CLUP
1974

FAO SPECIES IDENTIFICATION SHEETS

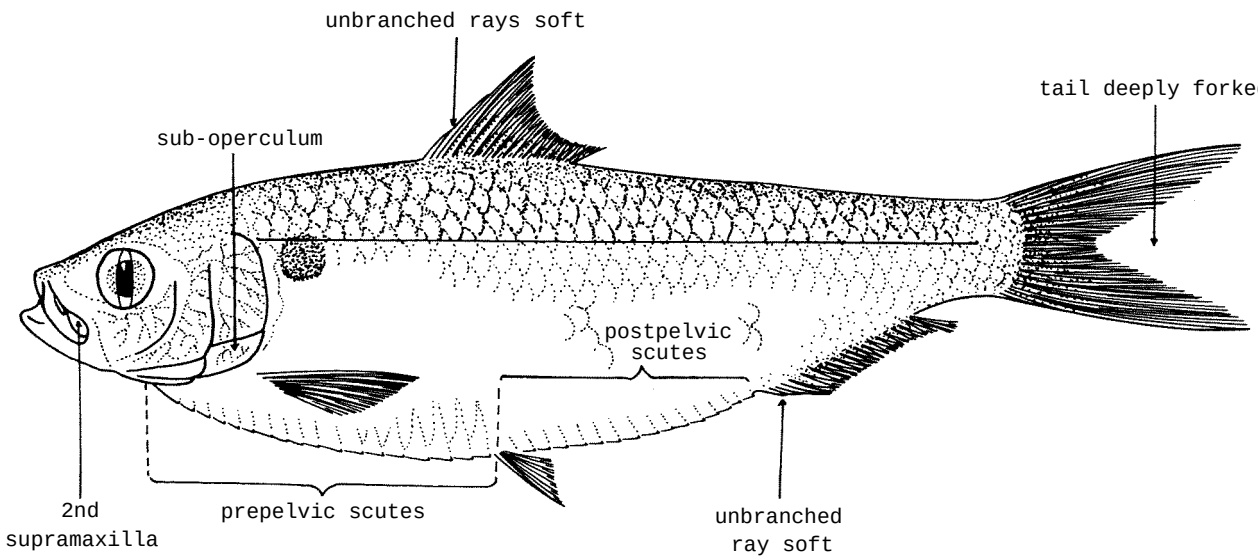
FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)

CLUPEIDAE

Herrings, sardines, shads, gizzard shads, etc.

Small silvery fishes, mostly 15-25 cm, usually with fusiform, sub-cylindrical bodies but sometimes quite strongly compressed; *scutes present along belly* in most genera (absent in *Dussumieria, Spratelloides).* Lower jaw short but deep, giving *typical clupeid mouth shape* (except inferior mouth in gizzard shads and pointed mouth in *Dussumieria). No spiny rays in fins; a single dorsal fin,* usually short and at midpoint of body; pectoral fins set low on body; pelvic fins about equidistant between pectoral fin base and anal fin origin; anal fin often short (less than 30 rays) but sometimes very long (40-60 rays, e.g. *Ilisha, Opisthopterus*); *caudal fin always deeply forked*. Scales always cycloid (smooth to touch) but often shed rather easily; *no lateral line.*

Colour: usually blue/green on back and silvery on flanks; darker markings include spot behind gill cover *(Anodontostoma),* spots along flanks *(Sardinella sirm),* spot at dorsal origin (some *Sardinella* spp.) and dark pigmentation on all or part of dorsal, pectoral, anal and caudal fins.



SIMILAR FAMILIES OCCURRING IN THE AREA:

Engraulidae: have long upper jaw, 'underslung' lower jaw and pig-like snout.

Atherinidae: have two dorsal fins and no scutes.

FAO Sheets

CLUPEIDAE

Fishing Areas 57,71

Key to Sub-Families

1 a. Branchiostegal rays 14-19; no scutes, belly smooth ..... DUSSUMIERIINAE

1 b. Branchiostegal rays 4-8 (Fig. 1); scutes present (except for Spratelloidinae and some Pellonulinae)

2 a. Anal fin short (less than 30 rays)

3 a. Mouth terminal, lower jaw not flared outward at corners (Fig. 2); last dorsal ray not filamentous

4 a. Upper jaw without median notch (Fig. 3)

5 a. Two supramaxillae (Fig. 4)

6 a. Scutes absent SPRATELLOIDINAE

6 b. Scutes present ..... CLUPEINAE

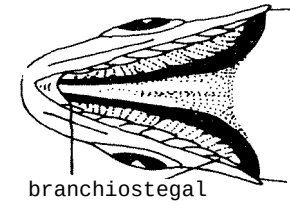
5 b. A single (posterior) supramaxilla ..... PELLONULINAE

4 b. Upper jaw with distinct notch at centre (Fig. 5) ..... ALOSINAE

3 b. Mouth inferior, lower jaw flared at corners (Fig. 6); last dorsal ray often filamentous ..... DOROSOMATINAE

2 b. Anal fin long (more than 30 rays); lower jaw very prominent ..... PRISTIGASTERINAE

Head seen from below



branchiostegal rays

Fig. 1

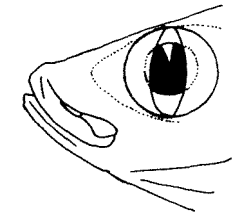


Fig. 2

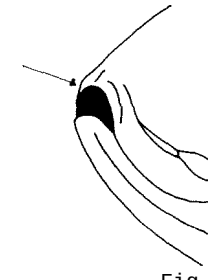
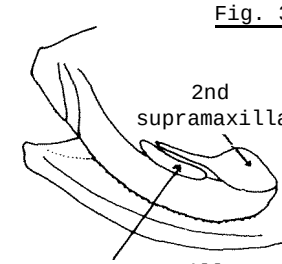


Fig. 3



Key to Genera

DUSSUMIERIINAE (round herrings)

1 a. Pelvic fins under dorsal fin base; 2 supramaxillae; anal rays 14-19 ..... *Dussumeria*

1 b. Pelvic fins behind dorsal fin base; 1 supramaxilla; anal rays 9-13 ..... *Etrumeus*

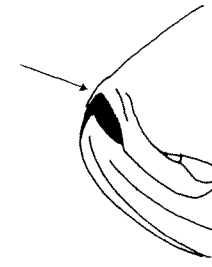


Fig. 3

SPRATELLOIDINAE

Spratelloides only

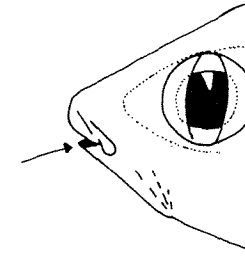


Fig. 6

CLUPEINAE (sardines, sardinellas, herrings, sprats)

1 a. Operculum smooth

2 a. Gill opening with two fleshy outgrowths; pelvic fin rays 8-9

3 a. Frontoparietal striae (on top of head) few (3-6) (Fig. 7); lower portion of paddle-shaped 2nd supra maxilla longer than upper (Fig. 9) ... *Herklotsichths*

3 b. Frontoparietal striae many (7-14) (Fig. 8); lower portion of paddle-shaped 2nd supramaxilla equal to upper (Fig. 10) ..... *Sardinella*

2 b. Gill opening smoothly rounded; pelvic fin rays 7

4 a. 2nd supramaxilla large, rectangular; silver stripe on flanks ..... *Escualosa*

4 b. 2nd supramaxilla paddle-shaped; flanks silvery ..... *Sprattus*

1 b. Operculum with radiating bony striae ..... *Sardinops*

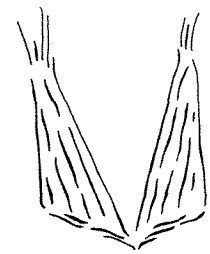


Fig. 7 - *Herklotsichthys* frontoparietal striae

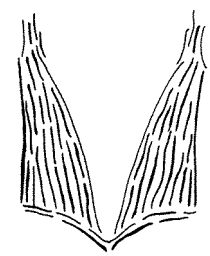


Fig. 8 - *Sardinella* frontoparietal striae

PELLONULINAE

1 a. Belly with strongly keeled scutes

2 a. No scutes on back before dorsal fin

3 a. Anal fin entire, last 2 rays not forming separate finlet; jaw teeth small ..... *Clupeoides*

3 b. Anal fin with last 2 rays forming a separate finlet

4 a. Jaw teeth small; upper jaw less than head length ..... *Corica*

4 b. Jaw teeth enlarged, canines in both jaws; upper jaw half head length ..... *Clupeichthys*

2 b. Scutes present on back before dorsal fin

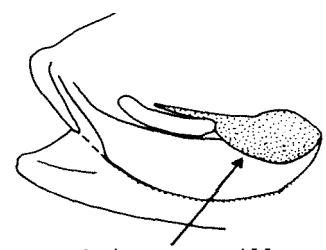
5 a. Pelvic fin with 8 rays; 8 branchiostegal rays ..... *Potamalosa*

5 b. Pelvic fin with 7 rays; 4 branchiostegal rays ..... *Hyperlophus*

1b. Pre-pelvic scutes present only (6-9), barely apparent

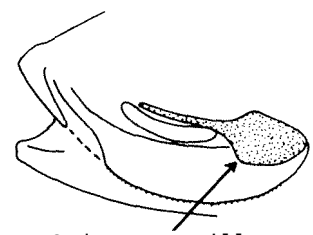
4 a. Pelvic base well behind dorsal fin origin; gill rakers 24-27 ..... *Dayella*

4 b. Pelvic base below or before dorsal fin origin; gill rakers 26-30 ..... *Fhirava*



2nd supramaxilla

Fig. 9 *Herklotsichthys*



2nd supramaxilla

Fig. 10 - *Sardinella*

ALOSINAE (shads, river shads)

1 a. Scales large, 40-50 in lateral series ..... *Xilsa*

1 b. Scales very small, 80-120 in lateral series ..... *Gudusia*

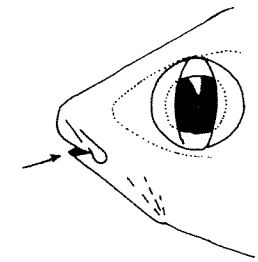


Fig. 11

DOROSOMATINAE (gizzard shads)

1 a. Last dorsal ray filamentous

2 a. Mouth inferior, dentary strongly flared outward at corners (Fig. 11); gill rakers of 1st arch half or less than length of gill filaments ..... *Nematalosa*

2 b. Mouth almost terminal, dentary not strongly flared outward at corners (Fig.12); gill rakers of 1st arch at least three-quarters length of gill filaments

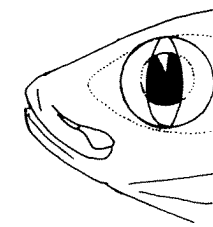


Fig. 12

3 a. Post-pelvic scutes usually 11-12; pre-dorsal scutes present (along back in front of dorsal fin) ..... *Clupanodon*

3 b. Post-pelvic scutes usually 14-16; no pre-dorsal scutes ..... *Konosirus*

1 b. Last dorsal ray not filamentous

4 a. Maxilla with tip slightly expanded and curved downward; paired pre-dorsal scales overlapping in midline *Goniatosa*

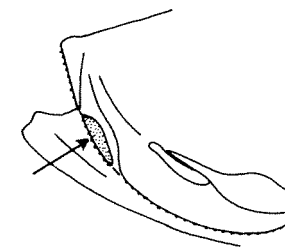


Fig. 13

4 b. Maxilla straight, its tip tapering; median series of pre-dorsal scales ..... *Anodontostoma*

PRISTIGASTERINAE (ilishas, pellonas)

1 a. Toothed hypomaxilla present (Fig. 13) ..... *Pellona*

1 b. Toothed hypomaxilla absent (Fig. 14)

2 a. Pelvic fins presence ..... *Ilisha*

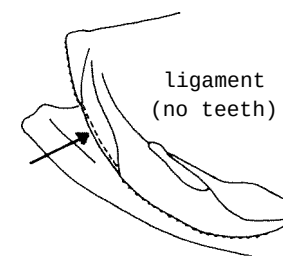


Fig. 14

2 b. Pelvic fins absent

3 a. Dorsal fin present; maxilla tip rounded ..... *Opisthopterus*

3 b. Dorsal fin absent; maxilla tip pointed ..... *Raconda*

List of Species occurring in the Area
(Families in capital letters; code numbers are given
for those species for which Identification Sheets are included)

DUSSUMIERIINAE

Dussumieria acuta	CLUP Duss 1
Etrumeus teres	

SPRATELLOIDINAE

Spratelloides delicatulus	
Spratelloides gracilis	

CLUPEINAE

EscuaLosa thoracata	
Herklotsichthys dispilonotus	
Herklotsichthys punetatus	CLUP Herk 1
Hyperlophus vittatus	
Hyperlophus translueidus	
Potamalosa richmondia	
Sardinella albella	CLUP Sardl 6
Sardinella aurita	
Sardinella brachysoma	CLUP Sardl 5
Sardinella cLupeoides	
Sardinella dayi	
Sardinella fimbriata	CLUP Sardl 7
Sardinella gibbosa	CLUP Sardl 8
Sardinella jussieui	
Sardinella leiogaster	CLUP Sardl 10
Sardinella longiceps	CLUP Sardl 3
Sardinella melanura	CLUP Sardl 4
Sardinella sindensis	
Sardinella sirm	CLUP Sardl 9
Sardinella zunasi	
Sardinops sagax neopilchardus	CLUP Sardop 1
Sprattus bassensis	

PELLONULINAE

Clupeoides borneensis	
Corica soborna	
Clupeichthys goniognathus	
Dayella malabarica	
Ehirava fluviatilis	

ALOSINAE

Hilsa Ilisha	CLUP Hils 2
Hilsa kelee	CLUP Hils 1
Hilsa macrum	CLUP Hils 3
Hilsa reevesi	
Hilsa toli	CLUP Hils 4
Gudusia chapra	
Gudusia variegata	

DOROSOMATINAE

Nematalosa arabiea	
Nematalosa come	
Nematalosa erebi	
Nematalosa galatheae	
Nematalosa japonica	
Nematalosa nasus	CLUP Nem 1
Nematalosa vlcaninghi	
Clupanodon thrissa	
Konosirus punctatus	
Gonialosa manmina	
Gonialosa modesta	
Anodontostoma chacunda	CLUP Anod 1
Anodontostoma chanpole	

PRISTIGASTERINAE

Pellona ditchela	CLUP Pell 1
Ilisha elongata	CLUP Ilish 2
Ilisha macrogaster	
Ilisha megaloptera	CLUP Ilish 4
Ilisha melastoma	CLUP Ilish 3
Ilisha pristigaatroides	CLUP Ilish 1
Ilisha sladeni	
Opisthopterus tardoore	CLUP Opis 1
Opisthopterus valenciennesi	
Raconda russeliana	

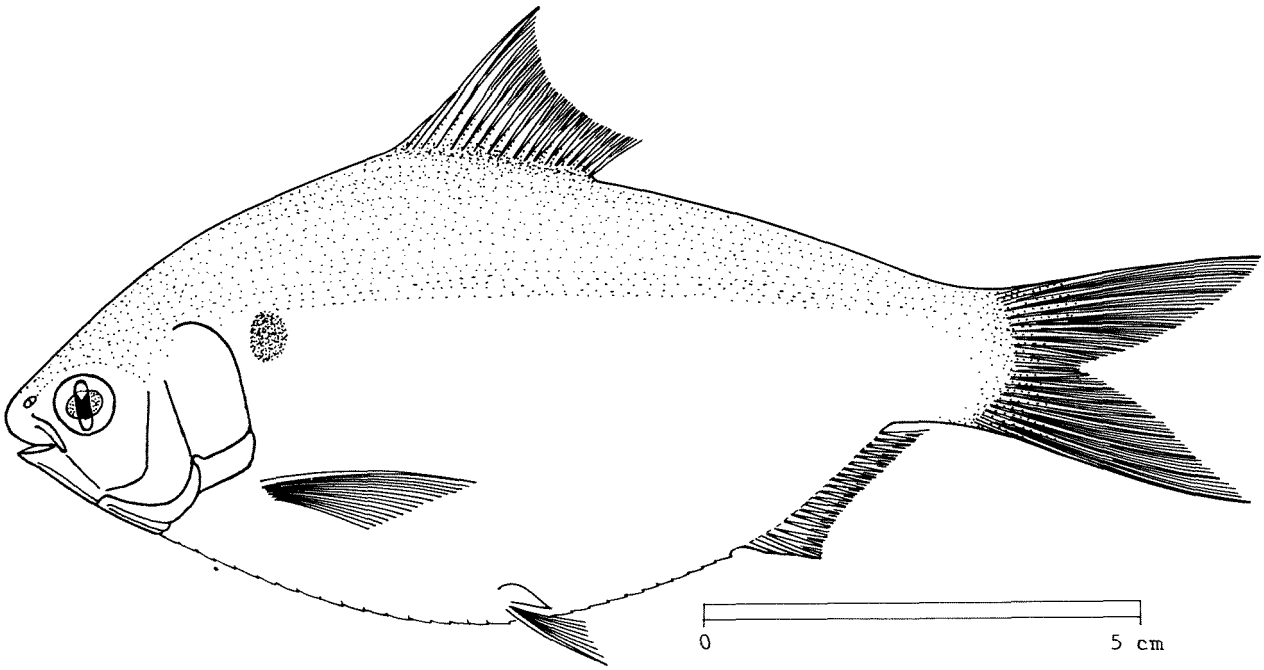
FAD SPECIES IDENTIFICATION SHEETS

FAMILY: CLUPEIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)

Anodontostoma Chacunda (Ham. Buch., 1822)

SYNONYMS STILL IN USE: *Dorosoma Chacunda:* Weber & de Beaufort, 1913
Gonostoma javanicus Hyrtl, 1855



VERNACULAR NAMES:

FAO: En - Chacunda gizzard-shad
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

Body deep, almost oval, compressed, its depth 2.1 to 3.1 times in standard length; belly rounded and with scutes. Dorsal fin origin before midpoint of body; *Last dorsal ray not filamentous; pelvic* fins below anterior part of dorsal fin base; anal fin short (about 20 rays). Gill rakers fine but less than 100 on lower arch. *Mouth inferior, maxilla straight, thin and tapering.* A median series of predorsal scales.

Colour: *a dark spot on shoulder, otherwise flanks silvery.*

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

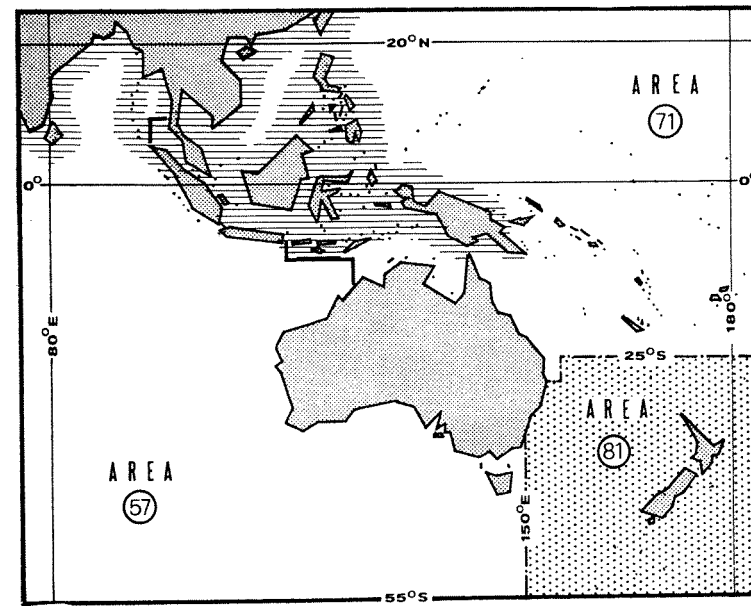
Anodontostoma chanpole: 15 dorsal fin rays (17 to 18 in *A. Chacunda*) and 19 transverse scales (12 to 13 in *A. Chacunda*).

Gonialosa species: maxilla tip curved downward and expanded.

Nematalosa species: last dorsal ray filamentous.

SIZE:

Maximum: 17 cm; common: about 14 cm.



GEOGRAPHICAL DISTRIBUTICN AND BEHAVIOUR:

Throughout most of northern part of area, possibly to northern tip of Australia; also, westward to Persian Gulf and northward to Hainan.

Inhabits coastal waters; pelagic.

Feeds on detritus.

PRESENT FISHING GROUNDS:

Caught throughout its range.

CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics for this species are reported by Malaysia only (1972: 800 tons).

Caught with purse seines, lift nets and set nets.

Marketed fresh, dried, dried-salted, boiled or made into fish meal.

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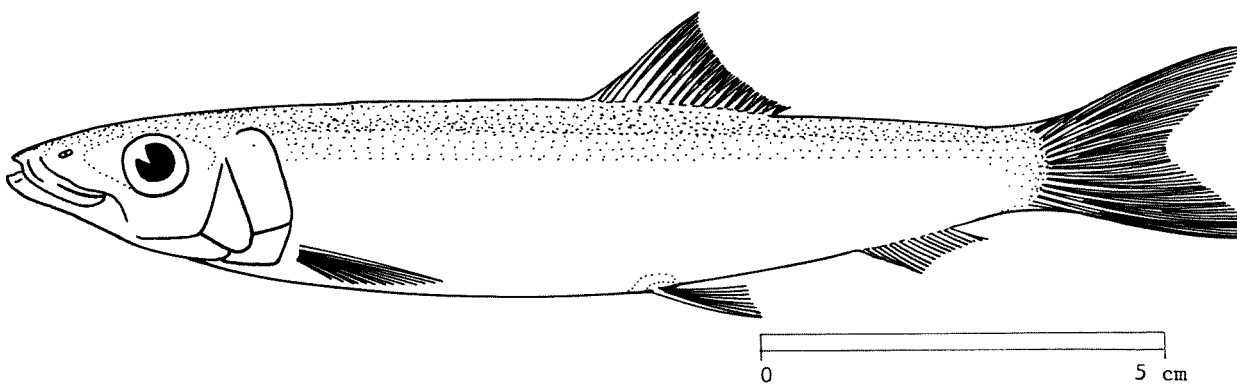
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CLUPEIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)

Dussumieria acuta Valenciennes, 1847

SYNONYMS STILL IN USE:
Dussumieria elopsoides Bleeker, 1850
Dussumieria hasselti Bleeker, 1850
Dussumieria productissima Chabanaud, 1933
Etrumeus (Montalbania) albulina Fowler, 1934



VERNACULAR NAMES:

FAO: En - Rainbow sardine
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

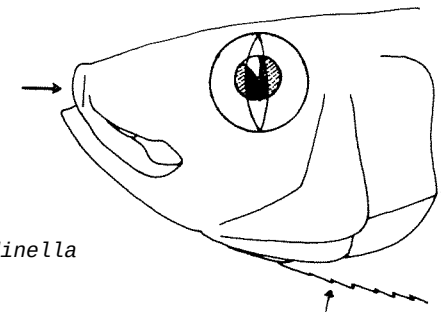
Body elongate, cylindrical; belly rounded, without scutes (except for plate-like W-shaped pelvic scute). Dorsal fin just behind centre point of body; anal fin base very short, well behind dorsal fin base; pelvic fin below middle of dorsal fin base. Premaxillae rectangular (not triangular) giving *distinctive appearance to mouth;* branchiostegal rays numerous (14 to 19).

Colour: irridescent blue/green on back, flanks beginning gold and fading to silver.

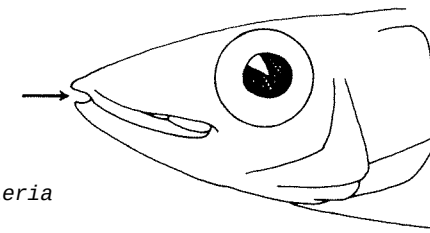
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Round-bodied Clupeidae *(Sardinella* species): scutes along belly and normal clupeid mouth (premaxillae triangular).

Etrumeus species: pelvic fin base behind dorsal fin base and only 9 to 13 anal rays (14 to 19 in Dussumieria).



Sardinella



Dussumieria

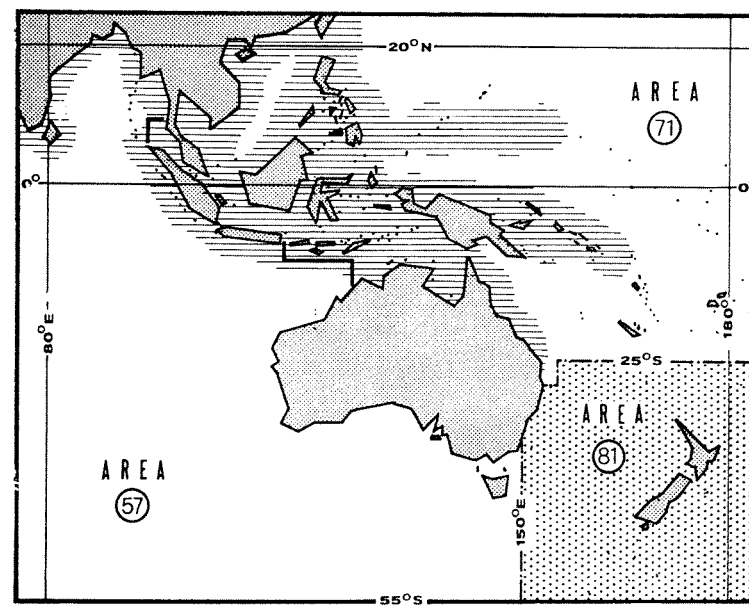
SIZE:

Maximum: 20 cm; common: 10 to 15 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Throughout northern part of area to northern tip of Australia; also, westward to East Africa and Madagascar and northward to Foochow.

Inhabits coastal waters; pelagic. Very abundant off Indian coasts.



PRESENT FISHING GROUNDS:

Caught throughout its range (especially off India).

CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with set nets, beach seines and purse seines.

Marketed fresh, dried, dried-salted or made into fish balls or fish meal.

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1974

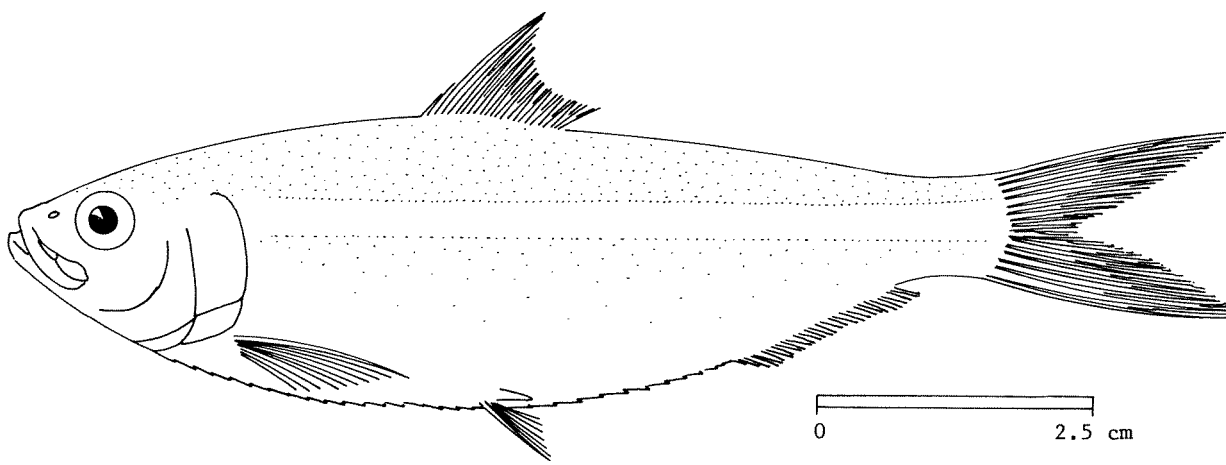
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CLUPEIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent, Pacific)

Herklotsichthys punctatus (Rüppell, 1837)

SYNONYMS STILL IN USE:
Harengula punctata (Rüppell, 1837)
Harengula moluccensis Bleeker, 1853
Harengula kunzei Bleeker, 1856
Harengula ovalis: Fowler, 1941



VERNACULAR NAMES:

FAO: En - Spotted herring
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

Fairly compressed body, its depth 3.0 to 4.5 times in standard length; *belly sharp with keeled scutes* (17 to 18 before pelvic fin base, 11 to 14 behind). Top of head with 3 to 6 longitudinal *fronto-parietal stripe. Lower part of 2nd supromaxilla longer than upper.* Lower gill rakers 29 to 38.

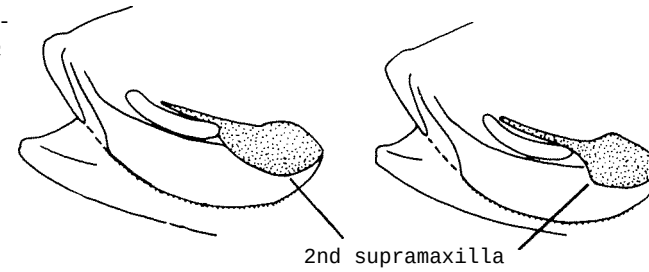
Colour: two forms, possibly distinct species. *Form A: an orange midlateral line, an orange spot on shoulder* and yellow/orange on base of dorsal fin, with a black patch on anterior 10 dorsal fin rays. Form B: *an electric blue midlateral stripe,* dorsal fin grey with at most a yellow tinge.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

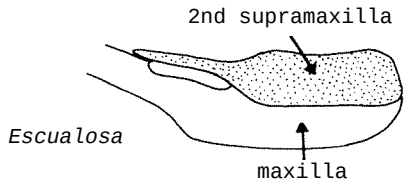
Herklotsichthys dispilonotus: two black saddle-like blotches on back.

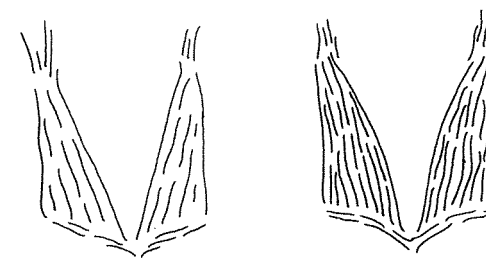
Sardinella species: 2nd supramaxilla paddle-shaped, upper and lower parts about equal in size; also, 7 to 14 frontoparietal striae.

Escuolosa thoracata: a silver stripe along sides; also, 2nd supramaxilla rectangular.



Herklotsichthys *Sardinella*





Herklotsichthys *Sardinella*
frontoparietal striae on top of head

SIZE:

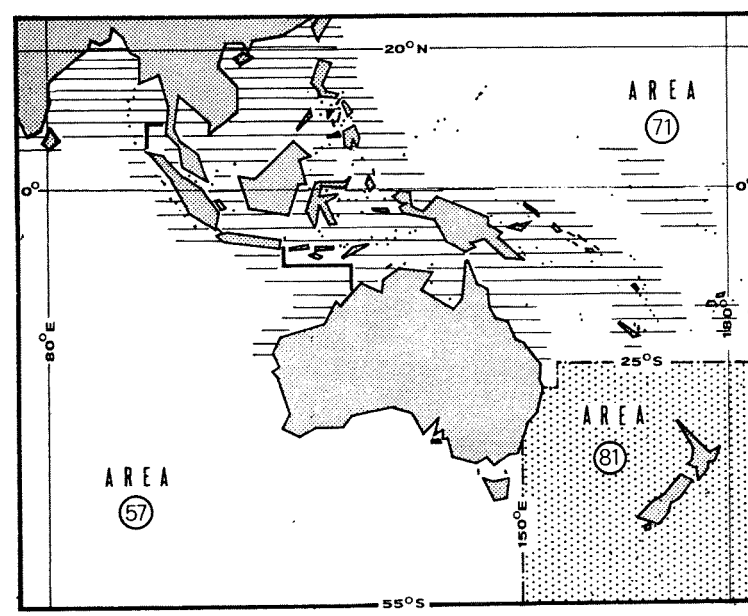
Maximum: 14 cm; common: 10 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Throughout whole of northern part of area and southward to warm waters of Australia; also, westward to East Africa.

Inhabits coastal waters, in schools.

Feeds on small planktonic organisms.



PRESENT FISHING GROUNDS:

Throughout its range.

CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics for this species are reported for the Philippines only (1972: 3 800 tons).

Caught mainly with purse seines, lift nets and set nets.

Marketed fresh, dried, dried-salted, boiled or made into fish balls.

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1974

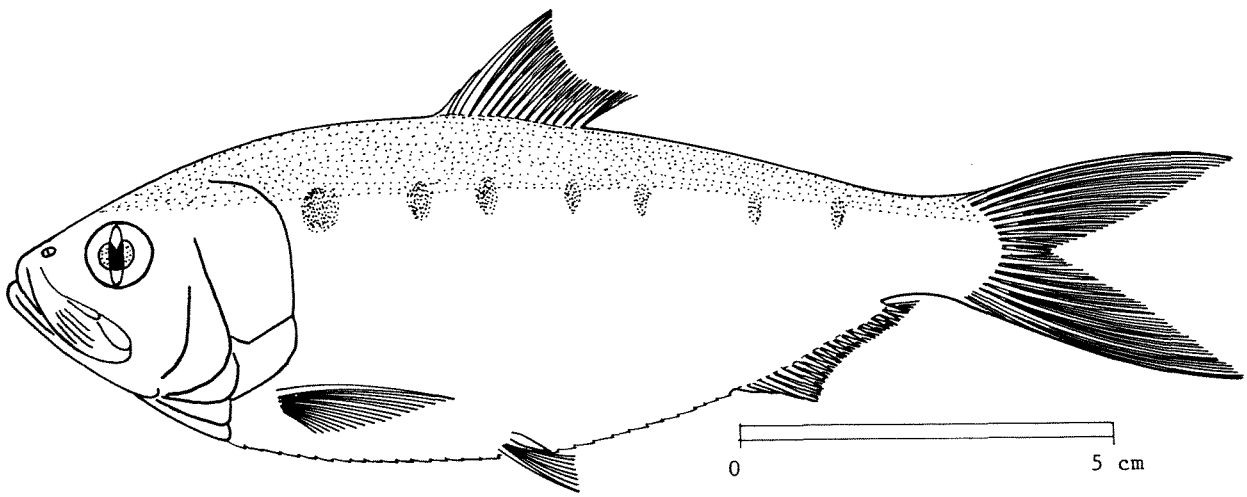
FAD SPECIES IDENTIFICATION SHEETS

FAMILY: CLUPEIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)

Hilsa kelee (Cuvier, 1829)

SYNONYMS STILL IN USE:
Macrura kelee: Fouler, 1941
Macrura brevis (Sleeker, 1848)
Hilsa kanagurta (Sleeker, 1852)
Hilsa brachysoma (Sleeker, 1853)
Clupea (Alosa) platygaster: Weber & de Beaufort, 1913



VERNACULAR NAMES:

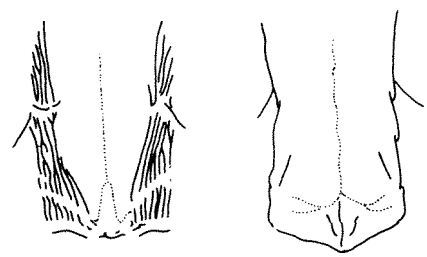
FAO: En - Kelee shad
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

Body strongly compressed, its depth 2.4 to 3.0 times in standard length; belly with sharply keeled scutes. Dorsal fin origin a little before midpoint of body; anal fin base fairly short (20 to 22 fin rays) and lying well behind dorsal fin base; pelvic fins below anterior part of dorsal fin base. *Upper jaw with distinct median notch when seen from front. Gill rakers very fine and numerous* (100 to 150 on lower part of gill arch). *Frontoparietal striae on top of head numerous.*

Colour: back blue/green, flanks silvery. Black spot behind operculum, followed by 3 to 7 similar spots along flanks.



Hilsa kelee *Hilsa ilisha*

frontoparietal striae
on top of head

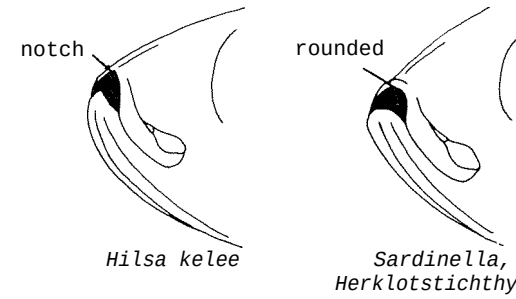
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

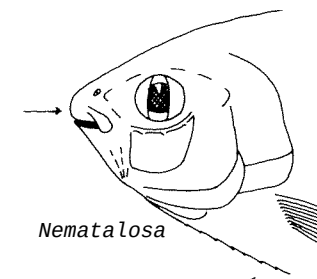
Other species of *Hilsa:* top of head without striated area (frontoparietal striae) whereas many striae in *H. kelee.*

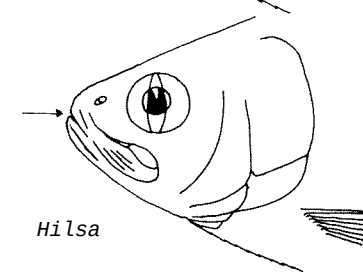
Sardinella, Herklotstichthys species: upper jaw rounded when seen from front (distinct notch in *H. kelee),* and if deep-bodied, they usually have less than 100 gill rakers (100 to 150 in *H. kelee).*

Gudusia species: entirely from freshwaters; very many small scales (80 to 120 in lateral series; 40 to 50 in *Hilsa).*

Gizzard shads *(Nematalosa, Clupanodon, Konosirus* species): last dorsal ray a long filament (short in *Hilsa)* and mouth inferior (terminal in *Hilsa).*







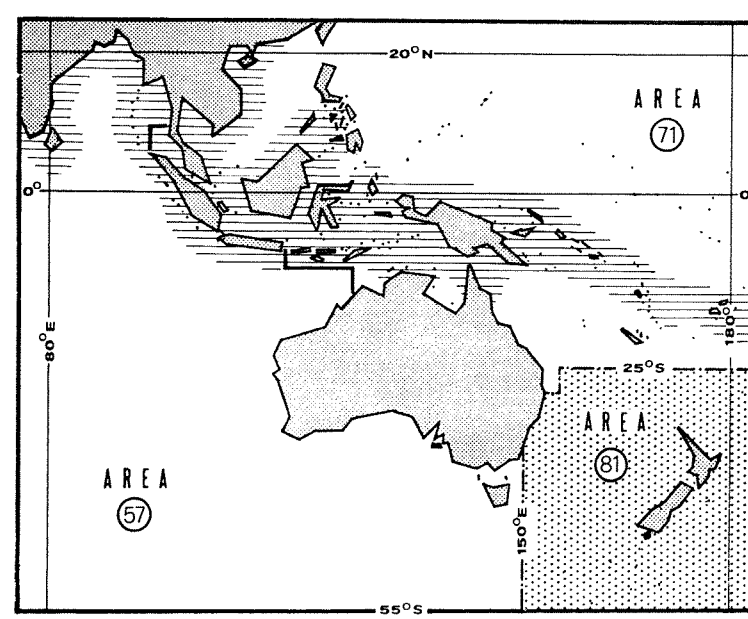
SIZE:

Maximum: 25 cm; common: 15 to 17 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Throughout most of northern part of area, possibly to northern tip of Australia; also, westward to East Africa.

Inhabits coastal waters; pelagic; not abundant.



PRESENT FISHING GROUNDS:

Caught throughout its range.

CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with set nets and beach seines.

Marketed fresh, dried, dried-salted, boiled or made into fish balls.

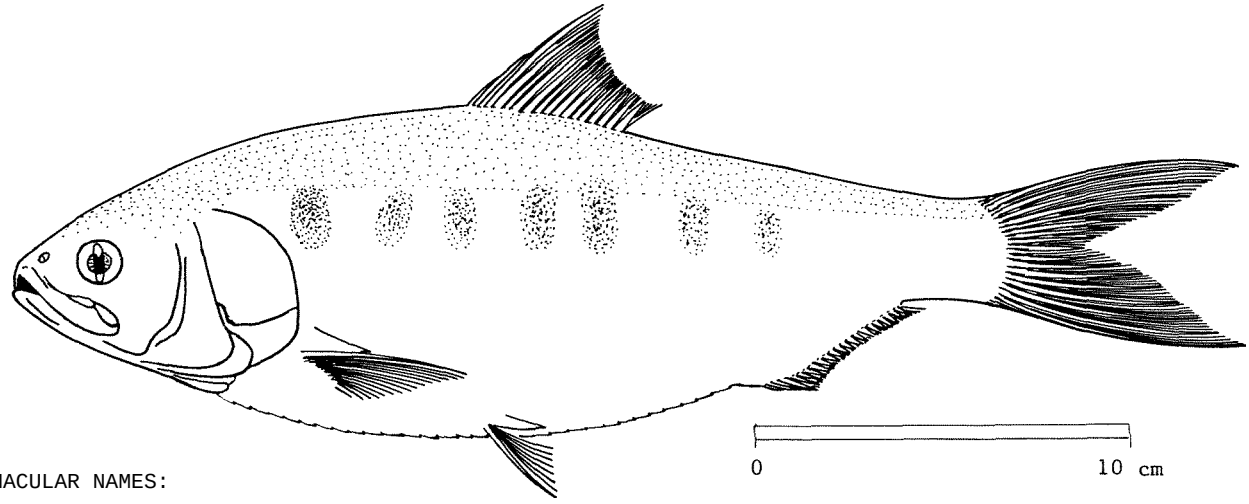
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CLUPEIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)

Hilsa ilisha (Ham. Buch., 1822)

SYNONYMS STILL IN USE: *Tenualosa ilisha* (Ham. Buch., 1822)
Hilsa palasah (Cuvier, 1829)



VERNACULAR NAMES:

FAO: En - Hilsa shad
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

Body fusiform, its depth 2.5 to 3.2 times in standard length; *belly with fairly sharply keeled scutes.* Dorsal fin origin at about midpoint of body; anal fin fairly short (20 to 23 rays) and lying well behind dorsal fin base; pelvic fins below anterior part of dorsal fin base. *Upper jaw with dis tinct median notch when seen from front. Gill rakers very fine and numerous (120 to 200 on lower part of gill arch). Top of head without pair of striated frontoparietal areas. Caudal fin as long as head.*

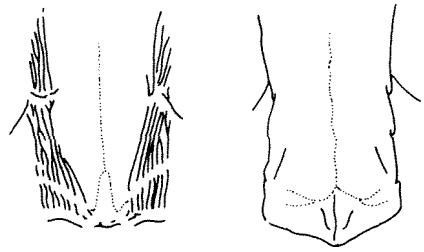
Colour: back blue/green, flanks silvery. A series of black blotches along flanks which may disappear in larger adults.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Hilsa reevesi: operculum broader, its lower edge contained less than twice in operculum height (more than twice in *H. ilisha).*

Hilsa maerura, H. toli: caudal fin much longer (longer than head; about equal to head in *H. ilisha).*

Hilsa kelee: striated frontoparietal areas present on top of head (only a few ridges covered by thick skin in *H. ilisha*, also *H. macrura*, *H. toli*).

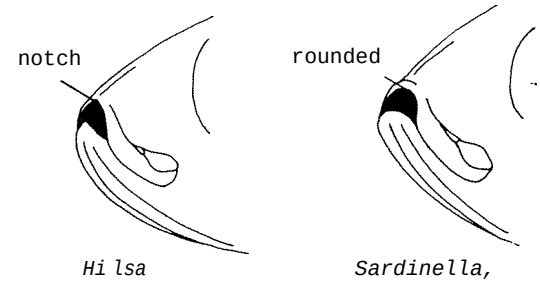


Hilsa kelee
frontoparietal striae
on top of head

Hilsa ilisha

Sardinella, Herklotsichthys species: upper jaw rounded when seen from front (distinct notch in *Hilsa),* and if deep-bodied usually have less than 100 gill rakers (120 to 200 in H. Ilisha).

Gudusia species: entirely from freshwaters; very many small scales (80 to 120 in lateral series; 40 to 50 in *Hilsa).*



Hilsa *Sardinella, Herklotsichthys*

SIZE:

Maximum: 60 cm; common: 30 to 36 cm.

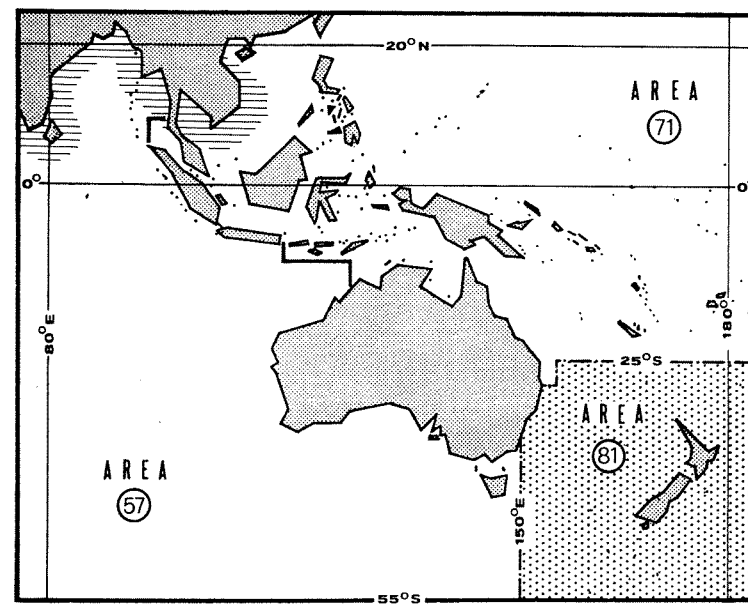
GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Coasts of India to Vietnam; also, westward to Persian Gulf.

Inhabits coastal waters, estuaries and rivers.

Ascends rivers to breed.

For further information see FAO Species Synopsis FB/S25, 1963.



PRESENT FISHING GROUNDS:

Estuaries and rivers, throughout its range.

CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The total reported catch of diadromous *Hilsa* species in 1970 was:

area 57 (Eastern Indian Ocean): 5 700 tons (India: 3 700 tons; Pakistan: 2 000 tons)
area 71 (Western Central Pacific): 1 700 tons (Malaysia only)

Caught with fishing weirs and drift gill nets in estuaries and rivers during upstream migration.

Marketed fresh, dried and dried-salted.

CLUP Hils 3

1974

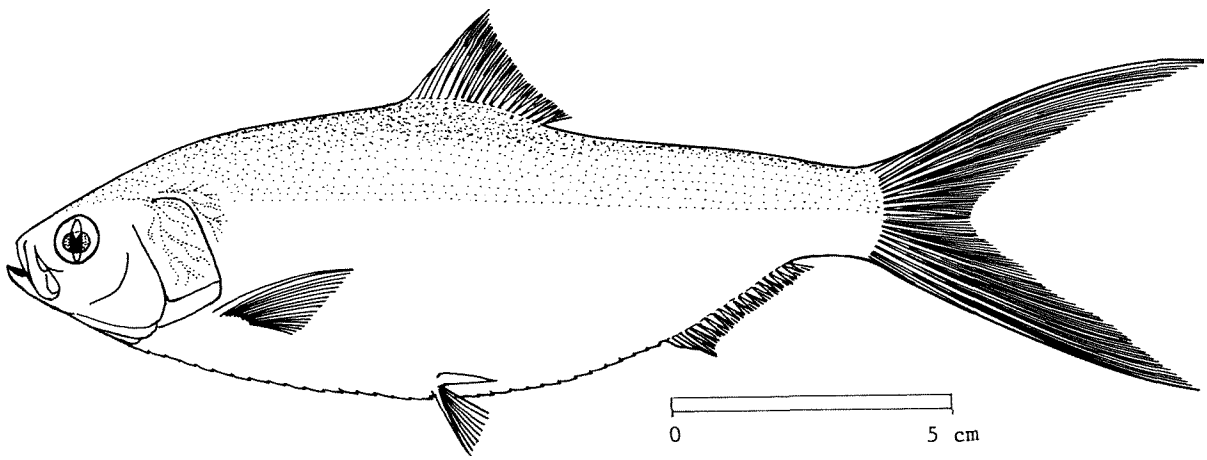
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CLUPEIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)

Hilsa macrura (Bleeker, 1852)

SYNONYMS STILL IN USE: *Clupea (Alosa) macrura*: Weber & de Beaufort, 1913
Macrura macrura: Fowler, 1941



VERNACULAR NAMES:

FAO: En - Longtail shad
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

Body fusiform, its depth 2.6 to 3.0 times in standard length; *belly with fairly sharply keeled scutes.* Dorsal fin origin a little before midpoint of body; anal fin fairly short (20 rays) and lying well behind dorsal fin base; pelvic fins below anterior part of dorsal fin base. *Upper jaw with dis tinct median notch when seen from front; maxilla not reaching to vertical from eye centre.* Gill rakers fine and numerous (60 to 80 on lower part of gill arch). Top *of head without pair of striated frontoparietal areas. Caudal fin almost twice Length of head.*

Colour: blue/green on back, silvery below, but with no spots on flanks.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

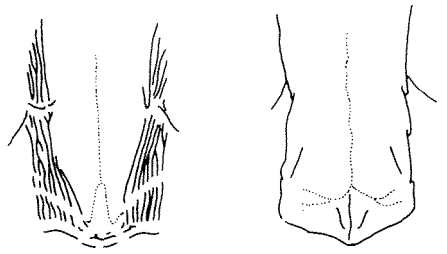
Hilsa toli: hind margin of sub-operculum rounded (almost rectangular sub-operculum in *H. macrura)* and longer maxilla (to vertical from eye centre or beyond; not to eye centre in *H. macrura).*

Hilsa ilisha, H. reevesi: caudal fin shorter (as long as head; longer than head in *H. macrura, H. toli).*

Hilsa kelee: striated frontoparietal areas on top of head present (only a few ridges covered by thick skin in *H. macrura,* also *H. ilisha, H. toll).*

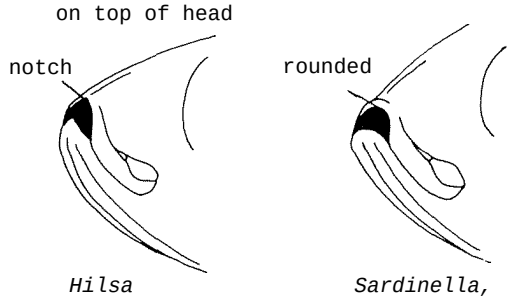
Sardinella, Herklotsichthys species: upper jaw rounded when seen from front (distinct notch in *Hilsa).*

Gudusia species: entirely from freshwaters; very many small scales (80 to 120 in lateral series; 40 to 50 in *Hilsa).*



Hilsa kelee
frontoparietal striae
on top of head

Hilsa ilisha



Hilsa

Sardinella, Herklotsichthys

SIZE:

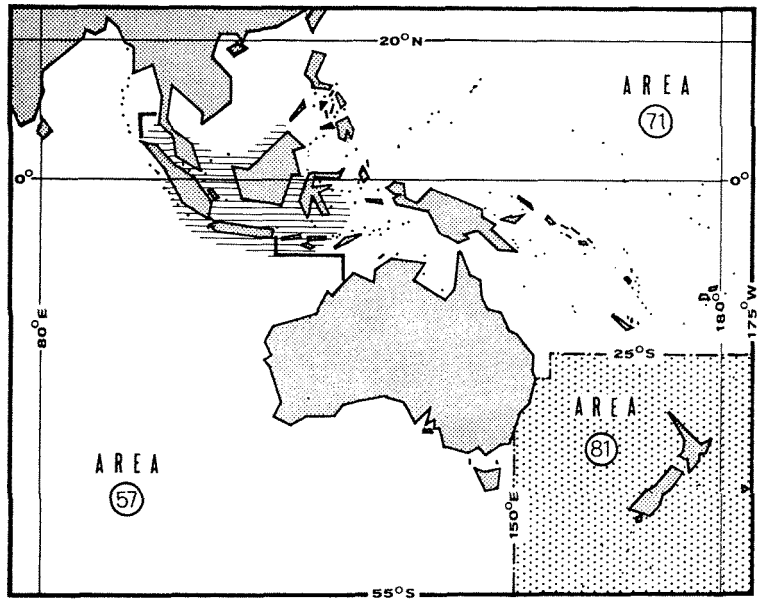
Maximum: 52 cm; common: 18 to 22 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Malaysia and Indonesia.

Inhabits coastal waters, estuaries and rivers.

Ascends rivers to breed.



PRESENT FISHING GROUNDS:

Estuaries and rivers of Indonesia; said to form the object of important fisheries at the mouths of some rivers in Borneo, Malacca and Sumatra.

CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species. The total reported catch of diadromous *Hilsa* species in 1970 was:

area 57 (Eastern Indian Ocean): 5 700 tons (India: 3 700 tons; Pakistan: 2 000 tons)
area 71 (Western Central Pacific): 1 700 tons (Malaysia only)

Caught with stake traps in Malaya; also with gill nets and trawl nets.

Marketed fresh, dried and dried-salted.

CLUP Hils 4

1974

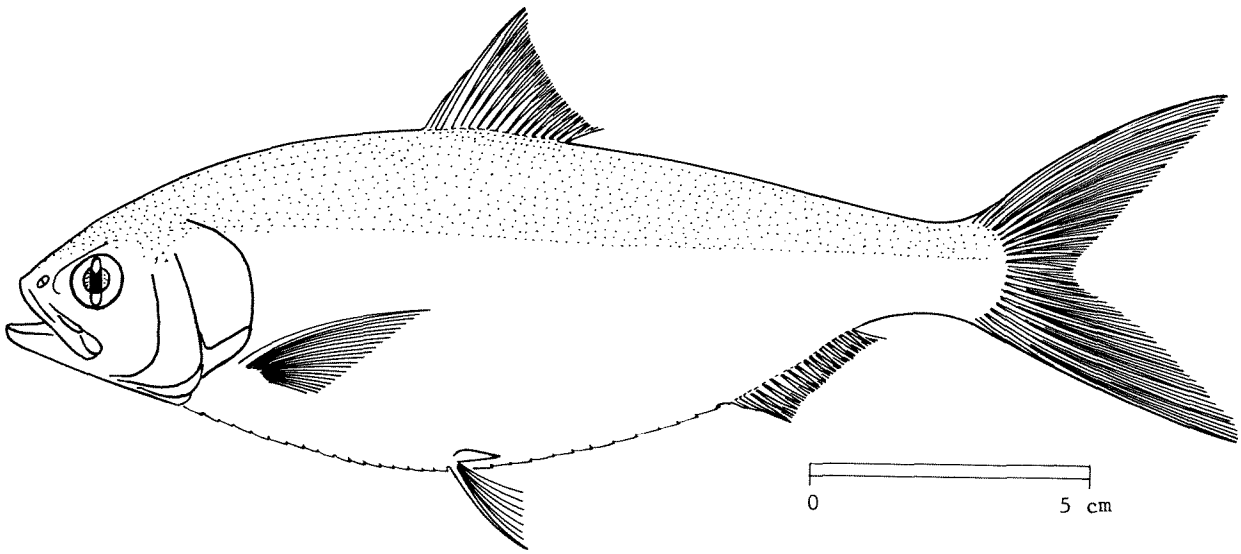
FAD SPECIES IDENTIFICATION SHEETS

FAMILY: CLUPEIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)

Hilsa toli (Valenciennes, 1847)

SYNONYMS STILL IN USE: *Clupea (Alosa) toli:* Weber & de Beaufort, 1913
Alausa ctenolepis Bleeker, 1852
Macrura sinensis: Fowler, 1941
Tenualosa sinensis: Munro, 1955



VERNACULAR NAMES:

FAO: En - Toli shad
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

Body fusiform, its depth 2.5 to 3.1 times in standard length; *belly with fairly sharply keeled scutes.* Dorsal fin origin a little before midpoint of body; anal fin fairly short (18 to 20 rays) and lying well behind dorsal fin base; pelvic fins below anterior part of dorsal fin base. *Upper jaw with distinct notch when seen from front; maxilla reaching to vertical from eye centre or beyond.* Gill rakers fine and numerous (70 to 95 on lower part of gill arch). *Top of head without striated frontoparietal areas. Caudal fin somewhat longer than head.*

Colour: blue/green on back, silvery on flanks.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

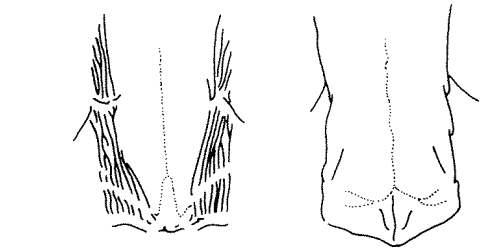
Hilsa macrura: sub-operculum almost rectangular (hind margin rounded in *H. toli*) and maxilla shorter (not reaching to vertical from eye centre; to eye centre or beyond in *H. toli).*

Hilsa ilisha, H. reevesi: caudal fin shorter (as long as head; longer than head in *H. toli, H. macrura).*

Hilsa kelee: striated frontoparietal areas present on top of head (only a few ridges covered by thick skin in *H. toli, H. macrura, H. ilisha*).

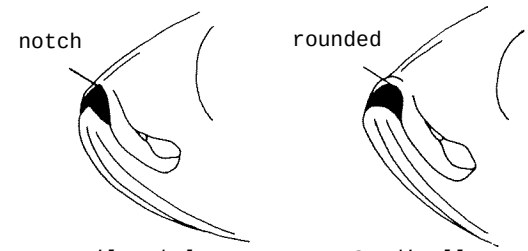
Sardinella, Herklotsichthys species: upper jaw rounded when seen from front (distinct notch in *Hilsa).*

Gudusia species: entirely from freshwaters; very many small scales (80 to 120 in lateral series; 40 to 50 in *Hilsa).*



Hilsa kelee frontoparietal striae on top of head

Hilsa ilisha



Hilsa kelee

Sardinella, Herklotsichthys

SIZE:

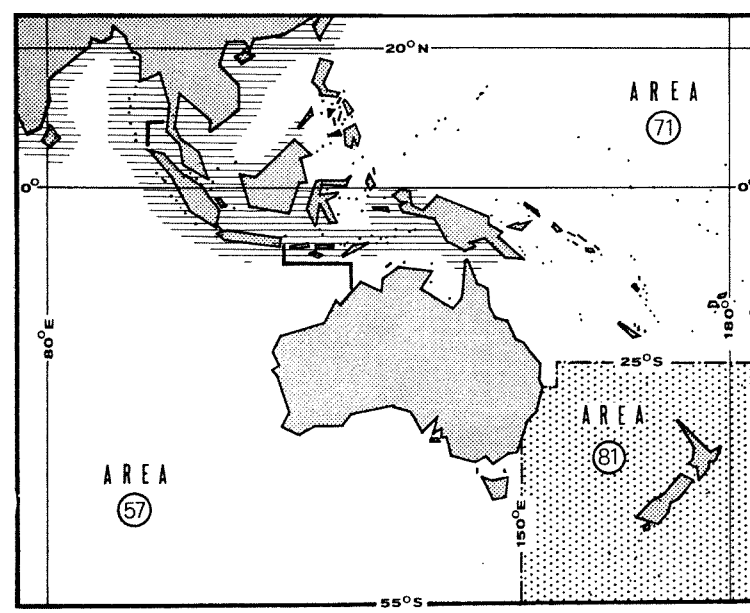
Maximum: 50 cm; common: 30 to 40 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Coasts of India, Indo-Australian archipelago and northward to Hong Kong, possibly to Taiwan.

Inhabits coastal waters, estuaries and rivers.

Ascends rivers to breed.



PRESENT FISHING GROUNDS:

Estuaries and rivers, throughout its range.

CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species: The total reported catch of diadromous *Hilsa* species in 1970 was:

area 57 (Eastern Indian Ocean): 5 700 tons (India: 3 700 tons; Pakistan: 2 000 tons)
area 71 (Western Central Pacific): 1 700 tons (Malaysia only)

Caught in estuaries and rivers during upstream migration with drift gill nets.

Marketed fresh, dried, dried-salted, boiled or made into fish balls.

CLUP Ilish 1

1974

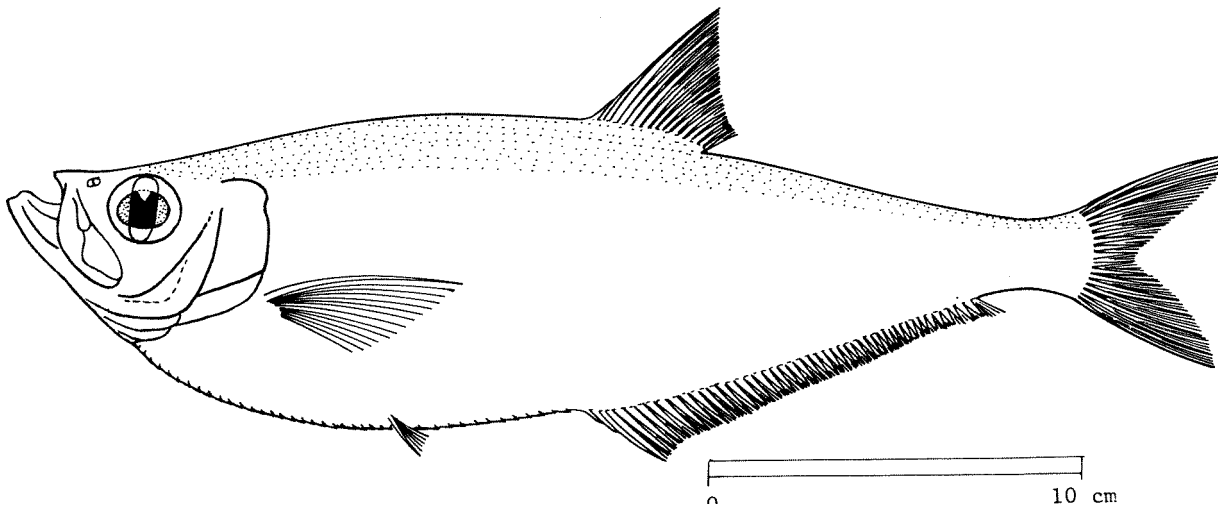
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CLUPEIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)

Ilisha pristigastroides (Bleeker, 1852)

SYNONYMS STILL IN USE: *Pellona amblyuropterus* (Bleeker, 1852)



VERNACULAR NAMES:

FAO: En - Javan ilisha
Fr -
Sp -

NATIONAL:

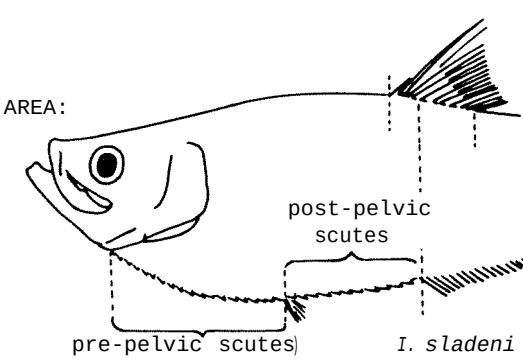
DISTINCTIVE CHARACTERS:

Body fairly deep and compressed, its depth about 3.3 times in standard length; belly with strongly keeled scutes *(pre-pelvic scutes* 26). Dorsal fin short, its origin behind midpoint of body; pelvic fins very small and well before dorsal fin origin; *anal fin long (47 to 50 rays), its origin under anterior part of dorsal fin base.* Head of moderate size, its length about 4.5 times in standard length; *lower jaw very prominent.*

Colour: blue/green on back, flanks silvery, fins hyaline.

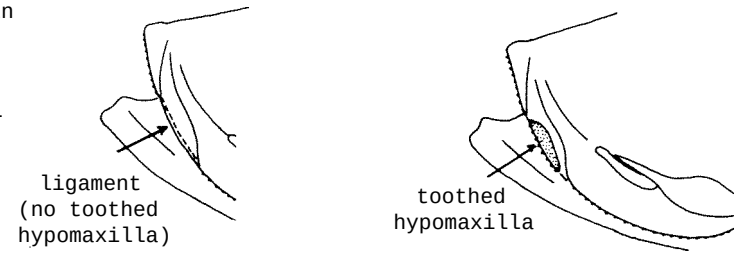
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Ilisha sladeni: body more slender (depth 3.8 to 4.5 times in standard length; about 3.3 times in *I. pristigastroides)* and fewer pre-pelvic scutes (23 to 24; 26 in I. *pristigastroides).*



Other species of *Ilisha:* anal fin origin below posterior part of dorsal fin base.

Pellona species: a toothed hypomaxilla present in upper jaw (can be felt with fingernail; a soft ligament in *Ilisha* species).



Ilisha *Pellona*

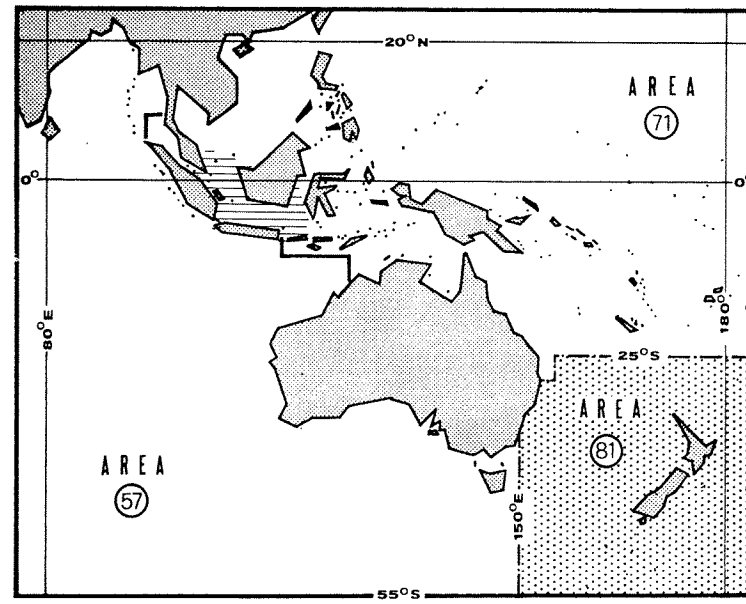
SIZE:

Maximum: 38 cm; common: 30 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Java, Sumatra, Singapore and Borneo; but possibly more widespread.

Inhabits estuaries and rivers.



PRESENT FISHING GROUNDS:

Caught throughout its range.

CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with lift nets and set nets.

Marketed fresh, dried and dried-salted.

CLUP Ilish 2

1974

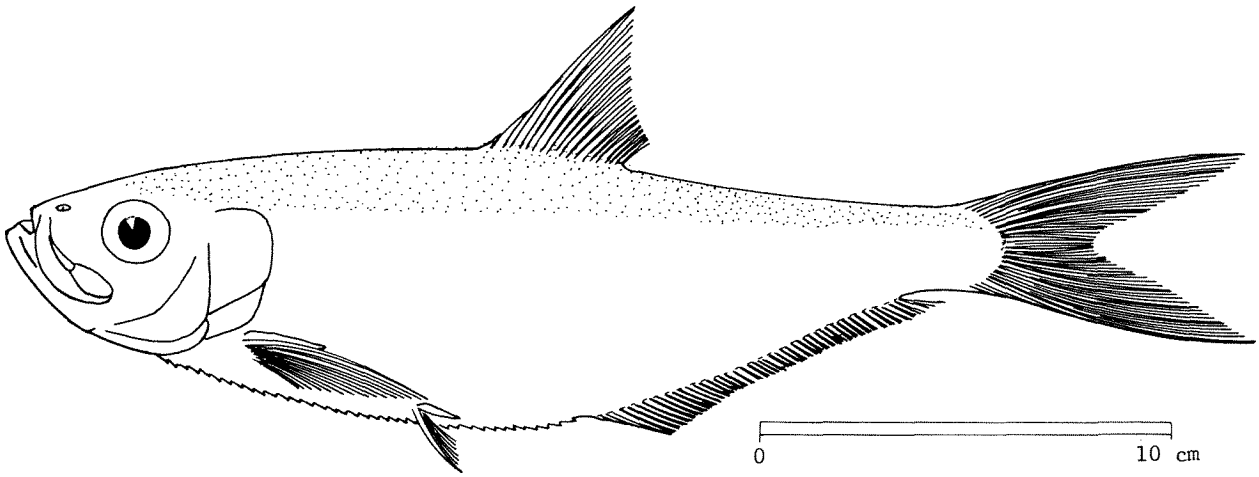
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CLUPEIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)

Ilisha elongata (Bennett, 1830)

SYNONYMS STILL IN USE: *Pellona elongata:* Weber & de Beaufort, 1913
Ilisha affinis (Gray, 1830)
Ilisha abnormis Richardson, 1846



VERNACULAR NAMES:

FAO: En - Elongate ilisha
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

Body compressed but *fairly slender, its depth 3.4 to 4.1 times in standard Length;* belly with *strongly keeled scutes (total 35 to 39).* Dorsal fin short, its origin behind midpoint of body; pelvic fins very small and well before dorsal fin origin; *anal fin long (43 to 50 rays), its origin below posterior part of dorsal fin base.* Head of moderate size, its length 4.2 to 4.5 times in standard length; *Lower jaw very prominent.*

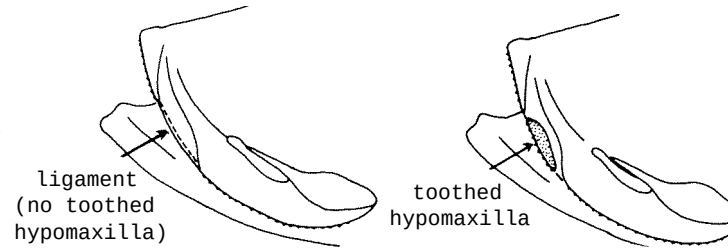
Colour: back blue/green, flanks silvery.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Ilisha melastoma, I. megaloptera, I. macrogaster: body deeper (depth less than 3.3 times in standard length; 3.4 to 4.1 in *I. elongata*); usually 27 to 34 scutes (35 to 39 in *I. elongata*).

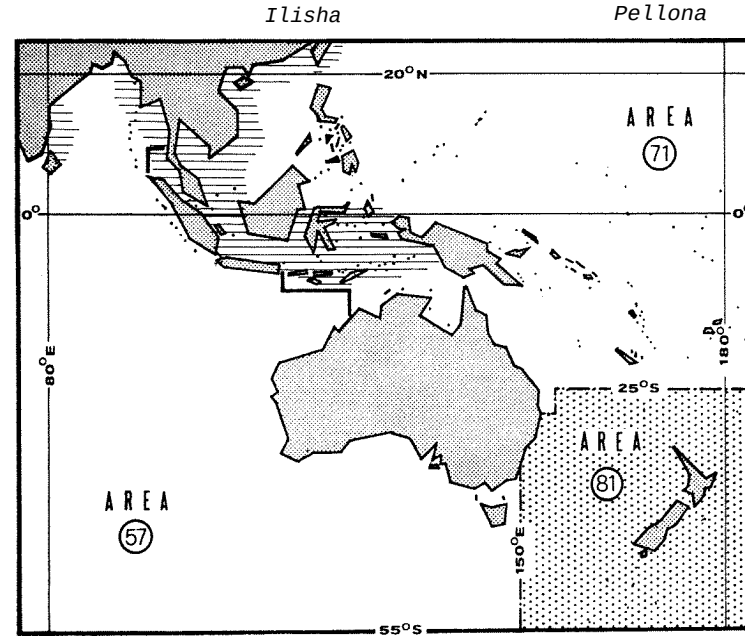
Ilisha pristigastroides: anal fin origin below anterior half of dorsal fin base.

Pelona species: toothed hypomaxilla present in upper jaw (can be felt with fingernail; a soft ligament in *Ilisha* species).



SIZE:

Maximum: 40 cm; common: 30 cm.



GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Burma to New Guinea; westward to Pondicherry (eastern coast of India: single record) and northward to Japan.

Inhabits coastal waters; probably not abundant.

PRESENT FISHING GROUNDS:

Caught throughout its range.

CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with purse seines, beach seines, gill nets, lift nets, trap nets and bottom trawls.

Marketed fresh, dried, dried-salted, boiled or made into fish balls.

CLUP Ilish 3

1974

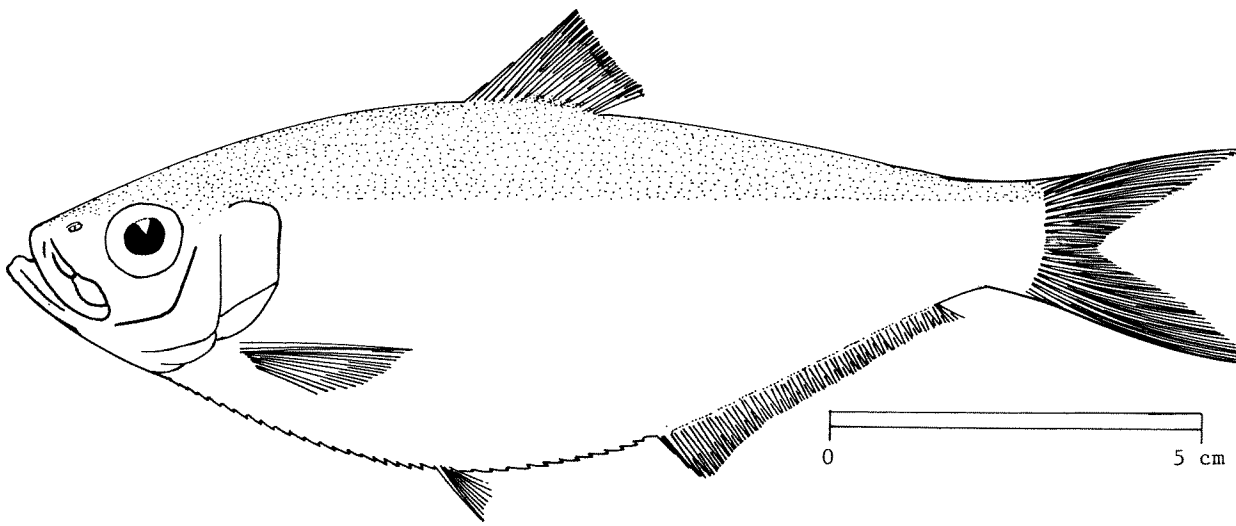
FAO SPECIES IDENTIFICATION SHEETS

FAMILY: CLUPEIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)

Ilisha melastoma (Schneider, 1801)

SYNONYMS STILL IN USE: *Ilisha motius* (Ham. Buch., 1822)
Ilisha indices (Swainson, 1839)
Pellona indices (Swainson, 1839)
Pellona brachysoma Bleeker, 1852



VERNACULAR NAMES

FAO: En - Indian ilisha
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

Body compressed, *very deep, its depth 2.4 to 2.7 times in standard length;* belly with *strongly keeled scutes (total 27 to 32).* Dorsal fin short, its origin before midpoint of body; pelvic fins very small and a little before dorsal fin origin; *anal fin long (37 to 47 rays), its origin below posterior part of dorsal fin base.* Head of moderate size, its length 3.6 to 3.8 times in standard length; l*ower jaw very prominent.*

Colour: back blue/green, flanks silvery.

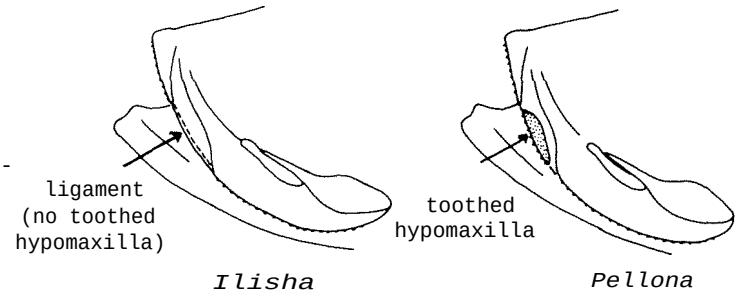
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Ilisha macrogaster (Borneo only): more scutes (total 36; 27 to 32 in *I. melastoma*).

Ilisha elongata, I. megaloptera: body more slender (depth 3.4 to 4.1 times in standard length *in I. elongata;* 2.8 to 3,3 in *I. megaloptera*; but 2.4 to 2.7 in *I. melastoma*).

Ilisha pristigastroides: anal fin origin below anterior half of dorsal fin base (below posterior half in *I. melastoma*).

Pellona species: toothed hypomaxilla present in upper jaw (can be felt with fingernail; a soft ligament in *Ilisha* species).



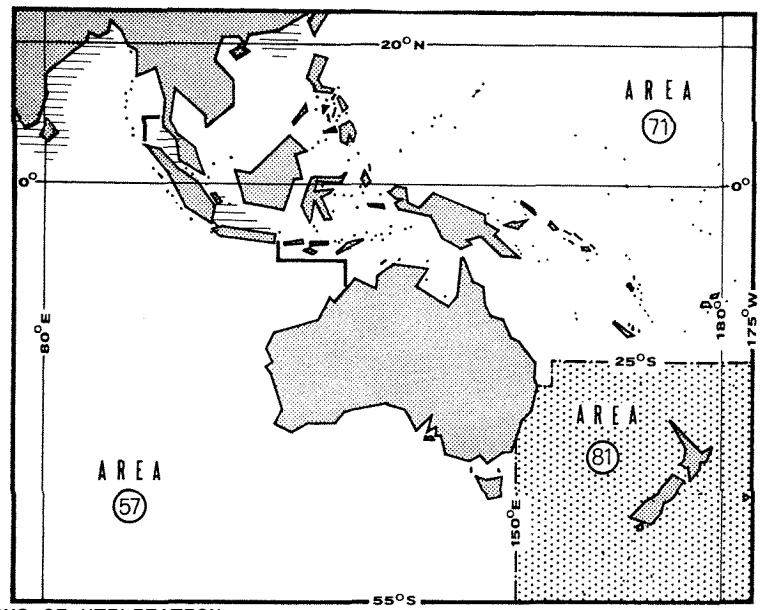
SIZE:

Maximum: 18 cm; common: 14 to 16

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Coasts of India, Penang, Batavia and Hong Kong (probably more widespread); also, westward to Persian Gulf.

Inhabits coastal waters; probably not abundant.



PRESENT FISHING GROUNDS:

Caught throughout its range.

CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION

Separate statistics are not reported for this species.

Caught with purse seines, beach seines, lift nets, trap nets and bottom trawls.

Marketed fresh, dried, dried-salted, boiled or made into fish balls.

CLUP Ilish 4

1974

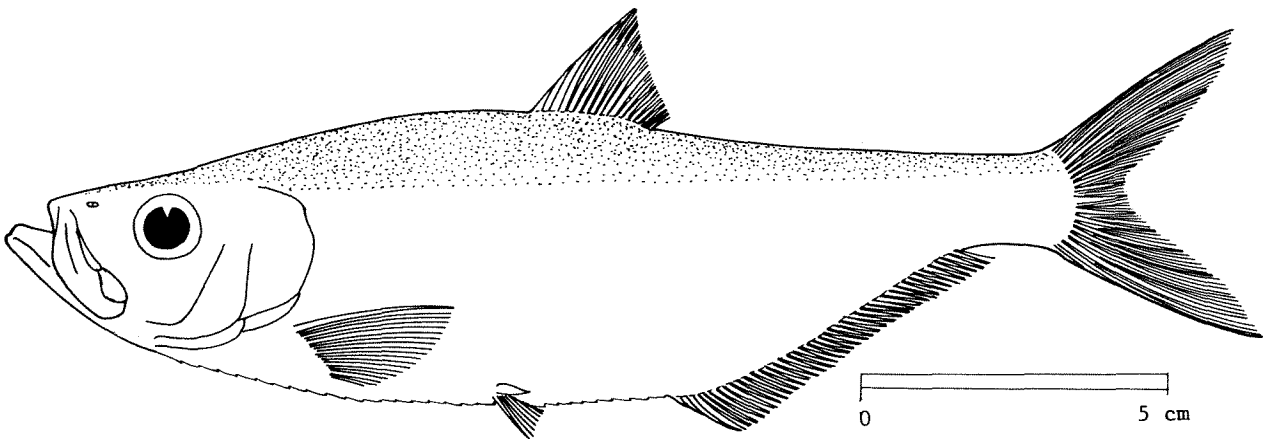
FAD SPECIES IDENTIFICATION SHEETS

FAMILY: CLUPEIDAE

FISHING AREAS 57,71
(E Ind. Ocean)
(W Cent. Pacific)

Ilisha megaloptera (Swainson, 1839)

SYNONYMS STILL IN USE: *Ilisha macrophthalma* (Swainson, 1838)(nomen oblitum)
Ilisha filigera (Valenciennes, 1847)
Pellona dussurnieri Valenciennes, 1847
Pellona xanthoptera Bleeker, 1851



VERNACULAR NAMES:

FAO: En - Bigeye ilisha
Fr -
Sp -

NATIONAL:

DISTINCTIVE CHARACTERS:

Body compressed, fairly deep, its depth 2.8 to 3.3 *times in standard length;* belly with *strongly keeled scutes (total* 30 *to* 34, rarely 36). Dorsal fin short, its origin a little before midpoint of body; pelvic fins very small and a little before dorsal fin origin; *anal fin long (total* 43 *to* 52 *rays), its origin below posterior part of dorsal fin base.* Head of moderate size, its length 3.7 to 4.0 times in standard length; lower jaw very prominent.

Colour: back blue/green, flanks silvery.

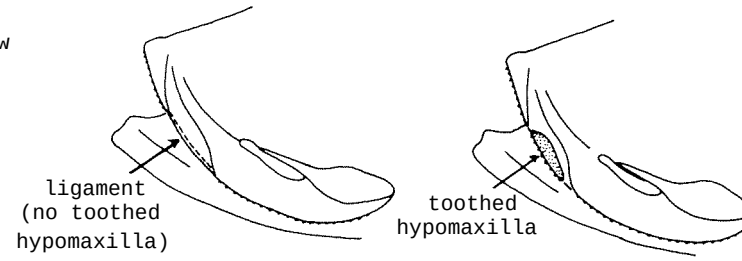
DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Ilisha macrogaster, I. melastoma: body deeper (depth 2.4 to 2.7 times in standard length; 2.8 to 3.3 times in *I. megaloptera*).

Ilisha elongata: body more elongate (depth 3.4 to 4.1 times in standard length); also more scutes (total 35 to 39; usually 30 to 34 in *I. megaloptera*).

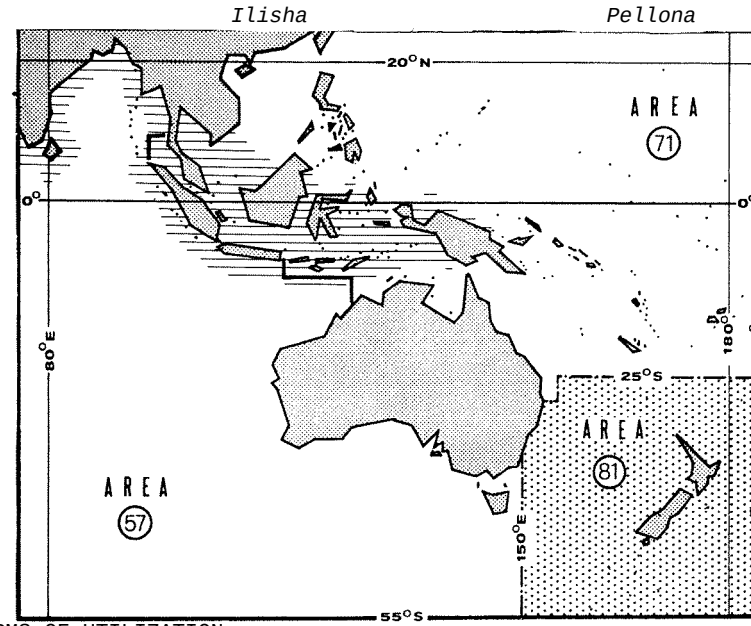
Ilisha pristigastroides: anal fin origin below anterior part of dorsal fin base (below posterior part in *I. megaloptera*).

Pellona species: toothed hypomaxilla present in upper jaw (can be felt with finger-nail; a soft ligament in *Ilisha*).



SIZE:

Maximum: 24 cm; common: 18 to 20 cm



GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Coasts of India to New Guinea, also southern part of South China Sea.

Inhabits coastal waters; probably not abundant.

PRESENT FISHING GROUNDS:

Caught throughout its range.

CATCHES, MAIN FISHING GEAR AND PRINCIPAL FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught with purse seines, beach seines, lift nets, trap nets and bottom trawls.

Marketed fresh, dried, dried-salted, boiled or made into fish balls.