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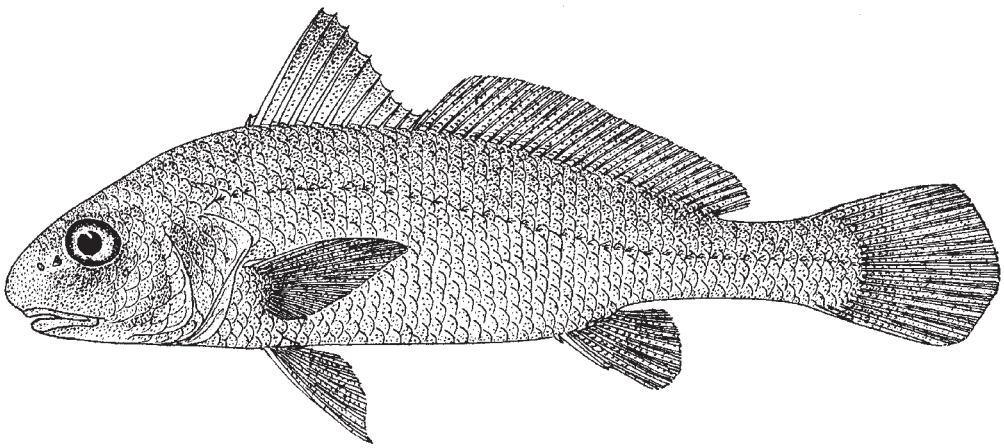
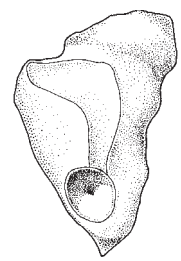
Johnius (Johnius) macrorhynus (Mohan, 1976)

Frequent synonyms / misidentifications: *Johnieops macrorhynus* Mohan, 1976 / *Johnius weberi* Hardenberg, 1836.

FAO names: En - Bigsnout croaker; **Fr** - Courbine longnez; **Sp** - Corvina hocicona.





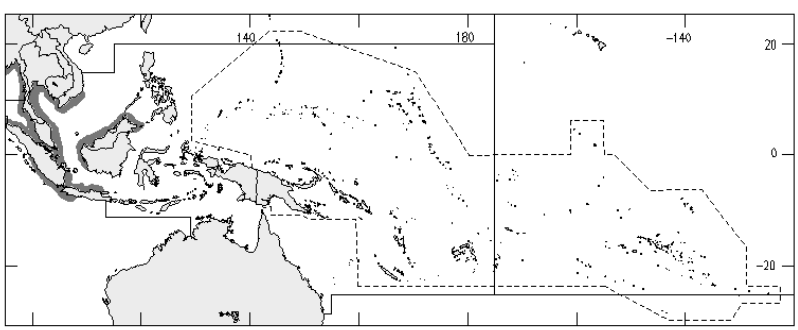
sagitta

Diagnostic characters: A medium-sized species with an elongate body; body depth 24 to 32% of standard length. Eye small to moderately large, 18 to 26% of head length. Interorbital width 20 to 25% of head length. Snout bluntly rounded, projecting slightly in front of upper jaw; mouth small, inferior; upper jaw extending backward below middle of eye; **no barbel on chin**; upper rostral pores 5, marginal rostral pores 5; mental pores in 3 pairs, the first open close behind symphysis in a common pit; **teeth differentiated into large and small in upper jaw**, the large ones close-set, not canine-like, forming outer series in upper jaw; **lower jaw with an outer villiform teeth band and an inner, short row of molariform teeth posteriorly. Gill rakers short, stumpy, about 1/4 length of gill filaments at angle of arch, 5 to 9 on lower limb of first gill arch.** Dorsal fin with X spines, followed by a notch, second part of fin with I spine and 27 to 30 soft rays; **anal fin with II spines** and 7 soft rays, **second spine rather short, slender, 23 to 39% of head length; caudal fin rhomboidal, becoming truncate or S-shaped in specimens over 15 cm standard length**. Scales moderately large, 6 to 9 scale rows above lateral line to origin of dorsal fin, 10 to 14 scale rows below lateral line to origin of anal fin; scales cycloid (smooth) on snout and below eyes, ctenoid (rough to touch) on other parts of head and body; **small scales present on soft parts of dorsal and anal fins**; lateral-line scales extending to hind margin of caudal fin. **Swimbladder hammer-shaped, with 13 or 14 pairs of arborescent appendages** along its sides, **the first pair entering head beyond transverse septum and sending a palmate branch to the front of pectoral arch. Sagitta (large earstone) with a tadpole-shaped impression, the head of which has its long axis lying obliquely to that of sagitta and the tail expanded and deepened as a hollow cone connected with the head by a narrow groove.** Vertebrae 25. **Colour:** lower part of body with a golden tinge; pectoral, pelvic, and anal fins yellow; a faint steel blue blotch on gill cover.

Size: Maximum standard length 30 cm, commonly to 22 cm.

Habitat, biology, and fisheries: Inhabits shallow coastal waters.

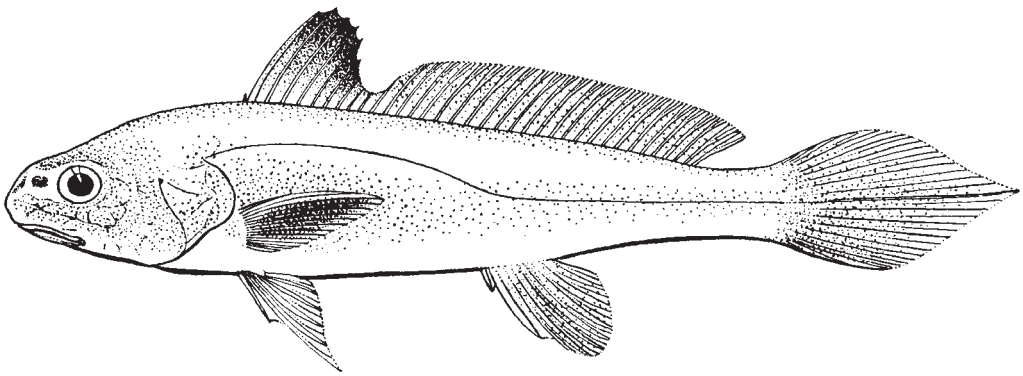
Distribution: Malay Peninsula, South China Sea, Borneo, east to India and Pakistan.

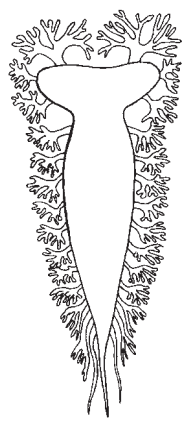


Johnius (Johnius) trachycephalus (Bleeker, 1850)

Frequent synonyms / misidentifications: *Otolithoides siamensis* Fowler, 1934 / *Johnius coitor* (Hamilton, 1822).

FAO names: En - Leaftail croaker.





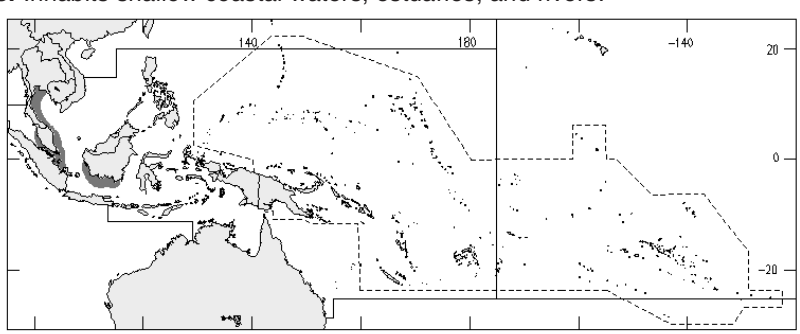
swimbladder

Diagnostic characters: A small species with a slender body; **body depth 21 to 23% of standard length. Eye small, 18 to 21% of head length. Snout prominent, swollen, projecting well in front of upper jaw**; mouth small, inferior; upper jaw extending backward below middle of eye; **no barbel on chin**; upper rostral pores 5, marginal rostral pores 5; mental pores in 3 pairs, the first open close behind symphysis in a common pit; **teeth differentiated into large and small in upper jaw only**, the large ones close-set, not canine-like, forming outer series; **lower jaw with a band of villiform teeth. Gill rakers slender, about 1/2 length of gill filaments at angle of arch, 11 to 13 on lower limb of first gill arch. Dorsal fin with VIII to IX (most frequently IX) spines**, followed by a notch, second part of fin with I spine **and 24 to 27 soft rays; anal fin with II spines and 6 or 7 (most frequently 6) soft rays, second spine stiff, 31 to 45% of head length; caudal fin pointed. Scales small, 10 to 15 scale rows above lateral line to origin of dorsal fin, 17 to 21 scale rows below lateral line to origin of anal fin; scales on head and body cycloid (smooth); small scales present on soft parts of dorsal and anal fins**; lateral-line scales reaching to tip of caudal fin. **Swimbladder hammer-shaped, with 11 to 13 pairs of arborescent appendages** along its sides, **the first pair entering head beyond transverse septum and sending a palmate branch to the front of pectoral arch. Sagitta (large earstone) with a tadpole-shaped impression, the head of which has its long axis lying obliquely to that of sagitta and the tail expanded and deepened as a hollow cone connected with the head by a narrow groove.** Vertebrae 25. **Colour:** back grey, flanks lighter, belly silver; fins yellowish.

Size: Maximum standard length 13 cm, commonly to about 10 cm.

Habitat, biology, and fisheries: Inhabits shallow coastal waters, estuaries, and rivers.

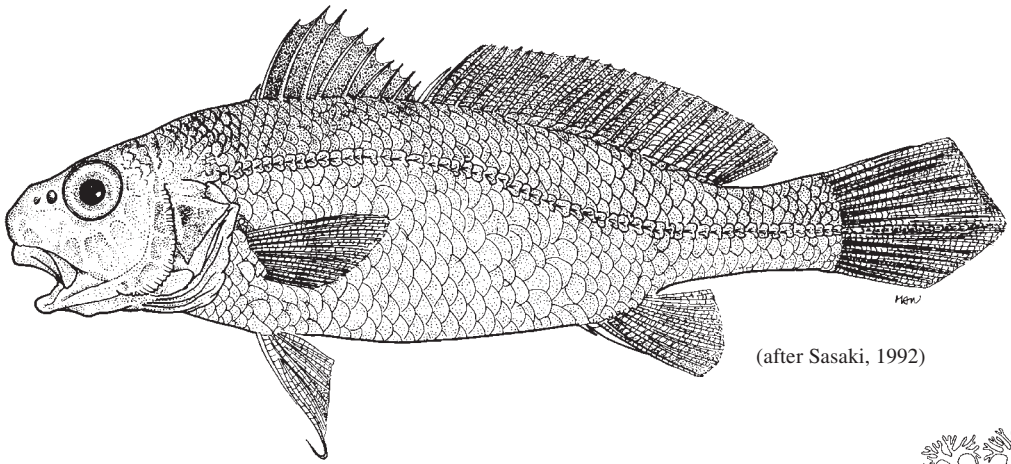
Distribution: Sumatra, Borneo, and Thailand.



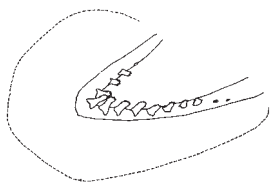
Johnius (Johnius) trewavasae Sasaki, 1992

Frequent synonyms / misidentifications: None / *Johnius macrorhynus* (Mohan, 1976).

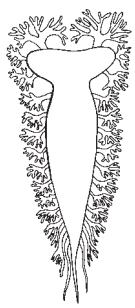
FAO names: En - Trewavas' croaker.



(after Sasaki, 1992)



first gill arch



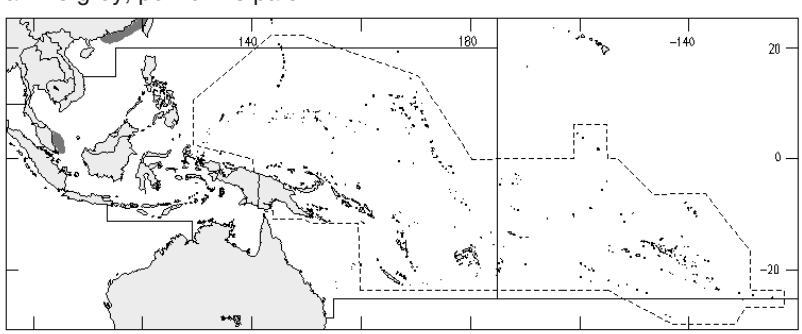
swimbladder

Diagnostic characters: Small species with a moderately elongate body; body depth 24 to 30% of standard length. Eye moderately large, 22 to 27% of head length. Interorbital width 22 to 24% of head length. Snout steep, obtusely rounded, projecting slightly in front of upper jaw; mouth small, inferior; upper jaw extending backward below front margin of pupil; **no barbel on chin**; upper rostral pores 5, marginal rostral pores 5; mental pores in 3 pairs, the first open close behind symphysis in a common pit; **teeth differentiated into large and small in upper jaw only**, the large ones close-set, not canine-like, forming outer series; **lower jaw with a band of villiform teeth. Gill rakers short, obtuse, about 1/5 length of gill filaments at angle of arch, 6 to 8 on lower limb of first gill arch. Dorsal fin with** X to XI (most frequently X) spines, followed by a notch, second part of fin with I spine and **24 to 27 soft rays**; **anal fin with II spines** and 7 or 8 (most frequently 7) soft rays, **second spine rather short, slender, 25 to 37% of head length;** caudal fin rhomboidal. **Scales large, those on flanks much larger than those on lateral line, 5 or 6 scale rows above lateral line to origin of dorsal fin, 7 to 10 scale rows below lateral line to origin of anal fin**; scales cycloid (smooth) on head and throat, ctenoid (rough to touch) on other parts of head and body; **small scales present on soft parts of dorsal and anal fins**; lateral-line scales reaching to tip of caudal fin. **Swimbladder hammer-shaped**, **with about 14 pairs of arborescent appendages** along its sides, **the first pair entering head beyond transverse septum and sending a palmate branch to the front of pectoral arch. Sagitta (large earstone) with a tadpole-shaped impression, the head of which has its long axis lying obliquely to that of sagitta and the tail expanded and deepened as a hollow cone connected with the head by a narrow groove.** Vertebrae 25. **Colour:** dark mottled pattern dorsally, creamy white ventrally; scale pockets on dorsal side of head and body with broad, dark margins; spinous dorsal fin black, pectoral fins grey, pelvic fins pale.

Size: Maximum standard length 15 cm, commonly to 14 cm.

Habitat, biology, and fisheries: Inhabits shallow coastal waters down to 40 m.

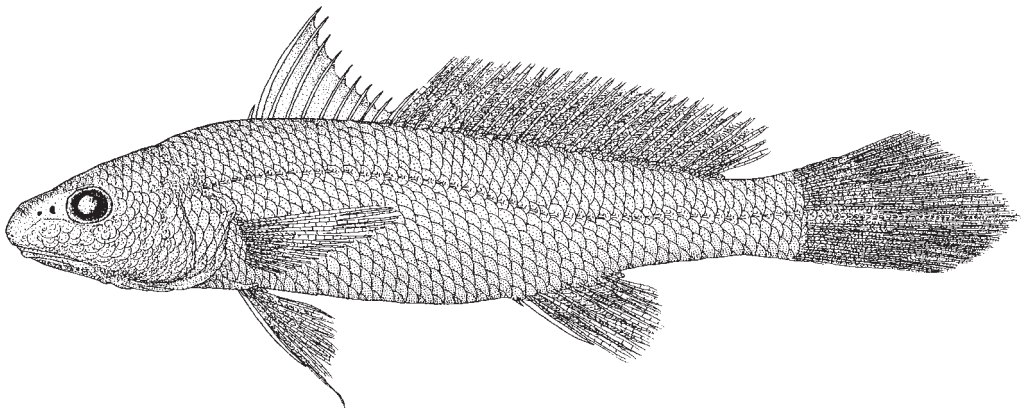
Distribution: Singapore, north to Taiwan Province of China, Hong Kong, and Shanghai.

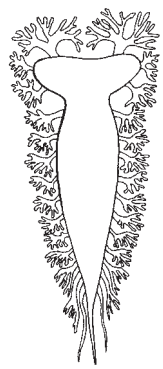


Johnius (Johnius) weberi Hardenberg, 1936

Frequent synonyms / misidentifications: None / *Johnius macrorhynus* (Mohan, 1976).

FAO names: En - Weber's croaker.





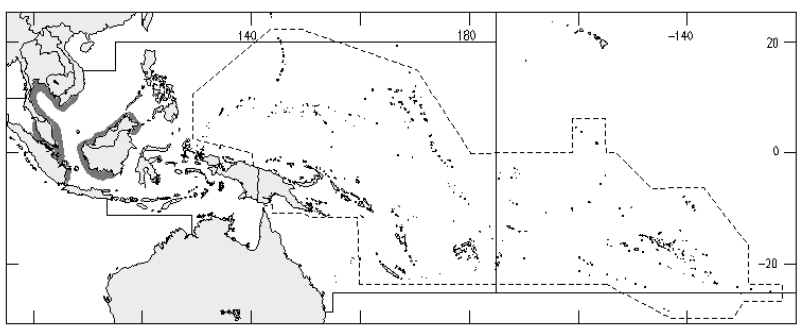
swimbladder

Diagnostic characters: A small species with a slender, elongate body; **body depth 20 to 26% of standard length**. Eye moderately large, 21 to 28% of head length. Interorbital width 20 to 25% of head length. **Snout swollen, projecting well in front of upper jaw**; mouth small, inferior; upper jaw extending backward below middle of eye; **no barbel on chin**; upper rostral pores 5, marginal rostral pores 5; mental pores in 3 pairs, the first open close behind symphysis in a common pit; **teeth differentiated into large and small in upper jaw only**, the large ones close-set, not canine-like, forming outer series; **lower jaw with a band of villiform teeth. Gill rakers stiff, 1/3 to 1/2 length of gill filaments at angle of arch, 7 to 9 on lower limb of first gill arch**. Dorsal fin with X spines, followed by a notch, second part of fin with I spine and 26 to 29 soft rays; **anal fin with II spines** and 7 soft rays, **second spine moderately short to moderately long, slender, 33 to 41% of head length**; caudal fin rhomboidal. Scales moderately large, 7 to 10 scale rows above lateral line to origin of dorsal fin, 11 to 14 scale rows below lateral line to origin of anal fin; **scales cycloid (smooth) on snout, below eye, cheek, gill cover, and throat**, but ctenoid (rough to touch) on other parts of head and body; **small scales present on soft parts of dorsal and anal fins**; lateral-line scales reaching to tip of caudal fin. **Swimbladder hammer-shaped, with about 15 pairs of arborescent appendages** along its sides, **the first pair entering head beyond transverse septum and sending a palmate branch to the front of pectoral arch. Sagitta (large earstone) with a tadpole-shaped impression, the head of which has its long axis lying obliquely to that of sagitta and the tail expanded and deepened as a hollow cone connected with the head by a narrow groove.** Vertebrae 25. **Colour:** body silvery; spinous dorsal fin dusky, pectoral and pelvic fins pale.

Size: Maximum standard length 14 cm, commonly to 10 cm.

Habitat, biology, and fisheries: Inhabits shallow coastal waters and estuaries.

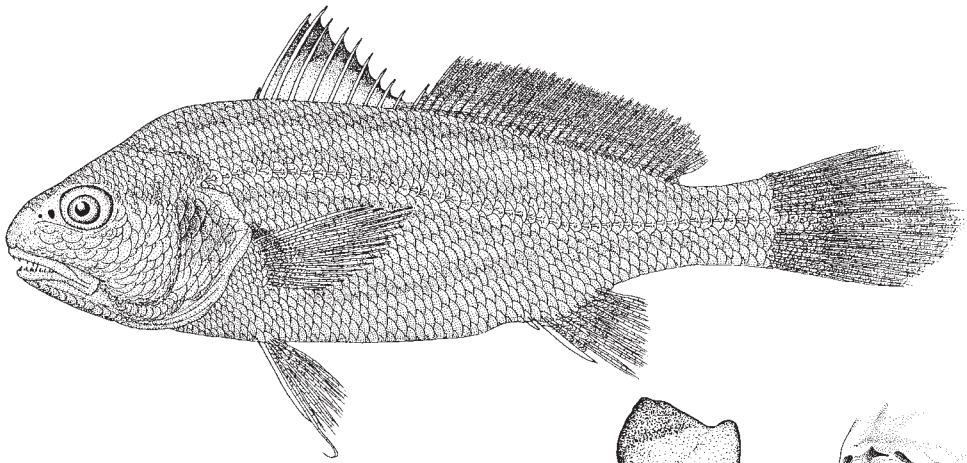
Distribution: Gulf of Thailand, Sumatra, and Borneo.

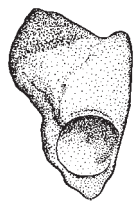


Johnius (Johnieops) borneensis (Bleeker, 1850)

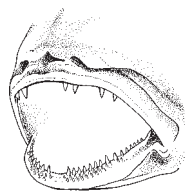
Frequent synonyms / misidentifications: *Johnius vogleri* (Bleeker, 1853) / *Johnius sina* (non Cuvier, 1830).

FAO names: En - Sharptooth hammer croaker; **Fr** - Courbine dentue; **Sp** - Corvina dientusa.





sagitta



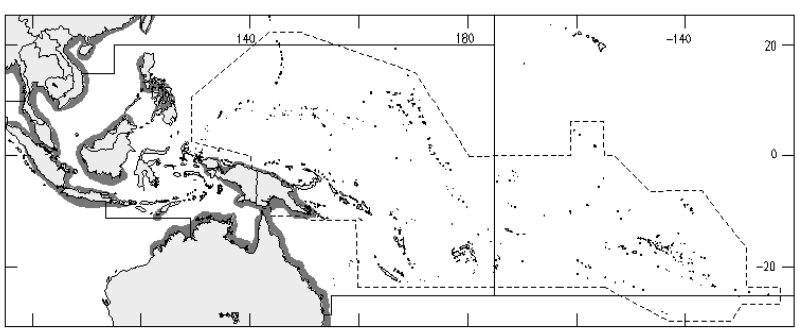
jaws

Diagnostic characters: A medium-sized species with a deep body. Eye moderately large, 20 to 25% of head length. **Snout pointed, but not swollen or projecting; mouth large, oblique; upper jaw extending backward below posterior half of eye; no barbel on chin**; upper rostral pores 3, marginal rostral pores 5; mental pores in 3 pairs, the first open close behind symphysis connected by a crescent-shaped groove; **teeth in narrow bands, well differentiated into large and small in both jaws, but none canine-like**; the large ones widely spaced, forming outer series in upper jaw, inner series in lower jaw. **Gill rakers slender, about 1/2 length of gill filaments at angle of arch, 9 to 15 on lower limb of first gill arch.** Dorsal fin with IX to XI (most frequently X) spines, followed by a notch, second part of fin with I spine and 26 to 32 soft rays; **anal fin with II spines** and 7 or 8 (most frequently 7) soft rays, **second spine moderately long, 24 to 42% of head length**; caudal fin rhomboidal. **Scales on head cycloid (smooth),** those on body ctenoid (rough to touch); **small scales present on soft parts of dorsal and anal fins**; lateral-line scales reaching to tip of caudal fin. **Swimbladder hammer-shaped, with 14 to 17 pairs of arborescent appendages** along its sides, **the first pair entering head beyond transverse septum and sending a palmate branch to the front of pectoral arch. Sagitta (large earstone) with a tadpole-shaped impression, the head of which has its long axis lying obliquely to that of sagitta and the tail expanded and deepened as a hollow cone connected with the head by a narrow groove. Colour:** head and body dusky mauve above, silver-white below; 2 dusky streaks usually present along mid-sides; fins pale yellow or cream, outer two-thirds of spinous dorsal fin black, sometimes a dusky streak along soft dorsal fin.

Size: Maximum standard length 30 cm, commonly to 20 cm.

Habitat, biology, and fisheries: Inhabits shallow coastal waters, estuaries, and rivers. In India, it matures at the size of 14 to 16 cm total length; attains an average size of 15.8 cm, 20.6 cm, and 24 cm total length, at the end of 1 year, 1 ½ years, and 2 years, respectively. Crustaceans are the preferred diet of juveniles; fishes show piscivorous tendency as they grow.

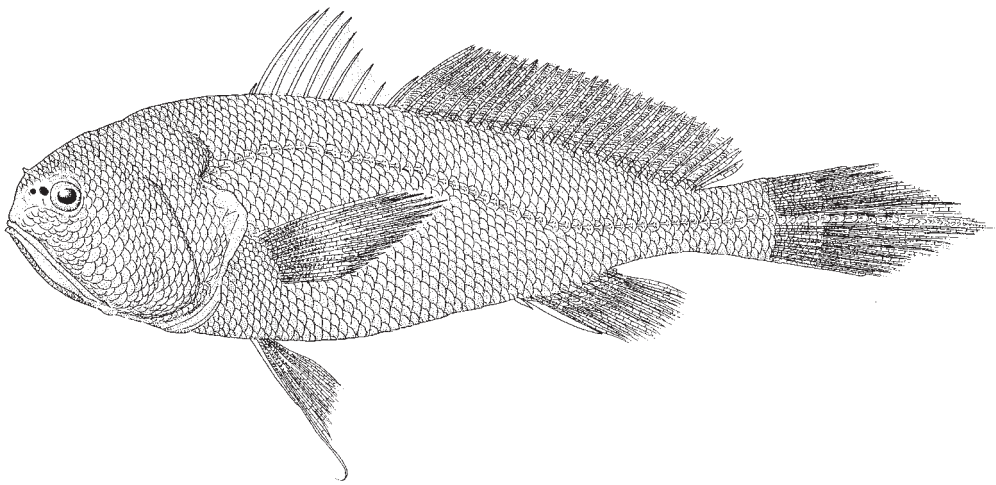
Distribution: Indo-West Pacific, west to the Persian Gulf, east to southern China, Taiwan Province of China, and northern and northeastern Australia and New Guinea.

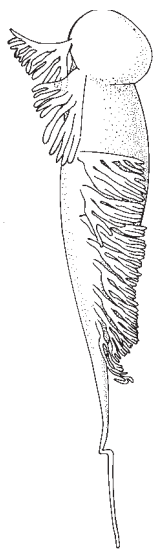


Johnius (Johnieops) novaeguineae (Nichols, 1950)

Frequent synonyms / misidentifications: None / None.

FAO names: En - Paperhead croaker.





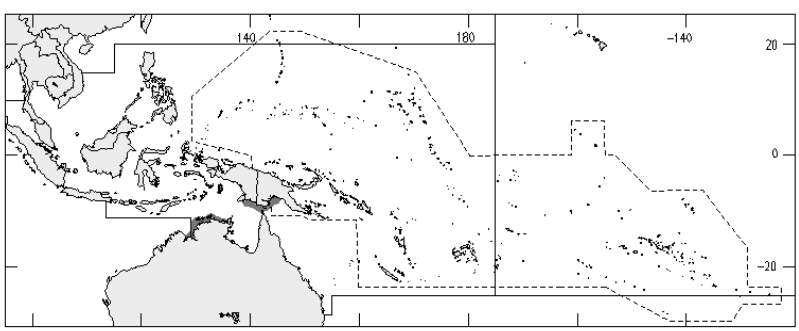
swimbladder
(lateral view)

Diagnostic characters: A small species with **a deep, swollen head. Eye very small, 11 to 16% of head length. Snout very steeply rounded, but not swollen or projecting; mouth very large, strongly oblique**; upper jaw extending backward well beyond hind margin of eye; chin angular, prominent; **no barbel; no upper rostral pores**, marginal rostral pores 5; **mental pores in 1 pair only, open behind symphysis; teeth well differentiated into large and small in both jaws**, but none canine-like; the large ones widely spaced, forming outer series in upper jaw, inner series in lower jaw. **Gill rakers long, slender, equal to or longer than gill filaments at angle of arch, 16 to 18 on lower limb of first gill arch. Dorsal fin with VIII to X (most frequently IX) spines**, followed by a notch, second part of fin with I spine and 25 to 28 soft rays; **anal fin with II spines** and 6 to 8 (usually 7) soft rays, **second spine long, slender, 31 to 44% of head length; caudal fin acutely pointed**. Scales cycloid (smooth) on head and throat, ctenoid (rough to touch) on other parts of body; **small scales present on soft parts of dorsal and anal fins**; lateral-line scales reaching to tip of caudal fin. **Swimbladder hammer-shaped, with 11 pairs of arborescent appendages** along its sides, **the first very short, the second sending a palmate branch to the front of pectoral arch. Sagitta (large earstone) with a tadpole-shaped impression, the head of which has its long axis lying obliquely to that of sagitta and the tail expanded and deepened as a hollow cone connected with the head by a narrow groove. Colour** (in preservative): pale pinkish brown, paler below, without markings, fins pale.

Size: Maximum standard length 10 cm, commonly to 7 cm.

Habitat, biology, and fisheries: Inhabits estuaries and rivers.

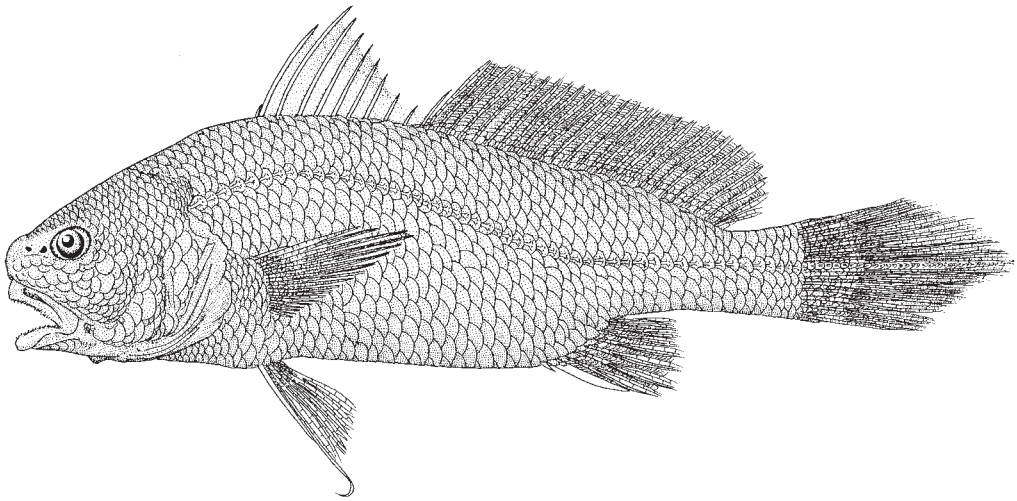
Distribution: New Guinea and northern Australia.



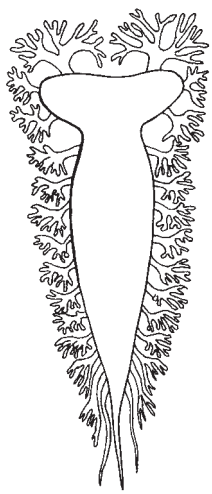
Johnius (Johnieops) pacificus Hardenberg, 1941

Frequent synonyms / misidentifications: None / *Nibea soldado* (Lacepède, 1802).

FAO names: En - Pacific croaker.



Diagnostic characters: A small species with a moderately deep body. **Eye small, 16 to 23% of head length. Snout bluntly rounded**; mouth horizontal, slightly inferior; upper jaw extending backward below hind margin of eye; **no barbel on chin**; upper rostral pores 5, marginal rostral pores 5; mental pores in 3 pairs, the first open close behind symphysis connected by a crescent-shaped groove; **teeth differentiated into large and small in both jaws**, the large ones close-set, not canine-like, forming outer series in upper jaw, inner series in lower jaw. **Gill rakers slender, about 1/2 length of gill filaments at angle of arch, 10 to 13 on lower limb of first gill arch.** Dorsal fin with X spines, followed by a deep notch, second part of fin with I spine and 25 to 29 soft rays; **anal fin with II spines** and 7 soft rays, **second spine long, stiff, 45 to 54% of head length**; caudal fin pointed. **Scales on head and throat cycloid (smooth)**, those on other parts of body ctenoid (rough to touch); **small scales present on soft parts of dorsal and anal fins**; lateral-line scales reaching to tip of caudal fin. **Swimbladder hammer-shaped, with about 12 pairs of arborescent appendages** along its sides, **the first pair entering head and sending a palmate branch to the front of pectoral arch. Sagitta (large earstone) with a tadpole-shaped impression, the head of which has its long axis lying obliquely to that of sagitta and the tail expanded and deepened as a hollow cone connected with the head by a narrow groove.** **Colour:** body silvery, with faint dark oblique streaks on back; upper half of spinous dorsal fin dusky, pectoral and pelvic fins pale.

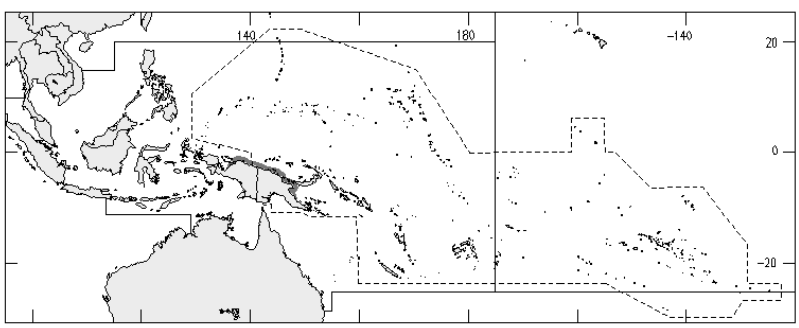


swimbladder

Size: Maximum standard length 14 cm, commonly to 10 cm.

Habitat, biology, and fisheries: Inhabits estuaries and rivers.

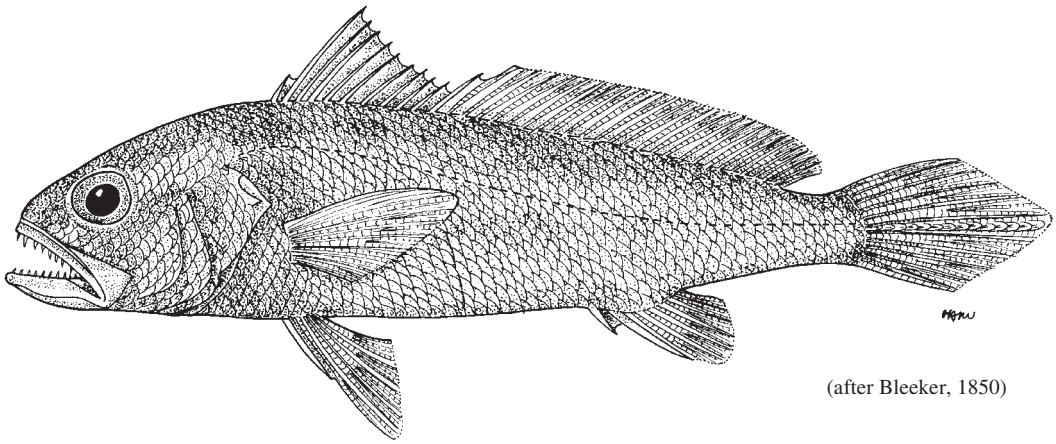
Distribution: Northern coasts of New Guinea.



Johnius (Johnieops) plagiostoma (Bleeker, 1850)

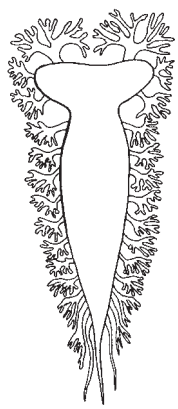
Frequent synonyms / misidentifications: None / None.

FAO names: En - Large-eye croaker.



(after Bleeker, 1850)

Diagnostic characters: A small species with a moderately deep body. **Eye large, about 30% of head length**. Snout rounded, but not swollen or projecting; mouth large, strongly oblique; upper jaw extending backward below hind margin of eye; chin angular, prominent, without barbel; upper rostral pores 3, marginal rostral pores 5; **mental pores in 3 pairs, the first open at front of chin, separated by symphysis; teeth well differentiated into large and small in both jaws**, but none canine-like; the large ones widely spaced, forming outer series in upper jaw, inner series in lower jaw. **Gill rakers slender, equal to or slightly shorter than gill filaments at angle of arch, 14 to 17 on lower limb of first gill arch**. Dorsal fin with IX to XI (most frequently X) spines, followed by a notch, second part of fin with I spine and 28 to 31 soft rays; **anal fin with II spines** and 6 to 8 (most frequently 7) soft rays, **second spine long, stiff, 40 to 50% of head length**; caudal fin rhomboidal. Scales on head cycloid (smooth), those on body ctenoid (rough to touch); **small scales present on soft parts of dorsal and anal fins**; lateral-line scales reaching to tip of caudal fin. **Swimbladder hammer-shaped**, **with about 13 pairs of arborescent appendages** along its sides, **the first pair entering head beyond transverse septum and sending a palmate branch to the front of pectoral arch**. **Sagitta (large earstone) with a tadpole-shaped impression, the head of which has its long axis lying obliquely to that of sagitta and the tail expanded and deepened as a hollow cone connected with the head by a narrow groove**. **Colour:** bluish or greenish grey, flanks and belly silvery; fins yellowish.

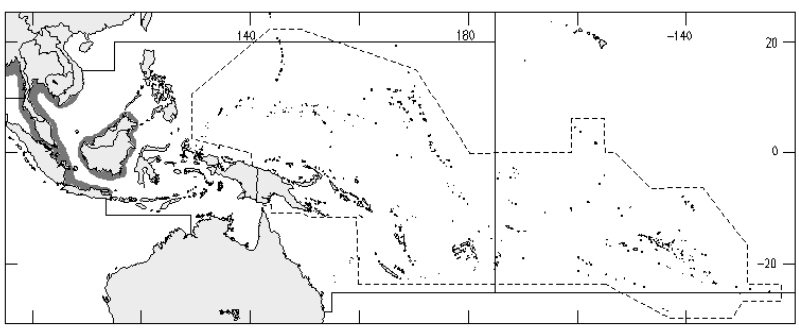


swimbladder

Size: Maximum standard length about 10 cm, commonly to 8 cm.

Habitat, biology, and fisheries: Inhabits shallow coastal waters, estuaries, and rivers.

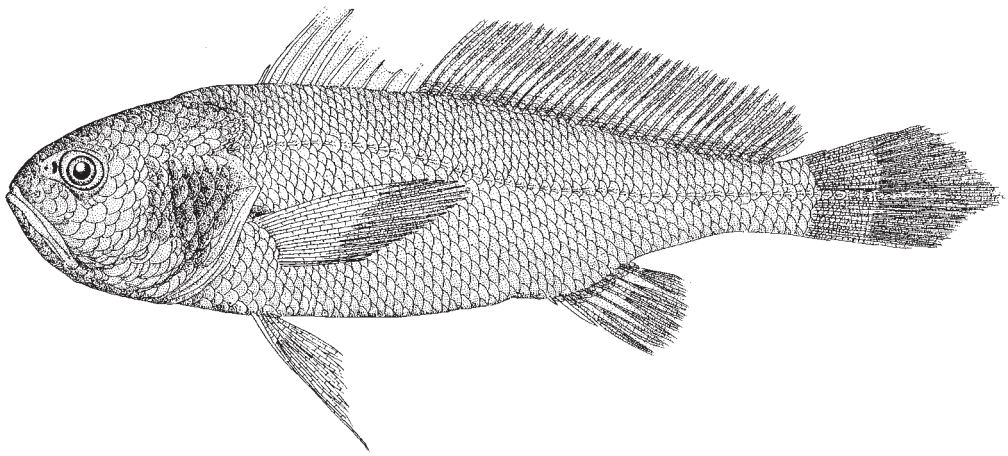
Distribution: Bay of Bengal to Borneo and Java, north to Viet Nam.



Larimichthys pamoides (Munro, 1964)

Frequent synonyms / misidentifications: *Pseudotosciaena pamoides* Munro, 1964 / None.

FAO names: En - Southern yellow croaker.



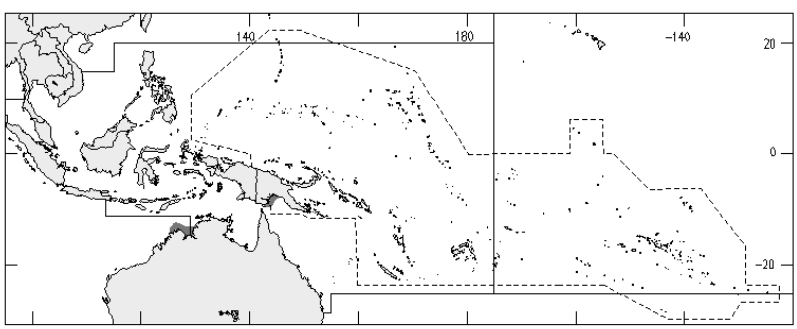
Diagnostic characters: A small species with a moderately elongate body. Snout rounded, but not swollen or projecting; mouth strongly oblique; upper jaw extending backward below hind margin of pupil; chin without barbel; **upper rostral pore median one only**, marginal rostral pores 5; **mental pores in 3 pairs, the first open at front of chin, separated by symphysis**; teeth differentiated into large and small in both jaws, the large ones widely spaced, not canine-like, forming outer series in upper jaw, inner series in lower jaw. **Gill rakers long, slender, about 1.5 times longer than gill filaments at angle of arch, 13 to 17 on lower limb of first arch. Dorsal fin with IX spines**, followed by a notch, **second part of fin with I spine and 33 to 36 soft rays; anal fin with II spines** and 7 soft rays**, second spine short, slender, 23 to 33% of head length; pectoral fins long, 25 to 27% of standard length**; caudal fin pointed. **Scales on head and body cycloid (smooth) except on belly and under side of caudal peduncle where weakly ctenoid scales cover (slightly rough to touch); small scales present on a basal quarter of soft parts of dorsal and anal fins**; lateral-line scales reaching to tip of caudal fin. **Swimbladder carrot-shaped, with about 26 pairs of arborescent appendages along its sides, each appendage with a well-developed dorsal and ventral limb, the first pair entering head beyond transverse septum.** **Colour** (in preservative): body light brown; inside of mouth, gill cavity, and body cavity dark brown.

swimbladder appendages

Size: Known only from 2 specimens, 8.2 and 13.5 cm standard length.

Habitat, biology, and fisheries: Inhabits shallow coastal waters and estuaries to depths of 50 m.

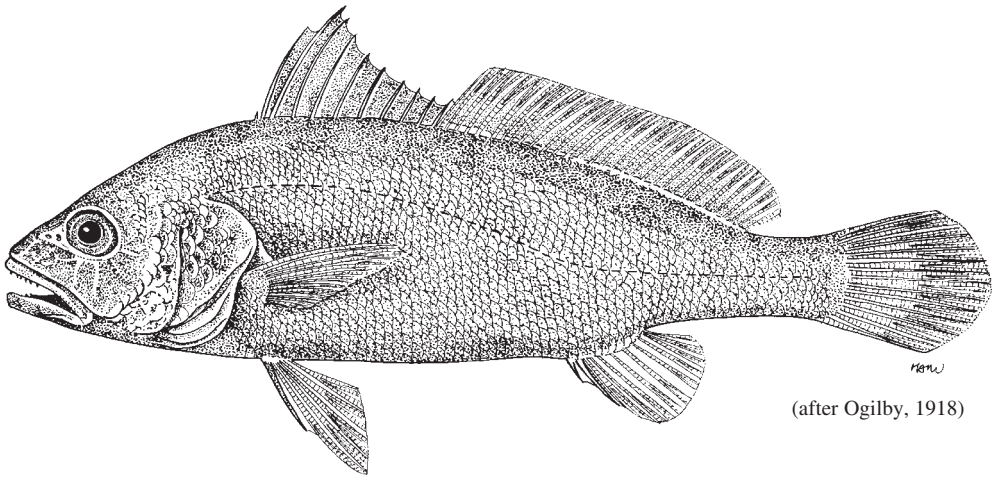
Distribution: Along coasts of northwestern Australia and southern Papua New Guinea.



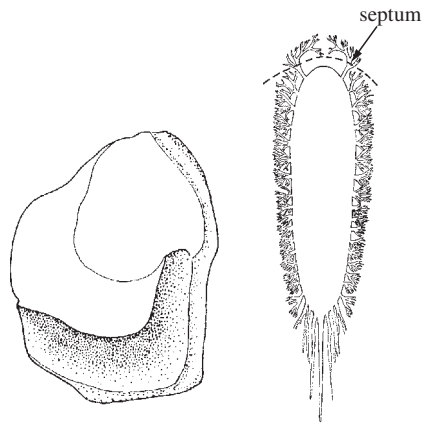
Nibea leptolepis (Ogilby, 1918)

Frequent synonyms / misidentifications: None / *Nibea soldado* (Lacepède, 1802).

FAO names: En - Smallscale croaker.



(after Ogilby, 1918)



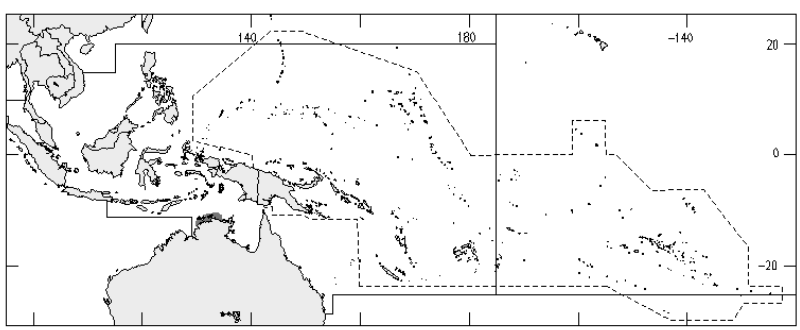
sagitta swimbladder

Diagnostic characters: A small to medium-sized species with an arched back and deep body. Snout pointed, but not swollen or projecting; **mouth large**, slightly oblique; upper jaw extending backward below hind margin of pupil, **upper jaw length 37 to 44% of head length, lower jaw length 47 to 52% of head length**; no barbel on chin; upper rostral pores 3, marginal rostral pores 5; **mental pores in 3 pairs, the first close together, united by a crescent-shaped groove just behind symphysis; teeth differentiated into large and small in both jaws**, the large ones widely spaced, not canine-like, forming outer series in upper jaw, inner series in lower jaw. Gill rakers slender, about 2/3 length of gill filaments at angle of arch, 9 to 11 on lower limb of first gill arch. Dorsal fin with X spines, followed by a notch, second part of fin with I spine and 28 to 31 soft rays; **anal fin with II spines** and 7 or 8 (most frequently 7) soft rays; **second spine long, stiff, 42 to 53% of head length**; caudal fin rhomboidal. Scales in lateral line 48 to 50, **14 to 17 scale rows above lateral line to origin of dorsal fin, 17 to 23 scale rows below lateral line to origin of anal fin (total 31 to 39 scale rows)**; scales cycloid (smooth) on head and throat, ctenoid (rough to touch) on other parts of body; **small scales present on soft parts of dorsal and anal fins**; lateral-line scales reaching to tip of caudal fin. **Swimbladder carrot-shaped, with about 22 pairs of arborescent appendages** along its sides, **the first pair entering head beyond transverse septum. Sagitta (large earstone) with a tadpole-shaped impression, the tail of which J-shaped. Colour:** silvery, flanks and belly deeply washed with gold; spinose dorsal dark edged.

Size: Maximum standard length 22 cm, commonly to 17 cm.

Habitat, biology, and fisheries: Inhabits shallow coastal waters and estuaries.

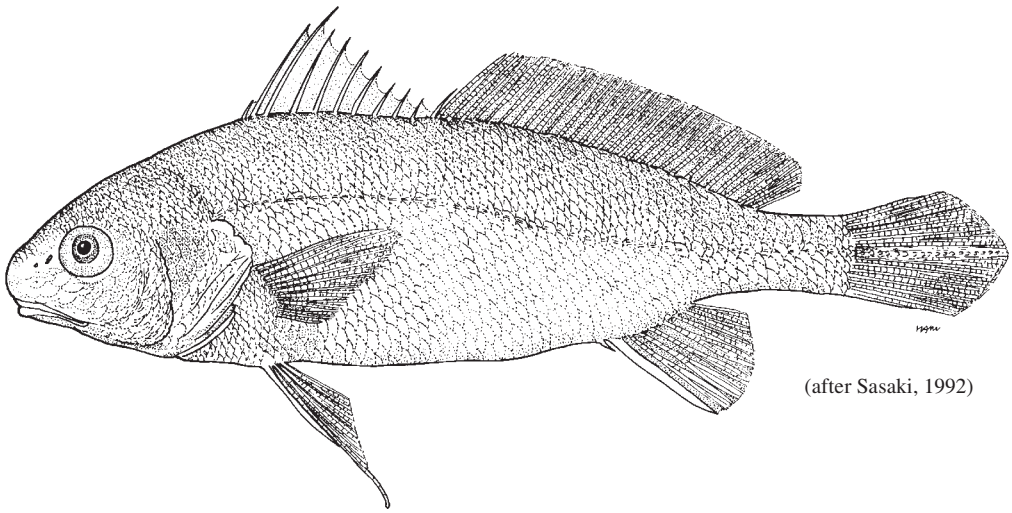
Distribution: Along coasts of northern Australia.



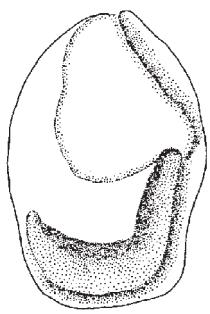
Nibea microgenys Sasaki, 1992

Frequent synonyms / misidentifications: None / None.

FAO names: En - Smalljaw croaker.



(after Sasaki, 1992)



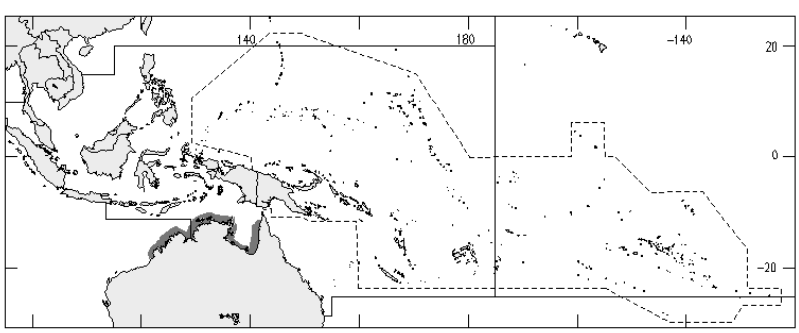
sagitta

Diagnostic characters: A small to medium-sized species with an arched back and deep body. **Snout pointed, projecting in front of upper jaw; mouth small, inferior, slightly oblique**; upper jaw extending backward below hind margin of pupil, **upper jaw length 32 to 38% of head length, lower jaw length 34 to 40% of head length**; no barbel on chin; upper rostral pores 3, marginal rostral pores 5; **mental pores in 3 pairs, the first close together, united by a crescent-shaped groove just behind symphysis; teeth differentiated into large and small in upper jaw only**; large teeth in upper jaw closely spaced, not canine-like, forming outer series; **a band of villiform teeth in lower jaw**. Gill rakers slender, about 2/3 length of gill filaments at angle of arch, 5 to 8 on lower limb of first gill arch. Dorsal fin with X spines, followed by a notch, second part of fin with I spine and 29 to 31 soft rays; **anal fin with II spines** and 7 soft rays; **second spine long, stiff, 44 to 57% of head length**; caudal fin rhomboidal. Scales in lateral line 48 to 50, 9 to 14 scale rows above lateral line to origin of dorsal fin, 11 to 17 scale rows below lateral line to origin of anal fin (total 22 to 29 scale rows); scales cycloid (smooth) on snout, cheek, and throat, ctenoid (rough to touch) on other parts of head and body; small scales present on soft parts of dorsal and anal fins; lateral-line scales reaching to tip of caudal fin. **Swimbladder carrot-shaped, with 19 to 21 pairs of arborescent appendages** along its sides, **the first pair entering head beyond transverse septum. Sagitta (large earstone) with a tadpole-shaped impression, the tail of which J-shaped.** **Colour** (in preservative): brownish grey on back and flanks, whitish below; gill cover grey due to blackish gill cavity.

Size: Maximum standard length about 22 cm, commonly to 19 cm.

Habitat, biology, and fisheries: Inhabits shallow coastal waters, estuaries, and rivers.

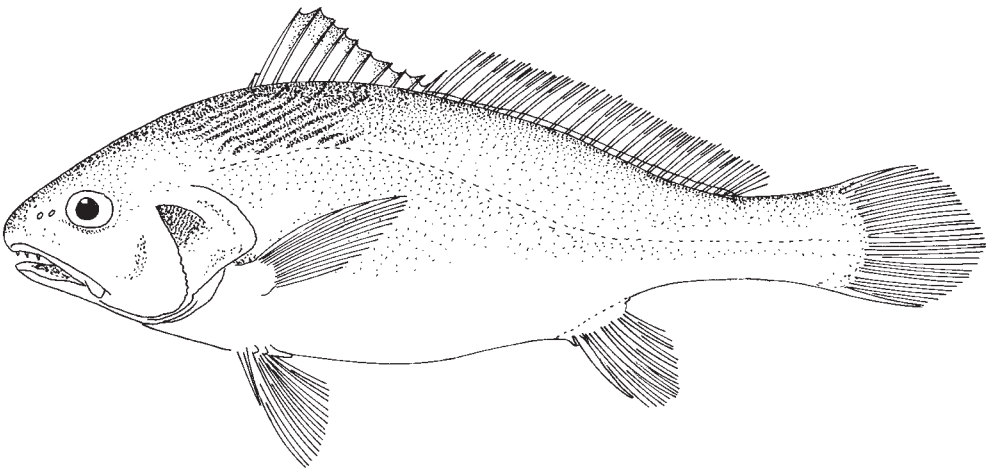
Distribution: Along coasts of northwestern and northern Australia.



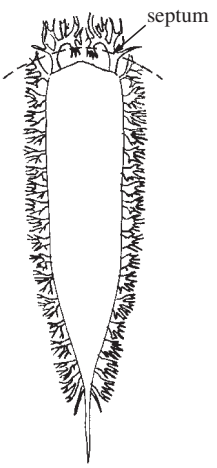
Nibea semifasciata Chu, Lo, and Wu, 1963

Frequent synonyms / misidentifications: None / None.

FAO names: En - Sharpnose croaker.



Diagnostic characters: A small to medium-sized species with an arched back and deep body. **Snout acutely pointed, projecting in front of upper jaw; mouth large, slightly inferior**; upper jaw extending backward below hind margin of eye, **upper jaw length 41 to 43% of head length, lower jaw length 46 to 49% of head length**; no barbel on chin; upper rostral pores 3, marginal rostral pores 5; **mental pores in 3 pairs, the first close together, united by a crescent-shaped groove just behind symphysis; teeth differentiated into large and small in both jaws**, the large ones widely spaced, not canine-like, forming outer series in upper jaw, inner series in lower jaw. Gill rakers stiff, about 1/2 length of gill filaments at angle of arch, 9 or 10 on lower limb of first gill arch. Dorsal fin with X spines, followed by a deep notch, second part of fin with I spine and 26 to 29 soft rays; **anal fin with II spines** and 7 soft rays, **second spine stiff, 34 to 44% of head length**; caudal fin rhomboidal. Scales in lateral line 50 to 52, 11 or 12 scale rows above lateral line to origin of dorsal fin, 15 to 17 scale rows below lateral line to origin of anal fin (total 26 to 29 scale rows); scales on head cycloid (smooth), those on body ctenoid (rough to touch); **small scales present on soft parts of dorsal and anal fins**; lateral-line scales reaching to tip of caudal fin. **Swimbladder carrot-shaped, with 17 to 20 pairs of aborescent appendages** along its sides, **the first pair entering head beyond transverse septum. Sagitta (large earstone) with a tadpole-shaped impression, the tail of which J-shaped. Colour:** body brownish grey, dark oblique lines on anterior part of back; margin of spinous dorsal fin darker.

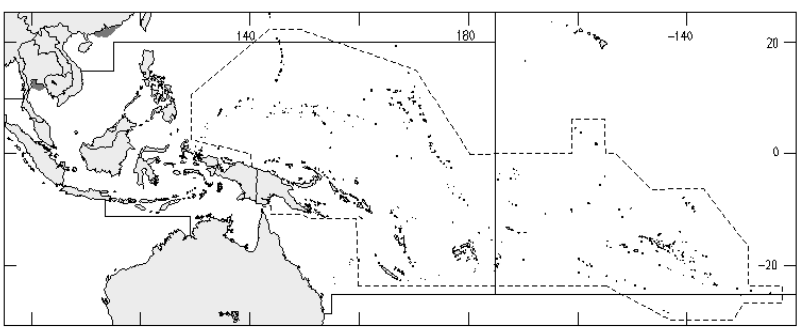


swimbladder

Size: Maximum standard length 24 cm, commonly to 20 cm.

Habitat, biology, and fisheries: Inhabits coastal waters.

Distribution: East China Sea and Bangkok.



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