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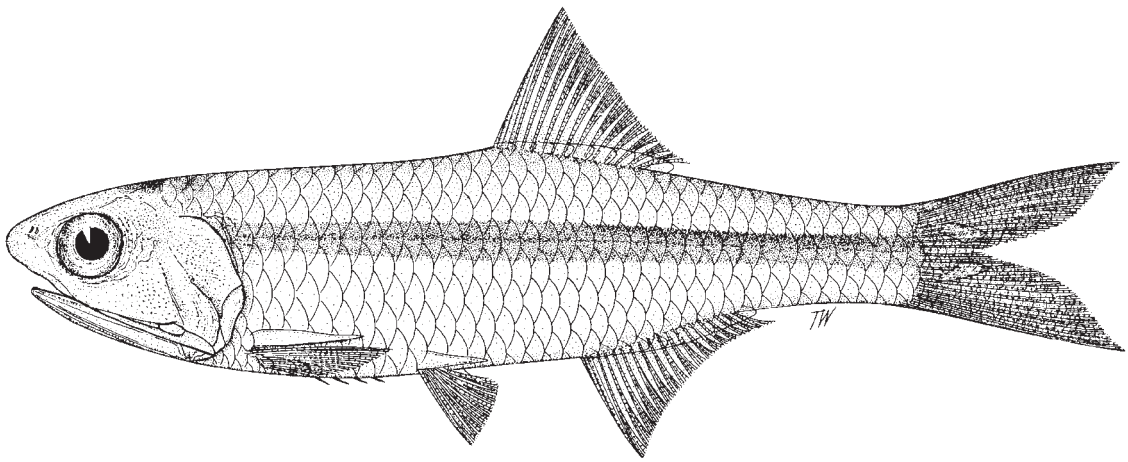
Stolephorus nelsoni Wongratana, 1987

Frequent synonyms / misidentifications: None / None.

FAO names: En - Nelson's anchovy.

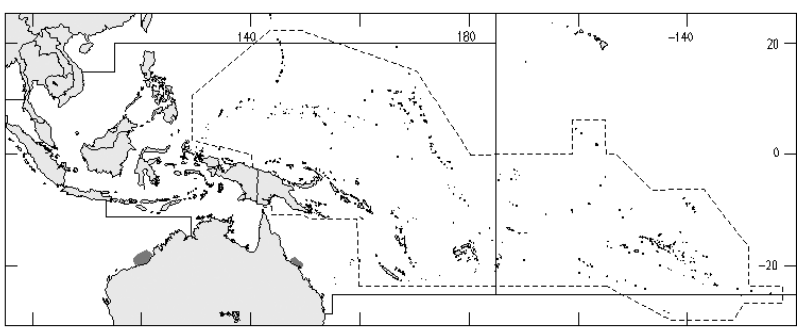


Diagnostic characters: Body moderately deep and compressed (depth about 23 to 24% of standard length), **abdomen rounded, with 4 or 5 small needle-like prepelvic scutes; no postpelvic scutes; no predorsal spine-like scute; pelvic scute without spine. Posterior frontal fontanelles (on top of head) remaining open in adults. Maxilla tip pointed, reaching posteriorly to about posterior border of interopercle; maxilla extending well beyond second supramaxilla. Small teeth present on upper edge of hyoid bones. Isthmus muscle tapering evenly anteriorly to posterior border of branchial membrane. Posterior border of preopercle convex, rounded. Branches of preopercular canal extending onto opercle.** Gill rakers slender; **lower gill rakers 24. Knob-like tooth patches at bases of anterior epibranchial gill rakers. Branchiostegal rays usually 12 or 13**. **Anal fin short, with iii unbranched and 20 branched fin rays, its origin about equal with vertical through middle of dorsal-fin base. Pelvic-fin tips not reaching posteriorly to vertical through dorsal-fin origin**. Scales moderate, about 35 or 36 in lateral series. **Colour:** with a bright silver lateral band; **no pigment lines on dorsum anterior to dorsal fin**.

Size: Maximum standard length 7.4 cm.

Habitat, biology, and fisheries: Coastal, pelagic, schooling, but more data needed. No apparent interest to fisheries; data for this species combined with that of other species of *Stolephorus*.

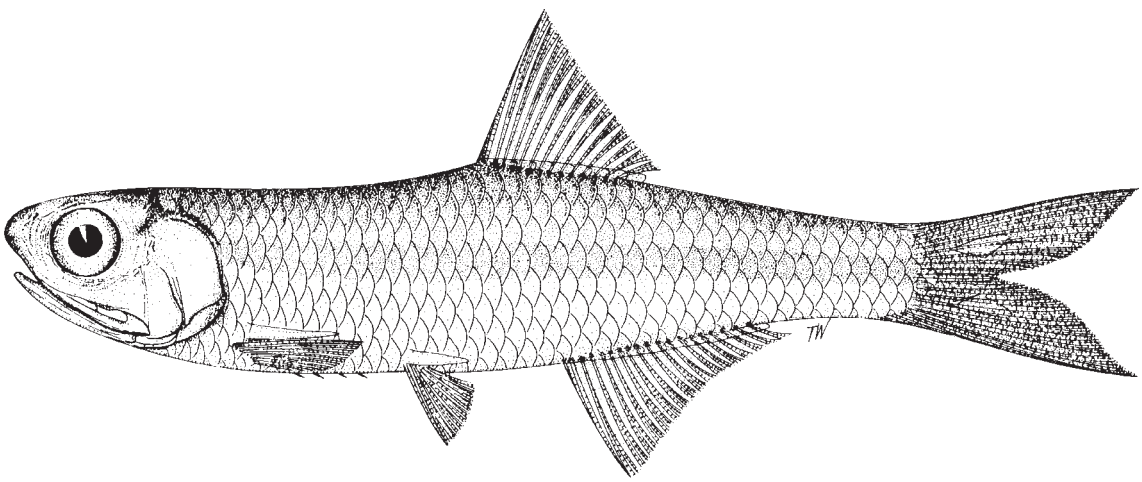
Distribution: Northwestern Australia (Eighty Mile Beach just north of Wallal, West Australia, and also at Townsville, Queensland).



Stolephorus pacificus Baldwin, 1984

Frequent synonyms / misidentifications: None / ? *Stolephorus indicus* (van Hasselt, 1823).

FAO names: En - Pacific anchovy.

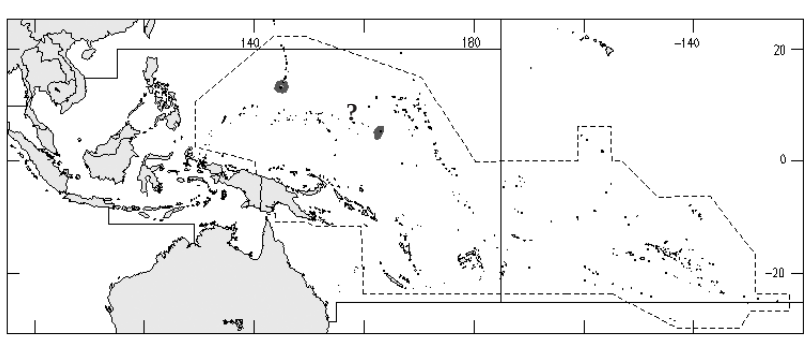


Diagnostic characters: Body somewhat compressed, **abdomen slightly rounded, with 1 to 4 small needle-like prepelvic scutes; no postpelvic scutes; no predorsal spine-like scute; pelvic scute without spine. Posterior frontal fontanelle (on top of head) remaining open in adults. Maxilla tip pointed, reaching posteriorly just to anterior border of preopercle; maxilla extending beyond second supramaxilla. Isthmus muscle tapering evenly anteriorly to posterior border of branchial membrane. Posterior border of preopercle convex, rounded. Branches of preopercular canal extending onto opercle**. Gill rakers slender, **lower gill rakers 35 to 38**. **Anal fin short, with iii unbranched and 17 to 19 branched fin rays, its origin equal with vertical through middle of dorsal-fin base. Pelvic-fin tips extending posteriorly beyond vertical through dorsal-fin origin**. Scales moderate, about 37 or 38 in lateral series. **Colour:** a silver stripe along flank, not strongly demarcated; **no distinct dark lines on dorsum from head to dorsal fin, bases of dorsal and anal fins with prominent dark melanophores**.

Size: Maximum standard length 7.7 cm.

Habitat, biology, and fisheries: Presumed coastal, pelagic, and schooling; recorded only from bays and estuaries (Guam and Kosrae). Eggs oval with a small knob. Perhaps of use as a baitfish if available in sufficient quantities.

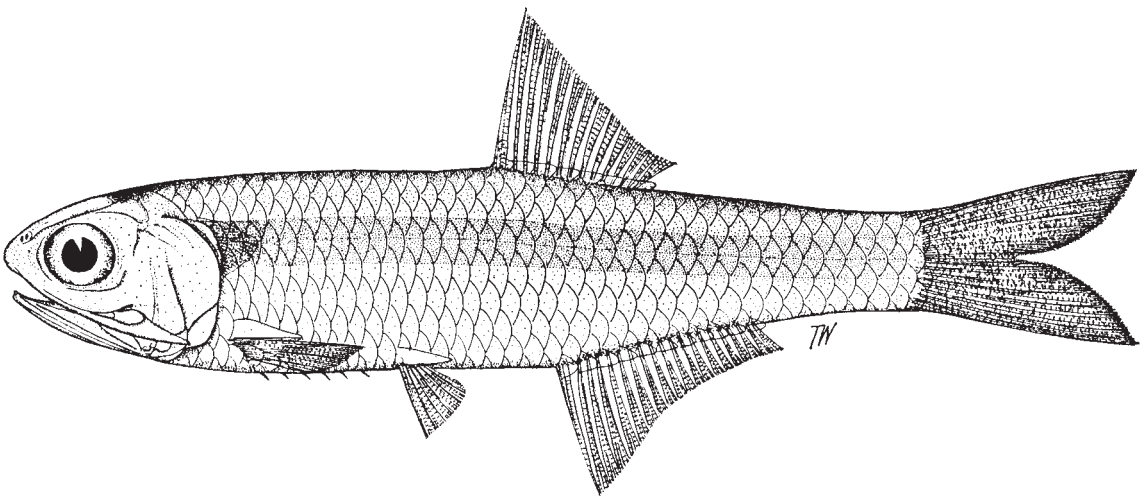
Distribution: Western Central Pacific (Guam and Kosrae).



Stolephorus ronquilloi Wongratana, 1983

Frequent synonyms / misidentifications: None / *Stolephorus insularis* Hardenberg, 1933.

FAO names: En - Ronquillo's anchovy.

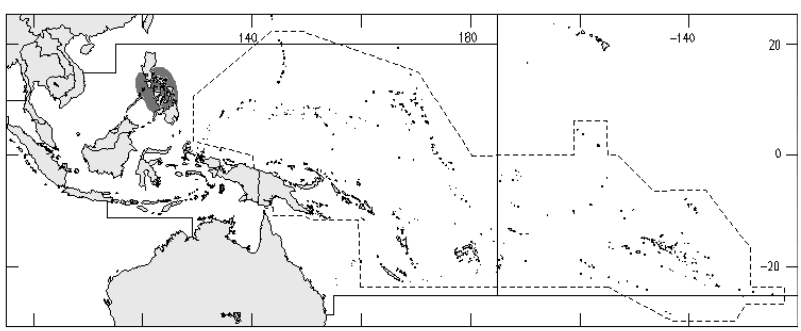


Diagnostic characters: Body somewhat compressed, **abdomen with 4 to 7 (usually 6) small needle-like prepelvic scutes; no postpelvic scutes; no predorsal spine-like scute; pelvic scute without spine. Posterior frontal fontanelles (on top of head) remaining open in adults. Maxilla tip pointed, reaching posteriorly to or beyond posterior border of preopercle; maxilla extending well beyond second supramaxilla. Isthmus muscle tapering evenly to posterior border of branchial membrane. No tooth patches on upper edge of hyoid bones. Posterior border of preopercle concave, indented near maxilla tip. Branches of preopercular canal extending onto opercle**. Gill rakers slender; **lower gill rakers numerous, 28 to 30**. **Anal fin short, usually with iii unbranched and 17 or 18 branched fin rays, its origin equal with vertical through anterior part of dorsal-fin base. Pelvic-fin tips not reaching posteriorly to vertical through dorsal-fin origin**. Scales moderate, about 36 to 38 in lateral series. **Colour: a double pigment line on dorsum posterior to dorsal fin**; usually with few to many prominent dark spots on isthmus.

Size: Maximum standard length 5.3 cm.

Habitat, biology, and fisheries: Coastal, pelagic, and schooling; more specimens and data needed. Not common in museum collections, so perhaps not very abundant.

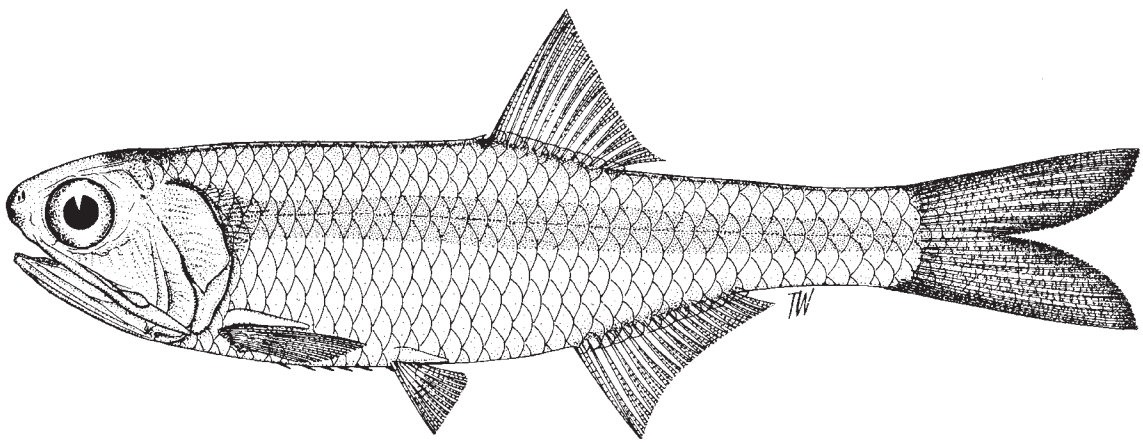
Distribution: Western Pacific in the Philippines only; other records from Indian Ocean, Thailand, and Singapore based on *Stolephorus insularis*.



Stolephorus tri (Bleeker, 1852)

Frequent synonyms / misidentifications: *Engraulis tri* Bleeker, 1852 / None.

FAO names: En - Spined anchovy.

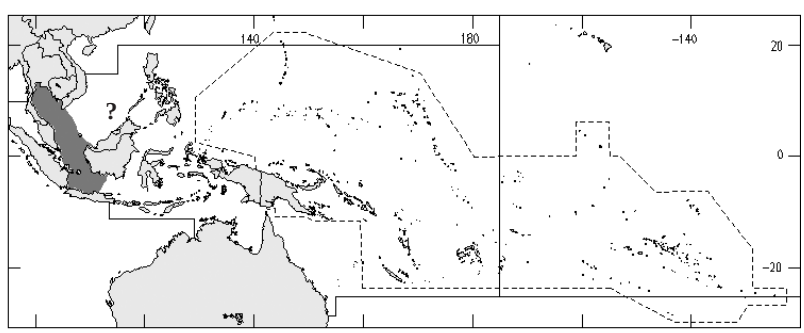


Diagnostic characters: Body compressed, **abdomen with 6 or 7 (rarely 8) small needle-like prepelvic scutes; no postpelvic scutes; a small predorsal spine-like scute; a spine on pelvic scute. Posterior frontal fontanelles (on top of head) remaining open in adults. Maxilla tapering and pointed, reaching posteriorly to or beyond posterior border of preopercle; maxilla extending well beyond second supramaxilla. Isthmus muscle tapering evenly anteriorly to posterior border of branchial membrane. Posterior border of preopercle rounded near maxilla tip. Branches of preopercular canal extending onto opercle. Very small teeth on upper edge of hyoid bones**. Gill rakers slender; **lower gill rakers 19 to 22 (rarely 18); 3 to 6 on posterior face of third epibranchial**. **Anal fin short, usually with iii unbranched and 17 or 18 branched fin rays, its origin at vertical through posterior part of dorsal-fin base.** Scales moderate, about 34 or 35 in lateral series. **Colour:** body pale cream-coloured (when scales lost), with a bright silver stripe along flanks; **a double pigment line on dorsum both anterior and posterior to dorsal fin**; a small dark spot at base of predorsal spine; inner margin of caudal fin darkish.

Size: Maximum standard length 9.5 cm.

Habitat, biology, and fisheries: Coastal, pelagic, and schooling. More specimens and data needed. One of the larger species of *Stolephorus*, but museum collections imply that it is not very abundant. Caught mainly with purse seines, lift nets, or bamboo-stake traps, often using light; also incidentally with bottom trawls. Marketed fresh, dried, dried-salted or made into fish meal, fish sauce, or fish balls.

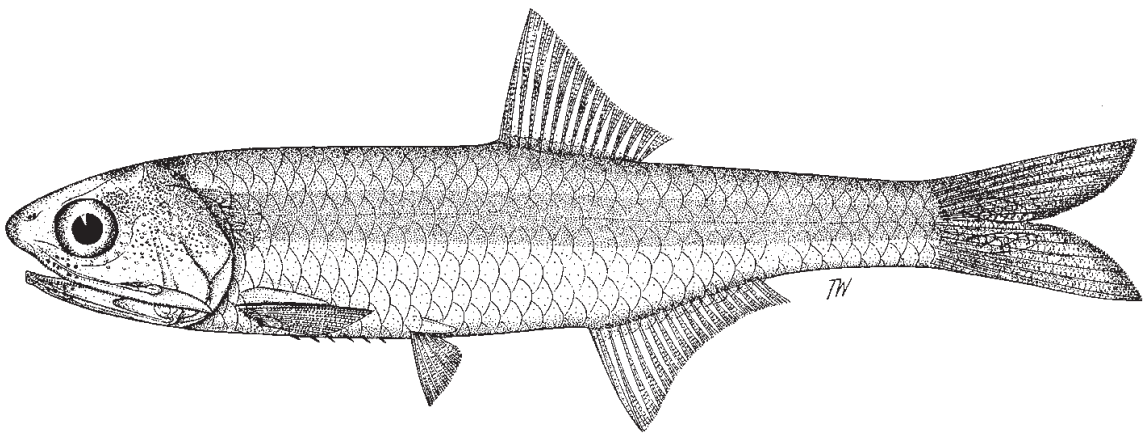
Distribution: Western Pacific from Gulf of Thailand and Java Sea. Indian Ocean records perhaps based on *Stolephorus baganensis* or on *S. insularis* possessing a predorsal spine.



Stolephorus waitei Jordan and Seale, 1926

Frequent synonyms / misidentifications: *Anchoviella waitei* (Jordan and Seale, 1926); *Stolephorus insularis bataviensis* Hardenberg, 1933 / *Stolephorus insularis* Hardenberg, 1933.

FAO names: En - Spotty-face anchovy; **Fr** - Anchois joues tachetées; **Sp** - Boquerón de manchas.

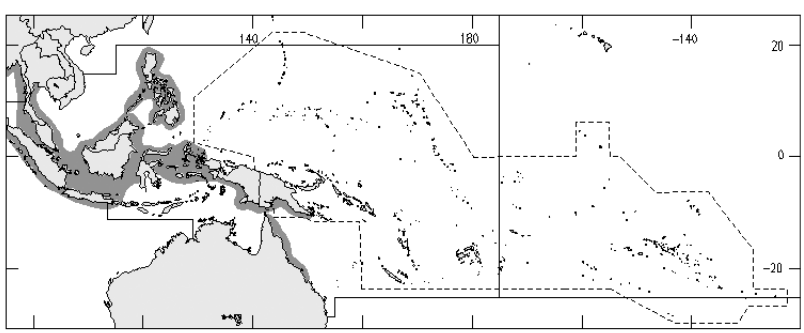


Diagnostic characters: Body somewhat compressed, **abdomen with 5 to 7 (rarely 4) small needle-like prepelvic scutes; no postpelvic scutes; no predorsal spine-like scute; pelvic scute without spine. Posterior frontal fontanelles (on top of head) remaining open in adults. Maxilla tip pointed, reaching to posterior border of preopercle; maxilla extending well beyond second supramaxilla. Isthmus muscle tapering evenly anteriorly to posterior border of branchial membrane. Posterior border of preopercle almost always convex, rounded. Branches of preopercular canal extending onto opercle**. Gill rakers slender; **lower gill rakers 19 to 25 (usually 20 or 21)**. **Anal fin short, usually with iii unbranched and 18 to 20 branched fin rays, its origin at vertical through posterior part of dorsal-fin base. Pelvic-fin tips only rarely reaching posteriorly to vertical through dorsal-fin origin**. Scales moderate, about 36 or 37 in lateral series. **Colour:** body pale with **numerous black spots below level of eye and on tip of lower jaw and underside of snout**; a dark patch posterior to occiput.

Size: Maximum standard length 9.4 cm, usually between 6 and 7 cm.

Habitat, biology, and fisheries: Coastal, pelagic, and schooling. Geographical overlap with and similarity to *Stolephorus insularis* casts doubts on several earlier studies of "*insularis*". A very common species (at least in museum collections), so probably contributes significantly to catches of *Stolephorus*. Caught mainly with purse seines, beach seines, and fish traps often using light; also incidentally with bottom trawls. Marketed fresh, dried, dried-salted or made into fish meal, fish sauce, or fish balls; also used as bait.

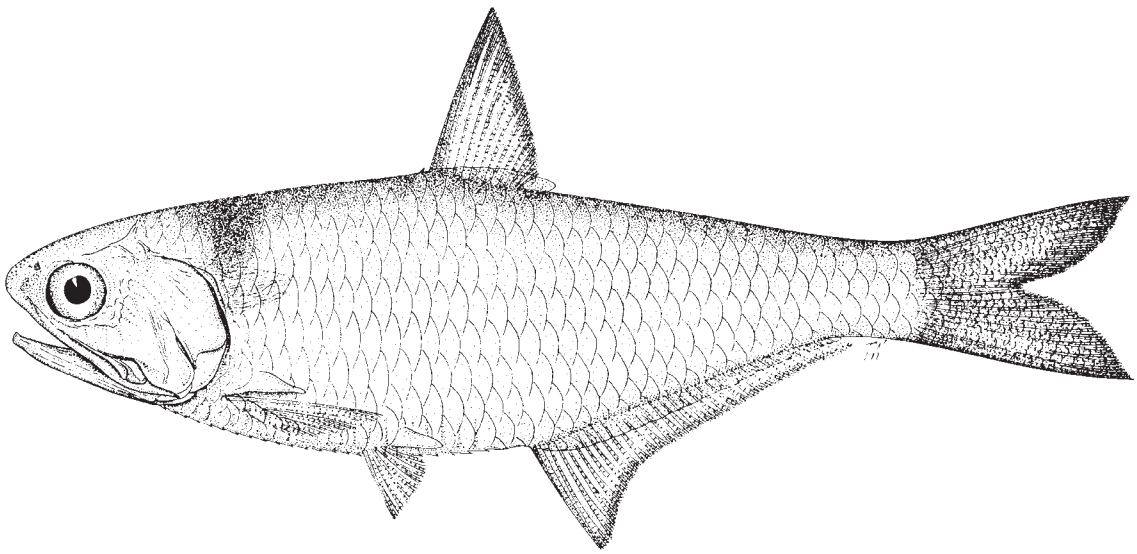
Distribution: Western Pacific (Thailand, Java Sea, the Philippines, probably Irian Jaya if not also Papua New Guinea; northeast coast of Australia south to Caloundra, Queensland; perhaps even more widespread) and eastern Indian Ocean (from Cochin and southern tip of India to Myanmar, Sumatra, and Java).



Thryssa aestuaria (Ogilby, 1911)

Frequent synonyms / misidentifications: *Thrissina aestuaria* (Ogilby, 1911) / *Thryssa brevicauda* Roberts, 1978.

FAO names: En - Estuarine thryssa.

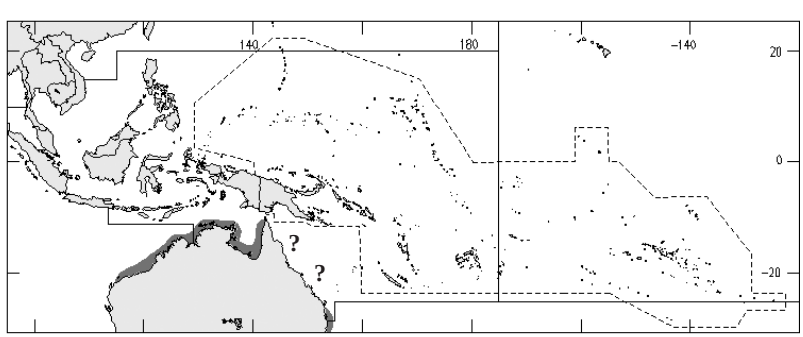


Diagnostic characters: Body fairly compressed, **abdomen with 14 to 16 prepelvic and 8 or 9 postpelvic scutes; total number of scutes 22 to 25. A small, spine-like scute present just anterior to dorsal-fin origin. Maxilla short, reaching posteriorly to posterior border of preopercle**; first supramaxilla short, about 1/2 length of second. **Teeth small or minute, not canine-like**. **Lower gill rakers 26 to 29**. **Pseudobranch very short, with about 15 filaments**. Dorsal-fin origin slightly anterior to midpoint of body. Anal fin relatively long, **with iii or iv unbranched and 31 to 34 branched fin rays**, its origin posterior to vertical through posteriormost dorsal-fin ray. Scales moderate, usually 37 to 38 scales in lateral series; **regular vertical striae on scales**. **Colour: a diffuse dark saddle on nape; no dark blotch posterior to gill opening**.

Size: Maximum standard length 13.8 cm.

Habitat, biology, and fisheries: Presumed marine, pelagic, coastal, but also estuarine, thus tolerating lowered salinities. More data needed. Probably little contribution to commercial fishery landings.

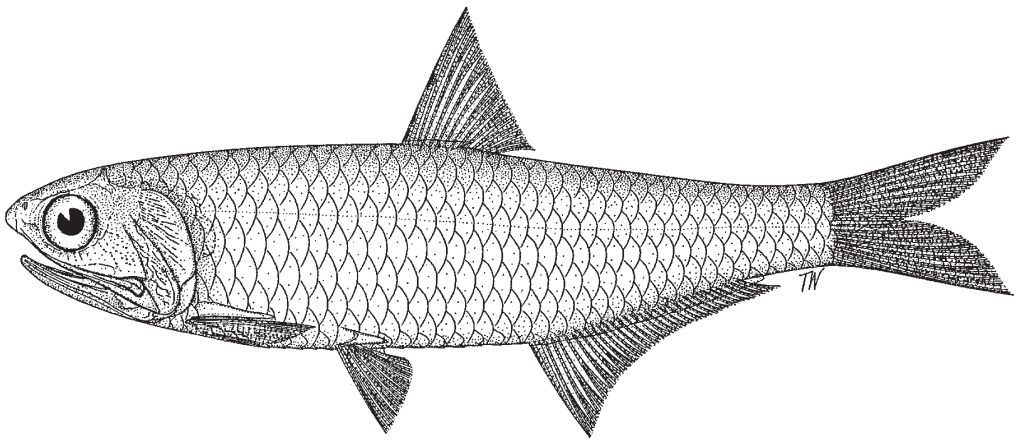
Distribution: Australia (northern coasts from Onslow east to Gulf of Carpenteria, and eastern coast from Brisbane south to 30°S, but presumably to the north also) and possibly New Guinea.



Thryssa baelama (Forsskål, 1775)

Frequent synonyms / misidentifications: *Thrissina aestuaria* (non Ogilby, 1911); *T. baelama* (Forsskål, 1775); *Thrissocles baelama* (Forsskål, 1775) / *Thryssa encrasicholoides* (Bleeker, 1852).

FAO names: En - Baelama anchovy; **Fr** - Anchois-moustache sardin; **Sp** - Bocarte belama.

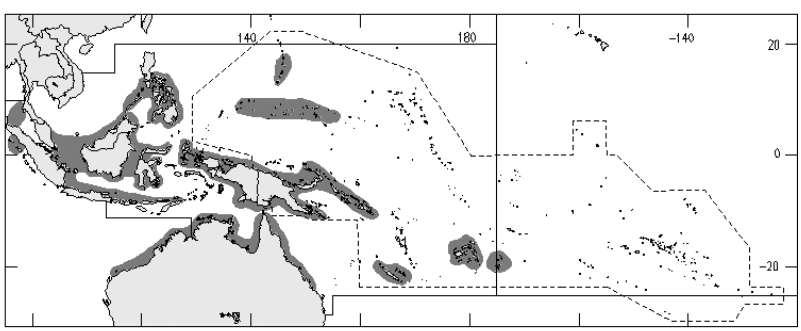


Diagnostic characters: Body not strongly compressed, abdomen rounded before pelvic fins, with complete series of sharply-keeled scutes; **with 4 to 9 (usually 5 to 7, mostly 6) prepelvic and 7 to 10 (usually 9) postpelvic scutes; total number of scutes 12 to 18 (usually 14 to 17). Prepelvic scutes not completely covering abdomen, but ending at point about equal with vertical through pectoral-fin base or slightly posterior to this point (not extending anteriorly to isthmus). A small, spine-like scute present just anterior to dorsal-fin origin. Maxilla short, reaching posteriorly to just beyond anterior border of preopercle, tip pointed. First and second supramaxillae relatively long. Teeth small or minute, not canine-like. Lower gill rakers 18 to 26 (mostly 20 to 24)**. Pseudobranch short, with about 20 filaments. Dorsal-fin origin slightly anterior to body midpoint. Anal fin relatively long, with 26 to 31 branched anal-fin rays, its origin posterior to vertical through base of posteriormost dorsal-fin ray. Scales moderate, with many vertical striae; usually 34 to 39 in lateral series. Twelve to 14, rarely 15, abdominal vertebrae; 26 to 28 (rarely 25), caudal vertebrae; 39 to 41 total vertebrae. **Colour:** dorsum dark blue, brown to olive above, flanks silvery below, with dark patch on shoulder; no silver lateral stripe; head golden.

Size: Maximum standard length about 15 cm, commonly between 10 and 12 cm.

Habitat, biology, and fisheries: Marine, pelagic, presumably schooling, mostly inshore in bays, lagoons, harbors, mangrove pools, and estuaries, thus apparently able to tolerate lowered salinities. More data needed. Since *Thryssa encrasicholoides* was included in the synonymy of *T. baelama* by most authors until recently, some of the previous distributional and other data must be questioned. Contributes to general clupeoid catches, but no special fishery. Caught mainly with purse seines, beach seines, and bamboo-stake traps often using light; also incidentally with bottom trawls. Marketed fresh, dried, dried-salted or made into fish meal, fish sauce or fish balls. Used as a baitfish in the Pacific; does not loose its scales easily, thus more hardy than *Stolephorus* species.

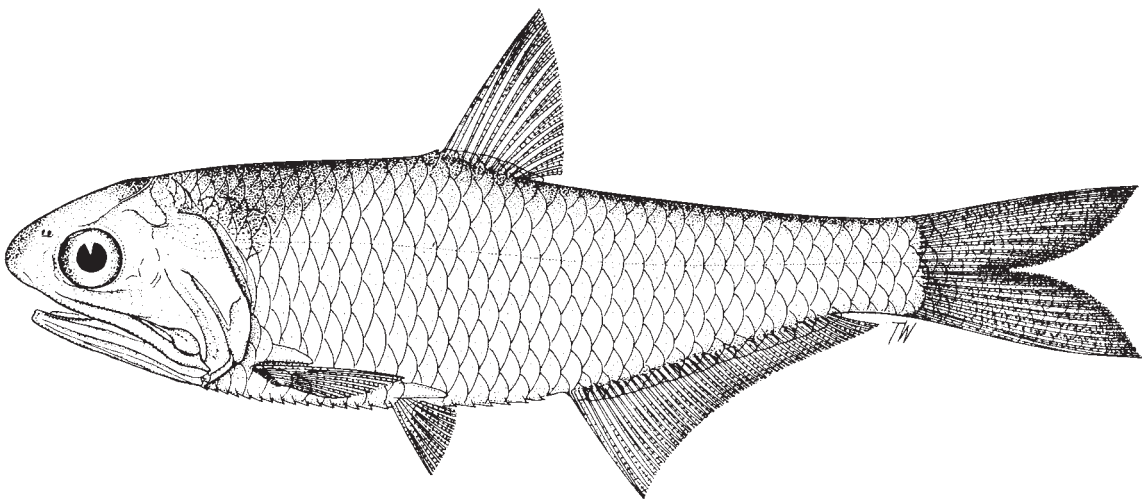
Distribution: Widespread in Western Central Pacific (Indonesia, the Philippines, Papua New Guinea, northern and northeastern coasts of Australia to Great Barrier Reef, Queensland, Caroline and Mariana islands, south to New Caledonia, and eastward to Tonga; no records from Thailand, South China Sea or to the north, but record from Ogasawara (Bonin Islands) seems reliable, and in Indian Ocean (perhaps the Persian Gulf, certainly Red Sea, coasts of East Africa to Madagascar and Mauritius; also Sri Lanka, Andaman Islands, but no Indian specimens).



Thryssa brevicauda Roberts, 1978

Frequent synonyms / misidentifications: None / *Thryssa aestuaria* (Ogilby, 1911).

FAO names: En - Short-tail thryssa.

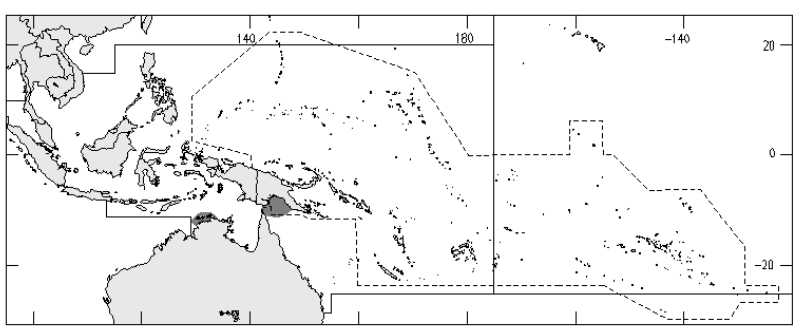


Diagnostic characters: Body fairly compressed, **abdomen with 14 to 16 prepelvic and 9 postpelvic scutes; total number of scutes 23 to 25. A small, spine-like scute present just anterior to dorsal-fin origin. Maxilla short, reaching posteriorly to posterior border of preopercle**; first supramaxilla short, about half length of second. **Teeth small or minute, not canine-like. Lower gill rakers 27**. **Pseudobranch short, with about 20 filaments.** Dorsal-fin origin slightly anterior to body midpoint. Anal fin relatively long, **with iii or iv unbranched and 29 to 32 branched fin rays,** its origin posterior to vertical through base of posteriormost dorsal-fin ray. Scales moderate, 34 to 36 in lateral series; **striae on the scales forming a reticulate pattern**. **Colour: a diffuse dark saddle on nape; no dark blotch posterior to gill opening**.

Size: Maximum standard length 7.5 cm, but presumably larger.

Habitat, biology, and fisheries: Presumed marine, pelagic, coastal, but juveniles tolerating lowered salinities at least when entering mangrove creeks of rivers. One of the small species of *Thryssa* for which more data are needed. No apparent interest to fisheries.

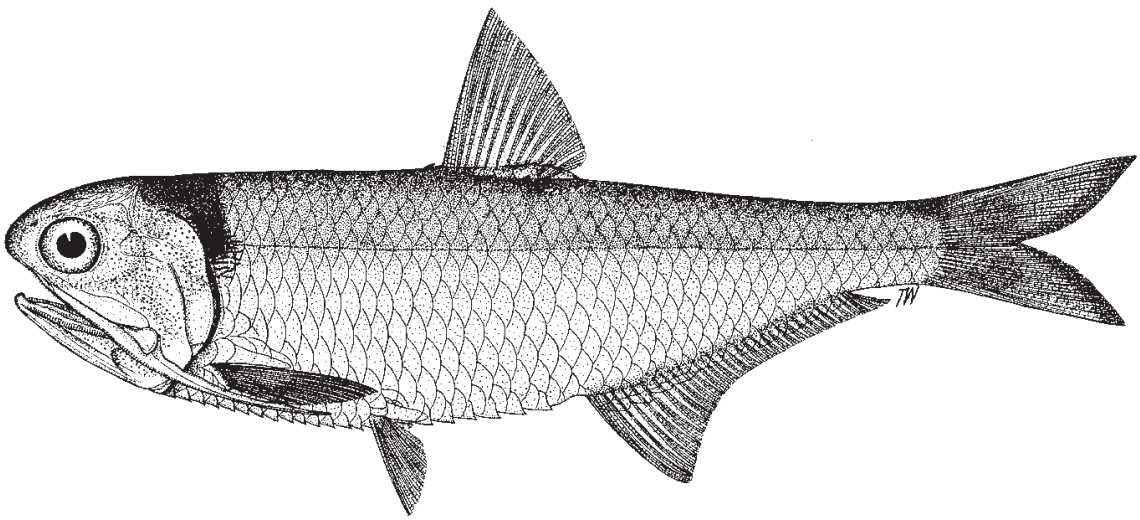
Distribution: Papua New Guinea (Fly River) and northern Australia (near Darwin).



Thryssa dussumieri (Valenciennes, 1848)

Frequent synonyms / misidentifications: *Engraulis dussumieri* Valenciennes, 1848; *Thrissa dussumieri* (Valenciennes, 1848) / None.

FA0 names: En - Dussumier's thryssa; **Fr** - Anchois-moustache mandeli; **Sp** - Bocarte mandelo.

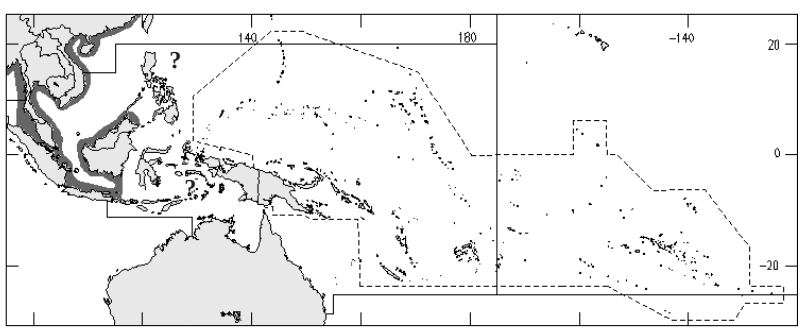


Diagnostic characters: Body compressed, **abdomen with usually 15 or 16 (rarely 14) prepelvic and 6 to 9 (usually 7 or 8) postpelvic scutes; total number of scutes 21 to 24 (usually 22 or 23). A small, spine-like scute just anterior to dorsal-fin origin. Maxilla very long, reaching posteriorly to a point at least halfway along length of pectoral fin and nearly to pelvic-fin base in adults; first supramaxilla absent; lower jaw slender, lower jaw not rising steeply within mouth. Teeth small or minute, not canine-like. Lower gill rakers 17 to 19 (rarely 20); serrae on inner edge in distinct clumps**. Pseudobranch hidden under skin. Dorsal-fin origin slightly anterior to body midpoint. Anal fin relatively long, **with iii unbranched and 29 to 37 (usually 31 to 35) branched fin rays,** its origin just posterior to vertical through base of posteriormost dorsal-fin ray. Scales moderate, about 36 to 40 in lateral series; striae on scales forming a fine vertical pattern. **Colour: a dark blotch posterior to upper part of gill opening, usually joined to a dark saddle on nape**.

Size: Maximum standard length 11 cm, perhaps more.

Habitat, biology, and fisheries: Marine, pelagic, presumably schooling, mostly inshore, perhaps tolerating estuarine conditions. Feeds on diatoms when young and prawn larvae, copepods, and cypris when larger. Probably one of the most common *Thryssa* species, thus perhaps of some significance in artisanal catches in some areas.

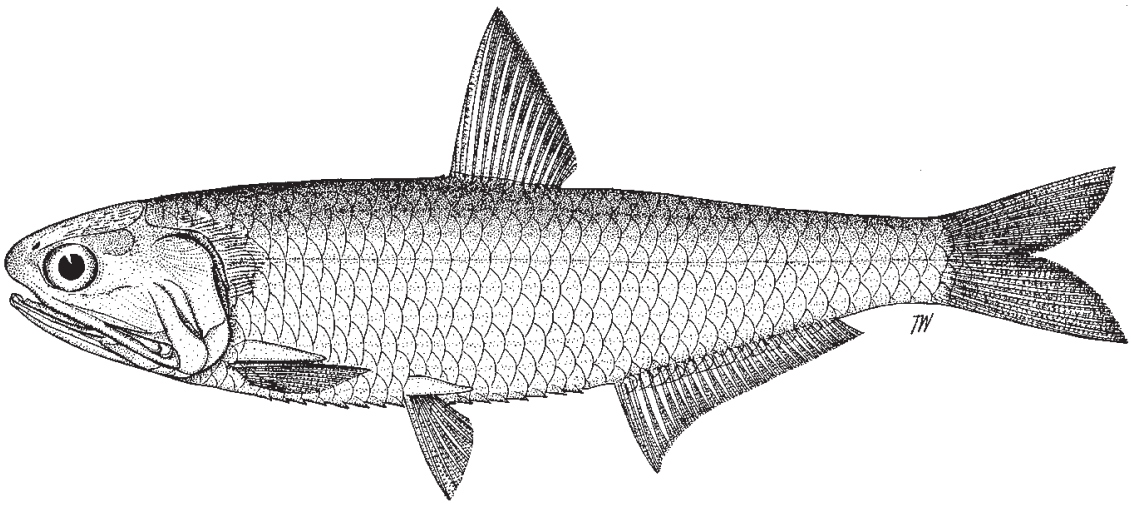
Distribution: Western Pacific (Gulf of Thailand, Malaysia, Indonesia, north to Taiwan Province of China, but no records from Papua New Guinea or northern coasts of Australia) and Indian Ocean (coasts of Pakistan, India, Myanmar and south to Penang; apparently not yet found in Gulf of Oman or the Persian Gulf).



Thryssa encrasicholoides (Bleeker, 1852)

Frequent synonyms / misidentifications: *Thrissina baelama* (non Forsskål, 1775); *T. encrasicholoides* (Bleeker, 1852); *Thrissocles baelama* (non Forsskål, 1775); *Thryssa baelama* (non Forsskål, 1775) / *Thryssa baelama* (Forsskål, 1775).

FAO names: En - False baelama anchovy.

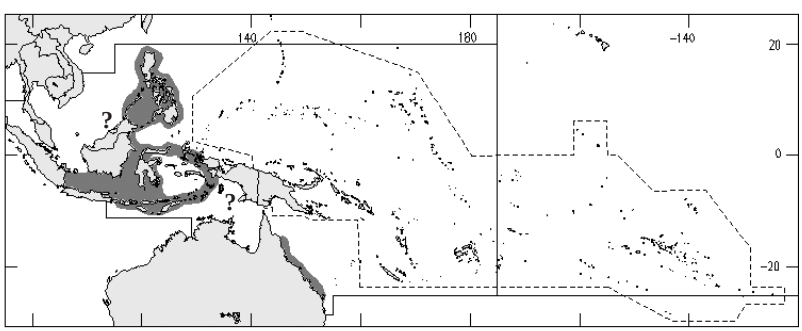


Diagnostic characters: Body not strongly compressed, abdomen rounded before pelvic fins, **with incomplete series of abdominal scutes, only 1 or 2 keeled scutes (lacking arms) immediately posterior to the isthmus**; **4 to 9 (usually 5 to 7, mostly 6) prepelvic and 7 to 10 (usually 9) postpelvic scutes; total number of scutes 12 to 18 (usually 14 to 17). A small, spine-like scute present just anterior to dorsal-fin origin. Maxilla short, not always reaching posteriorly to anterior border of preopercle, tip blunt. First and second supramaxilla relatively long**. **Teeth small or minute, not canine-like. Lower gill rakers 18 to 26 (mostly 20 to 24)**. Pseudobranch short, with about 20 filaments. Dorsal-fin origin slightly anterior to body midpoint. Anal fin relatively long, with 24 to 28 branched fin rays, its origin posterior to vertical through base of posteriormost dorsal-fin ray. Scales moderate, with many vertical striae; usually 34 to 39 in lateral series. Fifteen to 17 precaudal vertebrae, 23 to 25 caudal vertebrae, and 39 to 41 total vertebrae. **Colour:** no distinctive colour pattern.

Size: Maximum standard length 10.7 cm.

Habitat, biology, and fisheries: Probably similar to *Thryssa baelama*, but not separated from it in previous records. Contributing to the overall clupeoid catches, but presumably less than for *T. baelama*. More data needed.

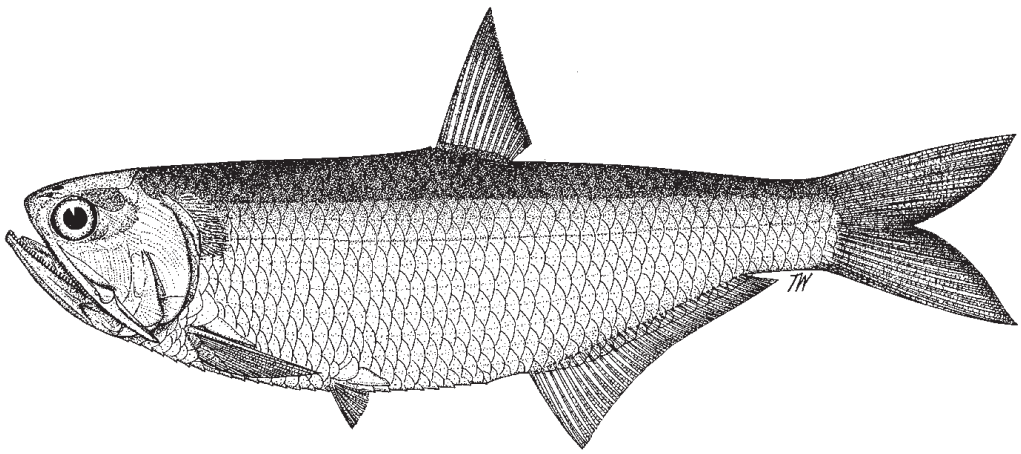
Distribution: Western Pacific (Java, Sulawesi, Timor, Ambon, the Philippines, northern Queensland) and Indian Ocean (Sri Lanka, India, and Lesser Sunda Islands). Presumably more widespread in Indian Ocean, but not previously separated from *T. baelama*.



Thryssa hamiltonii (Gray, 1830)

Frequent synonyms / misidentifications: *Scutengraulis hamiltonii* (Gray, 1830); *Thrissocles hamiltonii* (Gray, 1830) / *Thryssa mystax* (Bloch and Schneider, 1801); *T. spinidens* (Jordan and Seale, 1925).

FAO names: En - Hamilton's thryssa; **Fr** - Anchois-moustache mamata; **Sp** - Bocarte bolinado.

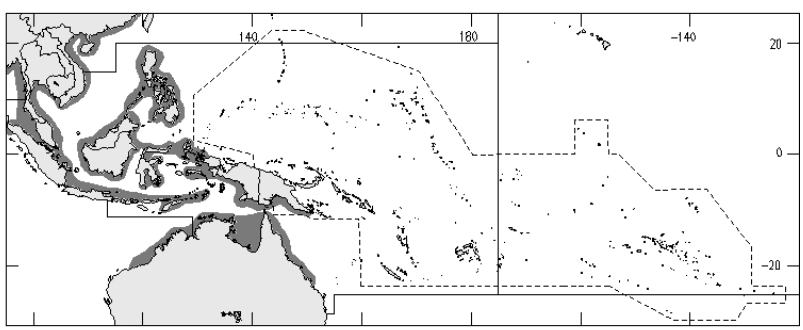


Diagnostic characters: Body compressed, **abdomen with 16 to 19 (rarely 15 or 20) prepelvic and 10 or 11 (rarely 9 or 12) postpelvic scutes; total number of scutes 26 to 31 (mostly 27 to 29). A small, spine-like scute present just anterior to dorsal-fin origin. Tip of snout above level of eye centre, usually about at level of upper rim of eye. Maxilla short to moderate, extending posteriorly to or projecting slightly beyond border of gill cover**; **first supramaxilla small, oval**. **Teeth small or minute, not canine-like. Lower gill rakers 12 to 14 (less often 11 or 15)**. Pseudobranch hidden under skin. Dorsal-fin origin about at midpoint of body. **Anal fin relatively long, with iii (rarely iv) unbranched and 32 to 39 (mostly 35 to 37) branched fin rays,** its origin just posterior to vertical through posteriormost dorsal-fin ray. Scales moderate, about 41 to 46 (rarely 41 or 46) in lateral series; vertical striae just interrupted at midpoint. **Colour:** head with gold tints, especially on maxilla and opercle; body silvery white, olive-grey above, **with pigment lines along dorsum, a dark blotch of horizontal wavy black lines on shoulder just posterior to upper part of gill opening;** dorsal fin dusky yellow, first dorsal-fin ray and posterior border of fin charcoal; anal fin white; pectoral and pelvic fins pale yellow; caudal fin yellow, its upper and lower borders charcoal.

Size: Maximum standard length 20 cm, commonly to 17 cm.

Habitat, biology, and fisheries: Marine, pelagic, and presumably schooling; inshore and entering estuaries. One of the larger species of *Thryssa* for which more precise data are needed based on correct identifications. Principle prey items may be prawns and copepods, supplemented by polychaetes and amphipods. Maximum longevity estimated at 4 years. Recruitment begins in October and continues to February. Females at an age of 4 years (about 25 cm total length) grow faster and attain larger sizes than males (21 to 22 cm total length). Contributes to artisanal catches of clupeoids and appears to be a common species of *Thryssa* (if identificatons are correct). Caught mainly with purse seines, beach seines, and bamboo-stake traps. Marketed fresh, dried, dried-salted or made into fish meal, fish sauce, or fish balls.

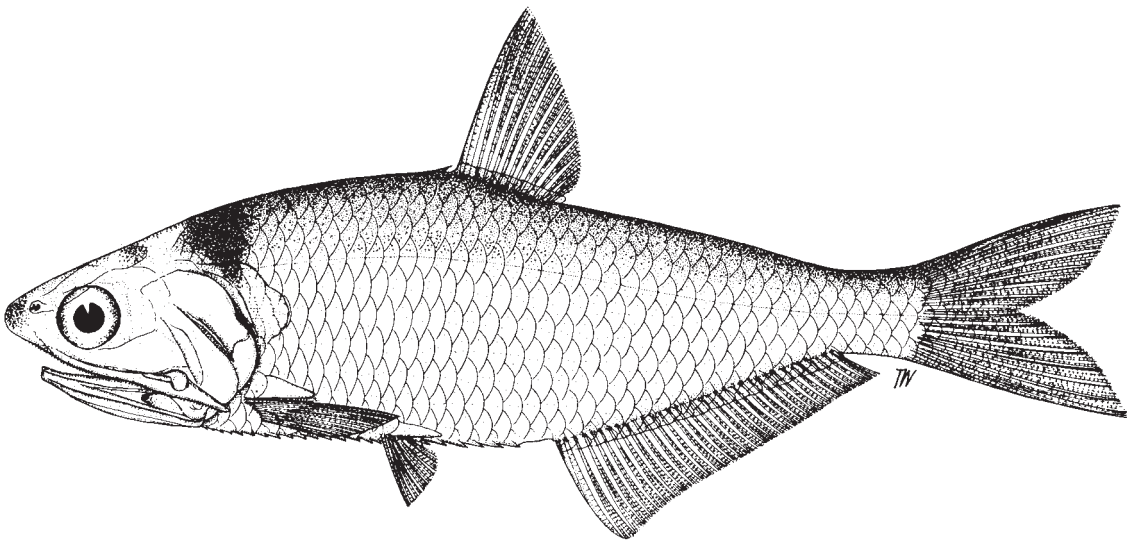
Distribution: Widespread in western Pacific (Indonesia south to Papua New Guinea and northern coasts of Australia including Gulf of Carpenteria to Gladstone, Queensland; perhaps not eastward to Vanuatu or beyond; northward to Thailand, Sarawak, pre- sumably the Philippines and certainly to Taiwan Province of China; also a record from the Bonin Islands), and in Indian Ocean (from the Persian Gulf and Pakistan eastward to Myanmar, the Andamans and Pinang, and on shelf off northwestern Australia).



Thryssa kammalensis (Bleeker, 1849)

Frequent synonyms / misidentifications: *Engraulis rhinorhynchos* Bleeker, 1852; *Scutengraulis kammalensis* (Bleeker, 1849); *Thrissocles kammalensis* (Bleeker, 1849) / None.

FAO names: En - Kammal thryssa.

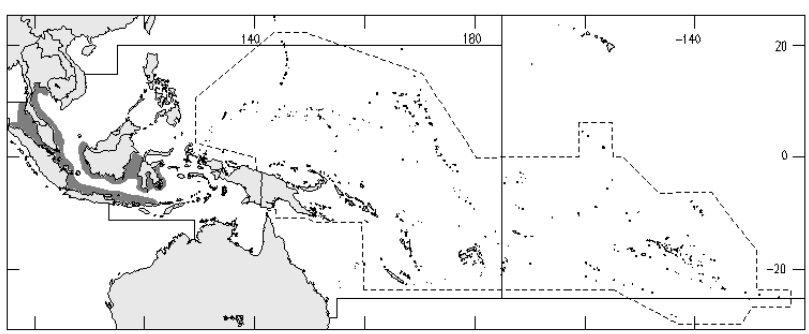


Diagnostic characters: Body compressed, **abdomen with 15 or 16 (rarely 17) prepelvic and 8 or 9 (rarely 7) postpelvic scutes; total number of scutes 23 to 25 (rarely 22 or 26); abdomen with complete series of sharply-keeled scutes from isthmus to anus. A small, spine-like scute present just anterior to dorsal-fin origin. Maxilla moderate, reaching posteriorly just to gill opening or slightly beyond in large fishes**; first supramaxilla about 1/2 as long as second. **Teeth small or minute, not canine-like. Lower gill rakers 26 to 32 (usually 29 or more). Pseudobranch very short, with only 4 to 10 filaments**. Dorsal-fin origin just anterior to body midpoint; **dorsal fin with at least 11 branched fin rays**. Anal fin relatively long, **usually with iii unbranched and 30 to 33 branched fin rays,** its origin at or posterior to vertical through base of posteriormost dorsal-fin ray. Scales moderate, usually 37 or 38 in lateral series; striae on scales moderately reticulate. **Colour: a prominent but diffuse dark saddle on nape**.

Size: Maximum standard length 8.3 cm, perhaps to 10 cm.

Habitat, biology, and fisheries: Marine, pelagic, presumably schooling and mostly inshore. More data needed, based on correct identifications. One of the small species of *Thryssa*, which presumably contributes to artisanal catches in Indonesia.

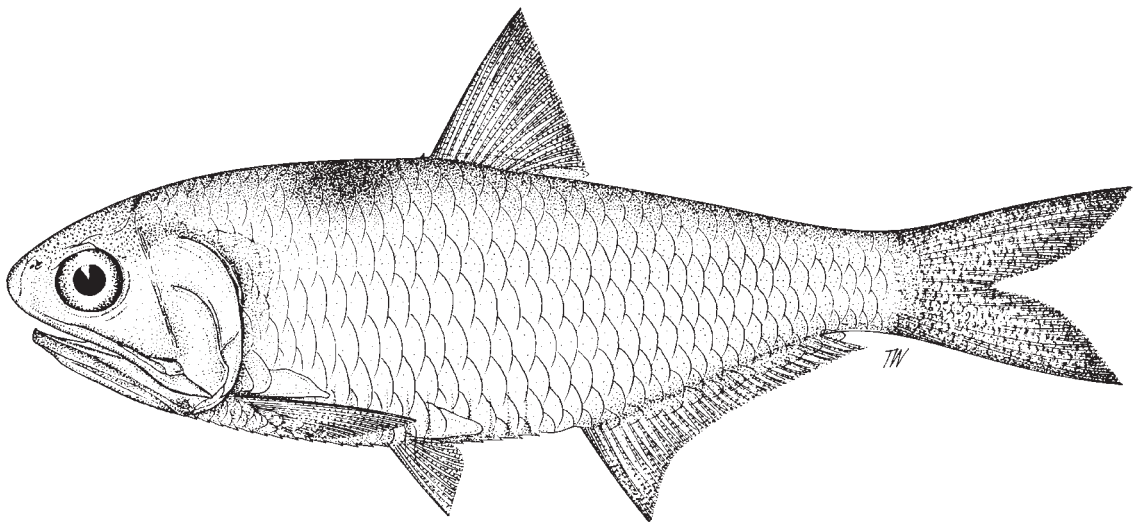
Distribution: Western Pacific (Gulf of Thailand to Singapore, southern Kalimantan, Java, and Sulawesi) and Indian Ocean (Penang and Andaman coast of Thailand).



Thryssa marasriae Wongratana, 1987

Frequent synonyms / misidentifications: None / *Thryssa aestuaria* (Ogilby, 1911); *T. brevicauda* (Roberts, 1978).

FAO names: En - Marasri's thryssa.

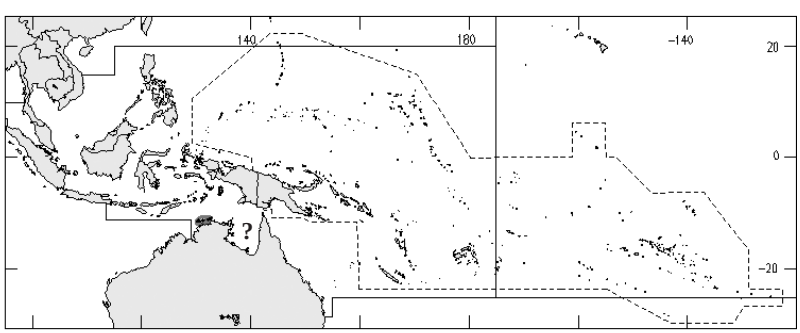


Diagnostic characters: Body fairly compressed and relatively deep, **abdomen with 15 or 16 prepelvic and 8 or 9 postpelvic scutes; total number of scutes 23 to 25. A small, spine-like scute present just anterior to dorsal-fin origin. Maxilla short, reaching posteriorly to posterior border of preopercle**; first supramaxilla short, about 1/2 length of second. **Teeth small or minute, not canine-like. Lower gill rakers 25 to 28. Pseudobranch moderately long**. Dorsal-fin origin slightly anterior to body midpoint. Anal fin relatively long, **with iii or iv unbranched and 26 to 28 branched fin rays,** its origin posterior to vertical through base of posteriormost dorsal-fin ray. Scales moderate, usually 33 to 35 in lateral series; regular vertical striae on scales. **Colour: a diffuse dark saddle just anterior to dorsal-fin origin; no dark blotch posterior to gill opening**.

Size: Maximum standard length at least 6.9 cm, probably more.

Habitat, biology, and fisheries: Presumably marine, pelagic, and coastal; may also enter estuaries. One of the small species of *Thryssa* for which more data are needed. Probably of little or no interest to commercial fisheries.

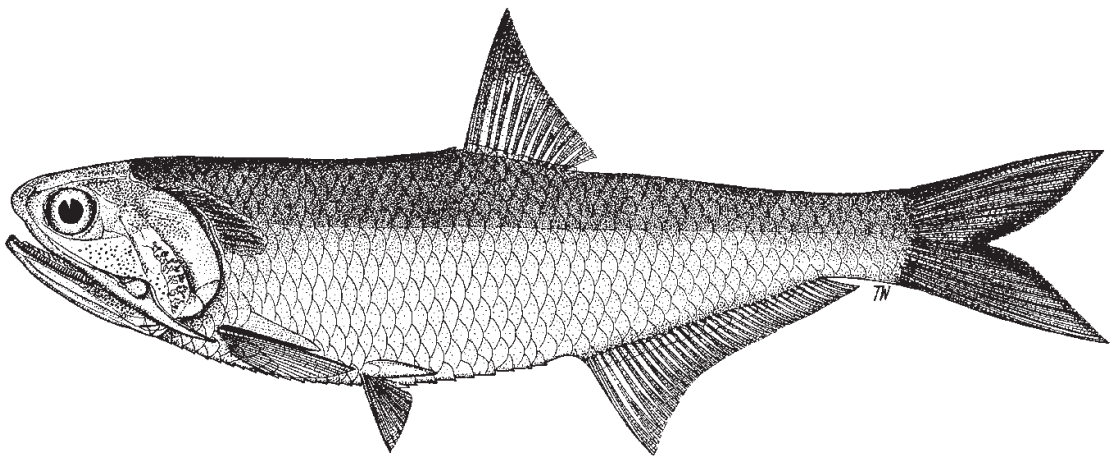
Distribution: Australia (northern coast around Darwin, but perhaps also enters Gulf of Carpenteria).



Thryssa mystax (Bloch and Schneider, 1801)

Frequent synonyms / misidentifications: *Thrissocles mystax* (Bloch and Schneider, 1801) / None.

FAO names: En - Moustached thryssa; **Fr** - Anchois-moustache sardelle; **Sp** - Bocarte dompilón.

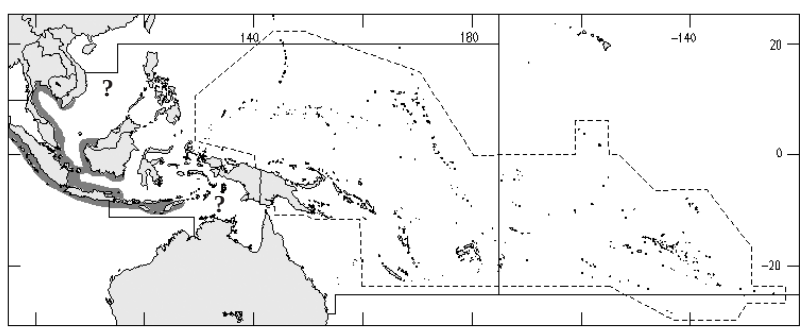


Diagnostic characters: Body compressed, **abdomen with 17 to 19 (rarely 16 or 20) prepelvic and 8 to 13 (most often 11) postpelvic scutes; total number of scutes 24 to 32 (usually 28 to 30). A small, spine-like scute present just anterior to dorsal-fin origin. Tip of snout on a level with eye centre. Maxilla long, reaching or almost reaching posteriorly to base of first pectoral-fin ray; first supramaxilla oval, minute; lower jaw not rising steeply within mouth. Teeth small or minute, not canine-like. Lower gill rakers 14 to 16 (rarely 13 or 17), with serrae on inner edge even and not clumped**. Pseudobranch hidden under skin. Dorsal-fin origin about at body midpoint. Anal fin relatively long, **with iii unbranched and 29 to 37 (usually 32 to 35) branched fin rays,** its origin posterior to vertical through posteriormost dorsal-fin ray. Scales moderate, usually 41 to 46 (rarely 40, 47, or 48) in lateral series; vertical striae on scales interrupted at middle. **Colour:** dorsum brown or blue, flanks silvery; **a dark blotch of wavy lines posterior to upper part of gill opening**; gill cavity light orange in life; dorsal-fin tip black; upper, lower, and posterior border of caudal fin black.

Size: Maximum standard length 15.5 cm.

Habitat, biology, and fisheries: Marine, pelagic, and schooling; mostly inshore and entering estuaries. Confusions in identification make all previous biological studies suspect. Enters artisanal catches along Indian coasts and is one of the commonest species of *Thryssa* (if identifications are correct). Caught mainly with purse seines, beach seines, and bamboo-stake traps often using light; also taken incidentally with bottom trawls. Marketed fresh, dried, dried-salted or made into fish meal, fish sauce, or fish balls.

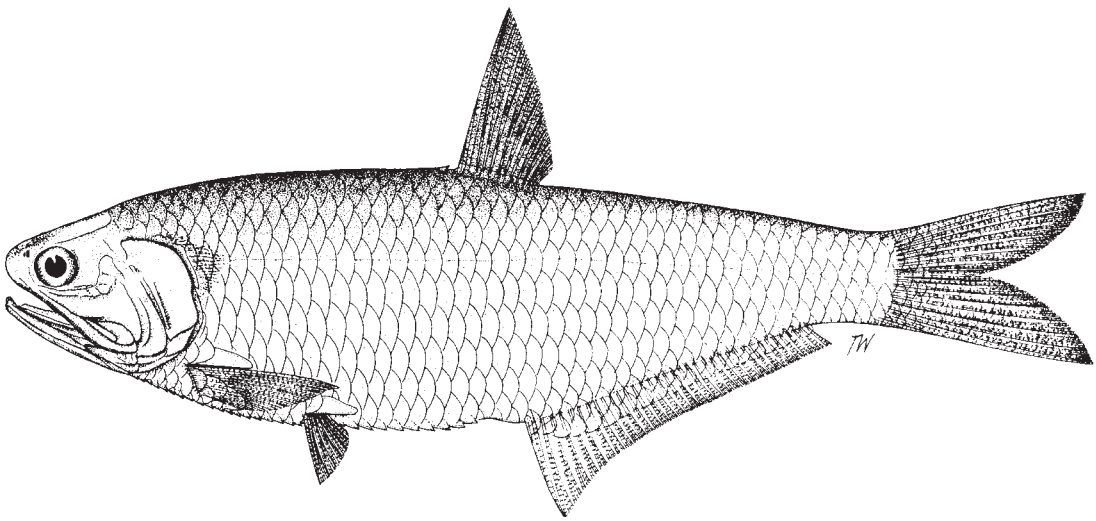
Distribution: Western Central Pacific (Gulf of Thailand, Indonesia south to Java) and Indian Ocean (western and eastern coasts of India, also Myanmar south to Pinang; also Sumatra, Java, and Lesser Sunda Islands).



Thryssa scratchleyi (Ramsay and Ogilby, 1886)

Frequent synonyms / misidentifications: None / None.

FAO names: En - New Guinea thryssa.

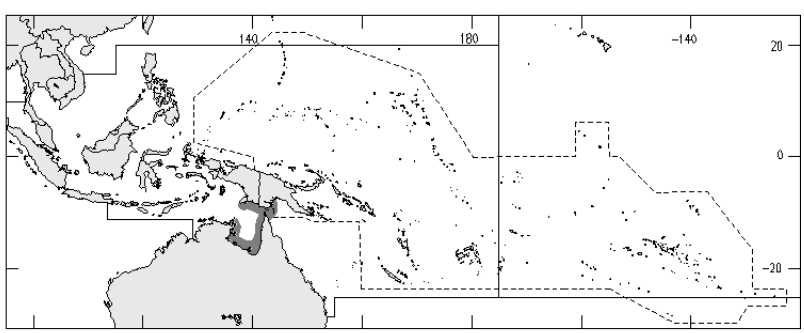


Diagnostic characters: Body compressed, **abdomen with 19 prepelvic and 12 postpelvic scutes; total number of scutes 31. A small, spine-like scute present just anterior to dorsal-fin origin. Maxilla short, only reaching posteriorly to anterior border of preopercle; first supramaxilla about 2/3 length of second. Teeth small or minute, not canine-like. Lower gill rakers 18 to 23**. Pseudobranch very short with only 12 or 13 filaments. Dorsal-fin origin about at body midpoint; **dorsal fin with 11 branched fin rays.** Anal fin relatively long, **with iii unbranched and 35 to 39 branched fin rays,** its origin at or posterior to vertical through base of posteriormost dorsal-fin ray. Scales moderate, usually 43 or 44 in lateral series; vertical striae on scales just interrupted at middle of scale. **Colour: no dark blotches on nape; a dusky area posterior to upper part of gill opening**.

Size: Maximum standard length 37 cm, thus by far the largest anchovy known.

Habitat, biology, and fisheries: Riverine, reaching nearly 900 km up the Fly River (Papua New Guinea), but also down to the estuary; possibly catadromous. Piscivorous (at least as large adults), recorded as feeding on *Clupeoides papuensis* and *Melanotaenia nigra* in Fly River. Large size implies that it makes a useful contribution to artisanal riverine catches.

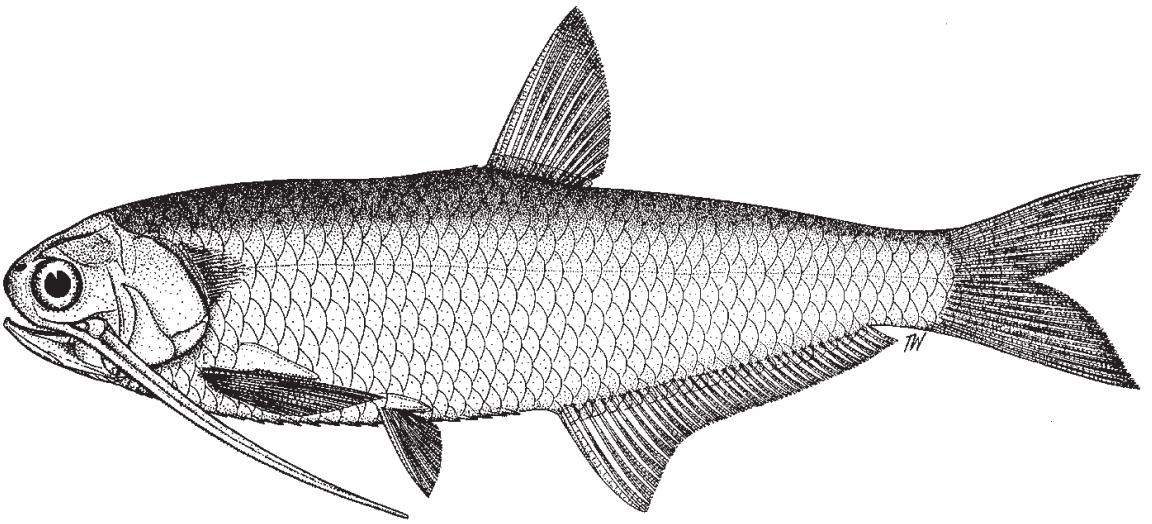
Distribution: Papua New Guinea (Strickland, Lorentz, and Fly rivers) and northern Australia in rivers entering Gulf of Carpenteria.



Thryssa setirostris (Broussonet, 1782)

Frequent synonyms / misidentifications: *Thryssa macrognathos* Bleeker, 1849; *Thrissocles setirostris* (Broussonet, 1782) / None.

FAO names: En - Longjaw thryssa; **Fr** - Anchois-moustache cornu; **Sp** - Bocarte de cuernos.

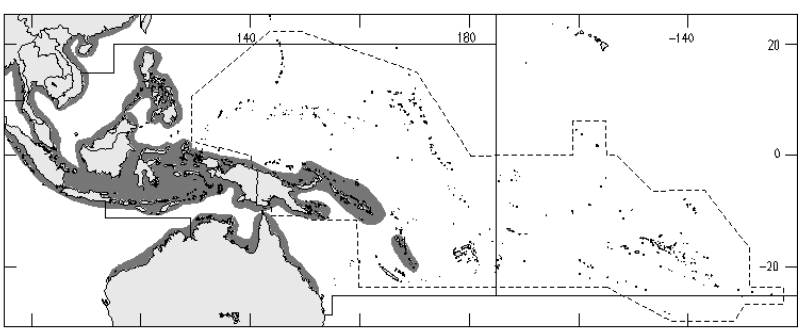


Diagnostic characters: Body fairly compressed, snout bluntly rounded; **abdomen with 16 to 18 prepelvic and 9 or 10 postpelvic scutes; total 25 to 28 scutes. A small, spine-like scute present just anterior to dorsal-fin origin. Maxilla very long (increasing with size of fish), reaching posteriorly at least to tip of pectoral fins, usually to pelvic-fin base, or even to anal-fin origin. Lower jaw with high coronoid process, the jaw rising steeply in the mouth. Teeth small or minute, not canine-like. Lower gill rakers 10 to 12**. Pseudobranch hidden under skin. Dorsal-fin origin slightly posterior to body midpoint; **dorsal fin usually with 12 (rarely 10 or 11) branched fin rays**. Anal fin relatively long, **with iii unbranched and 29 to 36 (mostly 32 to 35) branched fin rays**; its origin at or posterior to vertical through posteriormost dorsal-fin ray. Scales moderate, usually 41 to 46 (mostly 41 to 44) in lateral series. **Colour:** head with gold tints over pale blue; body silver white, bluish grey above; **a diffuse patch of horizontal wavy grey or charcoal lines on shoulder posterior to upper part of gill opening**; dorsal and caudal fins dusky to deep yellow, borders charcoal; anal fin deep yellow or white; pectoral and pelvic fins pale yellow.

Size: Maximum standard length about 18 cm, commonly between 13 and 15 cm.

Habitat, biology, and fisheries: Marine, pelagic, presumably schooling, mostly (or always ?) close inshore, entering bays and estuaries. More data needed. Feeds mainly on crustaceans (amphipods, zoae larvae, *Acetes*). Contributes to general clupeoid catches, but no special fishery. Caught mainly with purse seines, beach seines, lift nets, and traps. Marketed fresh, dried, dried-salted or made into fish meal, fish sauce, or fish balls.

Distribution: Very wide- spread in western Pacific (Thailand, Indonesia, and the Philippines to Taiwan Province of China; also, northern Australia including Gulf of Carpenteria to Gladstone, Queensland, Papua New Guinea, Solomon Islands, and Vanuatu) and in Indian Ocean (eastern coasts from Gulf of Oman south to Port Alfred, but not yet in Red Sea or off Madagascar; coasts of Pakistan, India, (probably Myanmar), Sumatra, Java, Lesser Sunda Islands, and on shelf off northwestern Australia).



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