of eye (scales on anterior patch very small, often indistinct, and extending almost to nostrils)**. Lateral line with 56 to 63 scales, located on upper side and following dorsal profile onto caudal peduncle. Vertebrae 31 (very rarely 32). **Colour:** silvery white when fresh, becoming brownish with well-defined scale pockets in preservative.

**Size:** Maximum standard length about 20 cm, commonly between 14 and 16 cm.

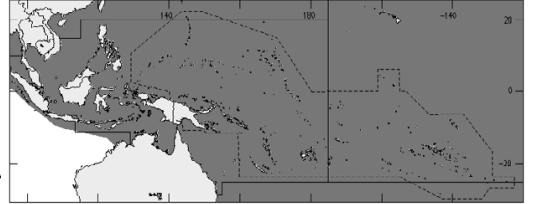
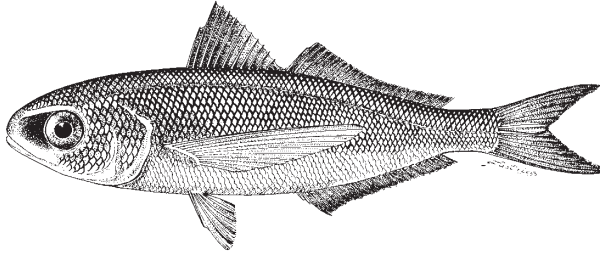
**Habitat, biology, and fisheries:** Benthopelagic on the continental slope in depths of 180 to 550 m but appears to be most common in 300 to 450 m. Unlike other members of the genus, which are typically oceanic, it lives near continental and insular margins. Caught off southwestern India but not targeted. Also occurs in quantity off the Philippines. Appears to have high commercial potential.

**Distribution:** Probably widely distributed in warm-temperate and tropical parts of the Indian Ocean (excluding the Red Sea) and the Indo-West Pacific from Japan to central eastern Australia.

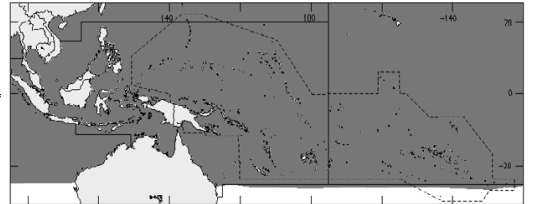
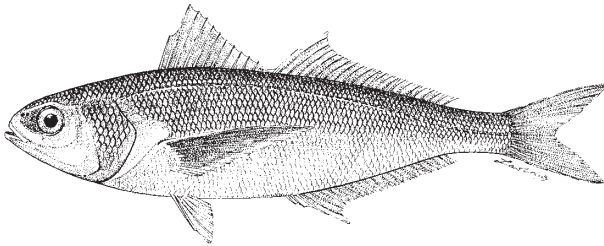


***Cubiceps baxteri*** McCulloch, 1923**En** - Black cigarfish.

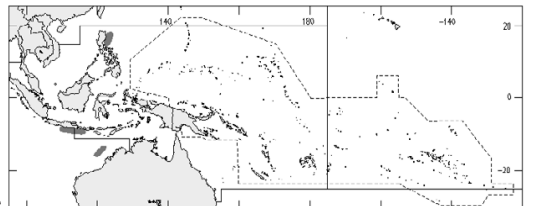
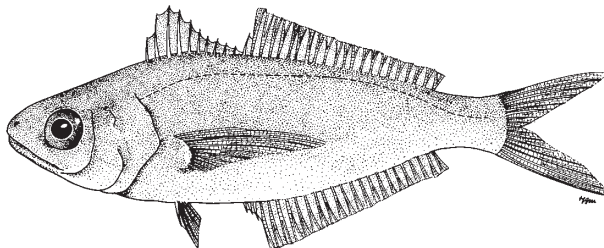
Maximum standard length at least 42 cm. Potentially valuable food fish in warm-temperate and tropical parts of Indo-Pacific. Apparently less abundant in the Indian than in the Pacific Ocean. It is caught mainly on tuna longline. Often confused with *Cubiceps capensis*.

***Cubiceps capensis*** (Smith, 1849)**En** - Cape cigarfish.

Maximum standard length about 100 cm. Largest member of the genus and a good food fish. Caught occasionally on tuna longline but presently of minor commercial significance. Occurs near the surface at night but daytime depth is unknown. Probably circumglobal in tropical and temperate seas between latitudes 40°N and 35°S. Distributional information sometimes unreliable because of confusion of this species with *Cubiceps baxteri*.

***Cubiceps kotlyari*** Agafonova, 1989**En** - Kotlyars cigarfish.

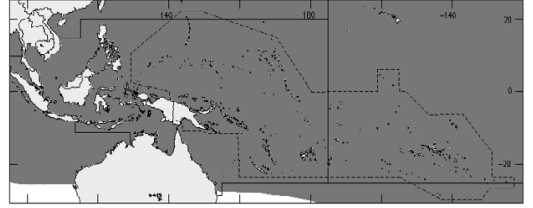
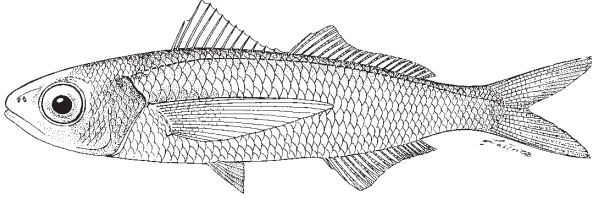
Maximum standard length about 13 cm. Small species, known only from a few specimens. Collected from off Java, the Philippines, and northwestern Australia by trawl nets in depths of 600 to 725 m. Unlikely to be commercially important.



*Cubiceps pauciradiatus* Günther, 1872

**En** - Longfin fathead.

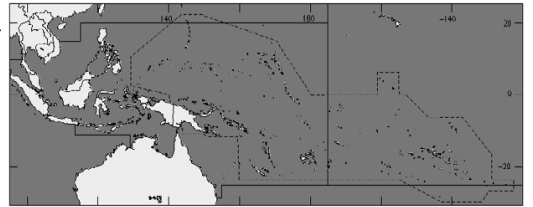
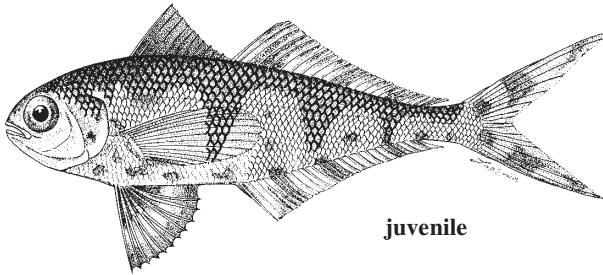
Maximum standard length less than 20 cm, mostly smaller than 15 cm. Small species of unknown commercial potential. Occurs near the surface at night in the open ocean but daytime depth is unknown. Circumtropical between 40°N and 40°S.



*Nomeus gronovii* (Gmelin, 1789)

**En** - Bluebottle fish.

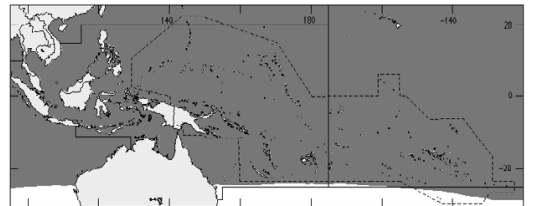
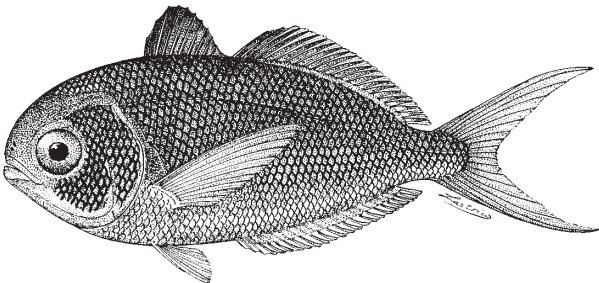
Maximum standard length about 24 cm. The epipelagic juveniles live in association with the blue-bottle jellyfish, *Physalia*. Adults were discovered recently when bottom trawling on the continental slope off Japan. Likely to be of limited commercial value. Widely distributed in all tropical and temperate seas although unrecorded from the Mediterranean and most of the eastern Atlantic Ocean.



*Psenes arafurensis* Günther, 1889

**En** - Dusky driftfish.

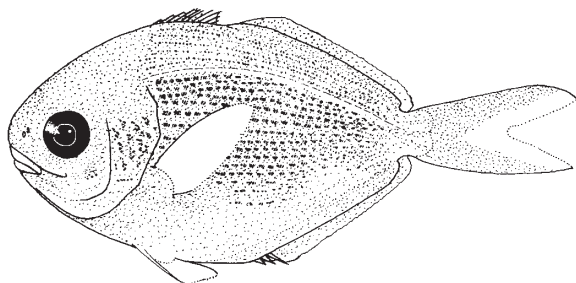
Maximum standard length about 20 cm. Oceanic near the surface in the Atlantic, Pacific, and Indian Oceans. Common in some regions. Commercial potential unknown.



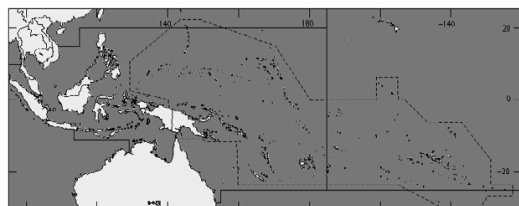
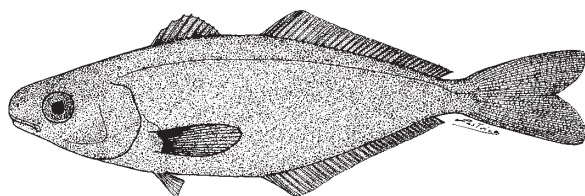


***Psenes cyanophrys* Cuvier and Valenciennes, 1833****En** - Freckled driftfish.

Maximum standard length at least 23 cm. Oceanic in association with floating objects. Trawled occasionally or caught on line near the surface. Widespread in tropical parts of the Atlantic, Pacific, and Indian oceans. Commercial potential unknown.

***Psenes pellucidus* Lutken, 1880****En** - Blackrag.

Maximum standard length about 80 cm. Meso- or epipelagic in warm and temperate parts of the Atlantic, Pacific, and Indian oceans. Appears to have a disjunct distribution and is less abundant in midtropical latitudes. Feeds on zooplankton and small fishes. Young live in association with drifting seaweed rather than jellyfish. Adults thought to be partly demersal. Unlikely to be caught in commercial quantities.

***Psenes* sp.****En** - Banded driftfish.

Maximum standard length at least 26 cm. Poorly known species, often confused with the dusky driftfish. Distribution not well documented but possibly widespread in tropical Indian and Pacific oceans. Commercial potential unknown.

