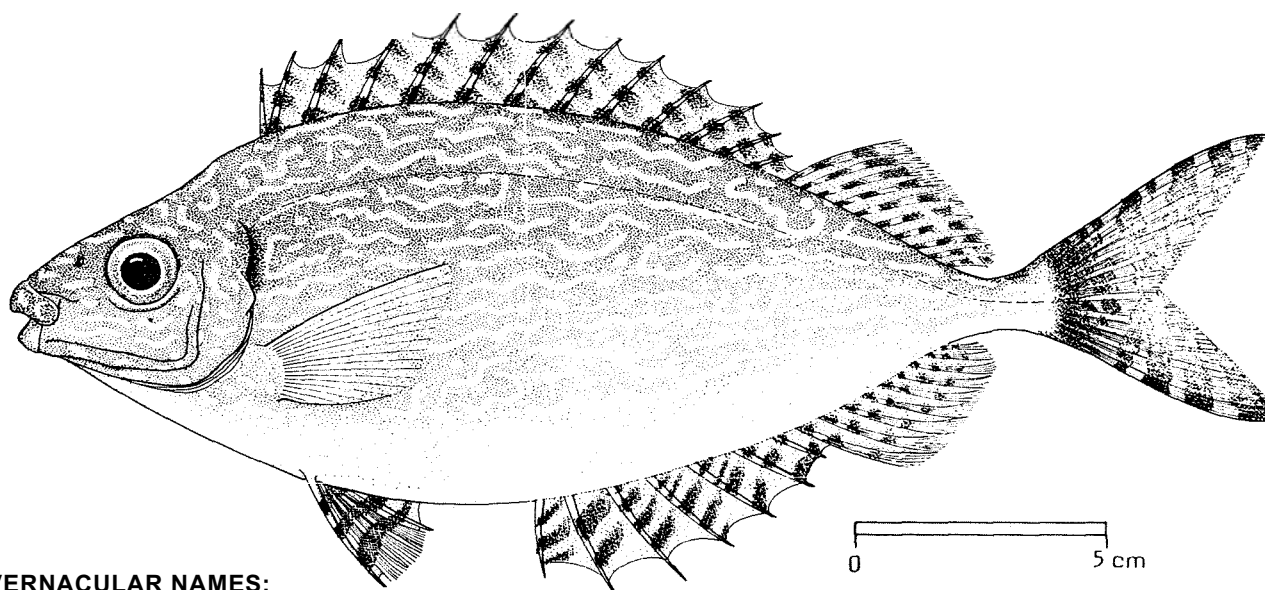


FAO SPECIES IDENTIFICATION SHEETS

FAMILY: SIGANIDAE

FISHING AREA 51
(W. Indian Ocean)Siganus argenteus (Quay & Gaimard, 1825)OTHER SCIENTIFIC NAMES STILL IN USE: Siganus rostratus (Valenciennes, 1835)

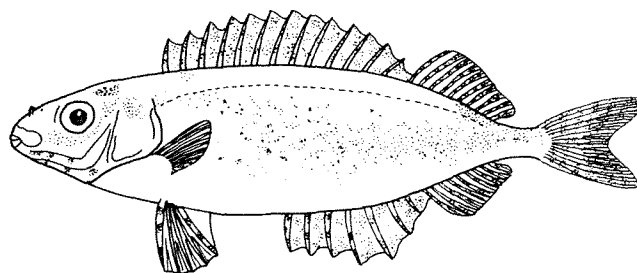
VERNACULAR NAMES:

FAO : En - Streamlined spinefoot
 Fr - Sigan vermiculé
 Sp - Sigano veteado

NATIONAL:

DISTINCTIVE CHARACTERS*:

Body oval and compressed, slender, fusiform, its depth contained 2.4 to 3 times in standard length. Dorsal profile of head not descending steeply, head small, profile pointed; anterior nostril with a long flap reaching to or past posterior nostril. A forward directed spine present in front of dorsal fin, imbedded in nape; longest dorsal spine 3rd to 8th; last dorsal spine very short, contained 2.4 to 3.4 times in the longest; last anal spine the shortest, 2 to 3.2 times in the longest (3rd) anal spine; caudal fin deeply forked, with pointed lobes, median rays one third to half the length of longest rays. Scales minute; anterior half of cheek scaled; 16 to 22 scale rows between lateral line and bases of leading dorsal spines. Prejuveniles (smaller than 7 cm standard length): greatest body depth nearly 4 times in standard length; anterior nostril flap reaches only halfway to posterior nostril; caudal fin less deeply forked; scales absent.



prejuvenile

*This species has a distinctive prejuvenile stage; juvenile/adult characters appear in specimens above about 7 cm standard length

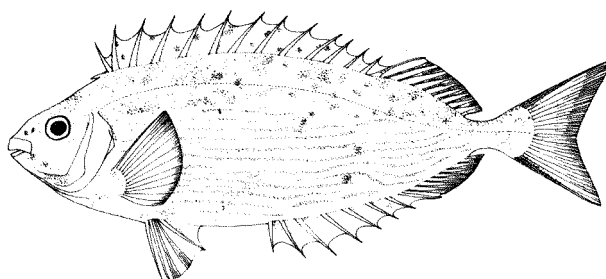
Colour: deep sea blue above to paler blue below; head and trunk usually covered with small yellow spots, bars and commas, much larger than interspaces and quarter to half size of pupil; frequently spots joining to form horizontal wavy lines, particularly on lower sides. Iris plain yellow. In life, dorsal spines and rays and midline of trunk at base of dorsal fin yellow, expanding into a yellow saddle on caudal peduncle. Caudal fin dusky blue (bars on outer rays in some specimens); spinous part of anal fin mottled with white, yellow and brown; membrane of soft part of anal fin silvery, rays mottled light and dark brown; pelvic fins with 5 whitish, alternating with 4 dusky, crossbars; pectoral fins hyaline yellow. Colours fade rapidly at death so that head and trunk may be solid brown. Prejuveniles are said to be yellow-brown to silver below; fins hyaline.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Siganus rivulatus: caudal fin not as deeply forked; last anal fin spine relatively longer, contained 1.5 to 1.8 times in longest anal fin spine (2 to 3.2 times in *S. argenteus*); no uniform pattern of spots or lines on upper sides.

S. corallinus, *S. javus*, *S. lineatus*, *S. puelloides*, *S. stellatus*, *S. vermiculatus* and *S. virgatus*: body deeper, its depth contained 2.4 times or less in standard length (contained 2.4 to 3 times in *S. argenteus*).

Other *Siganus* species: caudal fin deeply emarginate to truncate, never deeply forked; last dorsal fin spine longer, nostril flap usually shorter.



S. rivulatus

SIZE:

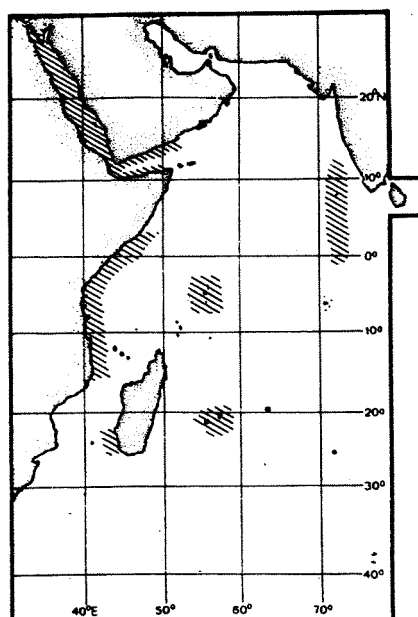
Maximum: 35 cm; common to 25 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Very widely distributed, from the east coast of Africa and the Red Sea throughout the tropical Indo-Pacific to the Tuamotu Islands, including Madagascar, Mauritius, Seychelles, Laccadives and Maldives.

Found in clear tropical waters about coral reefs. Prejuveniles occur in very large schools; at the onset of the juvenile stage they migrate on to the reef flats. School size decreases with increasing maturity. Adults occur singly, in pairs, or small schools of about 10 to 20 individuals.

Before entering the reef flats the prejuveniles are presumably plankton feeders. From then on this species browses on bottom algae and floating fragments of algae; preferring deeper water, often resting in midwater.



PRESENT FISHING GROUNDS:

Coastal waters throughout its range.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

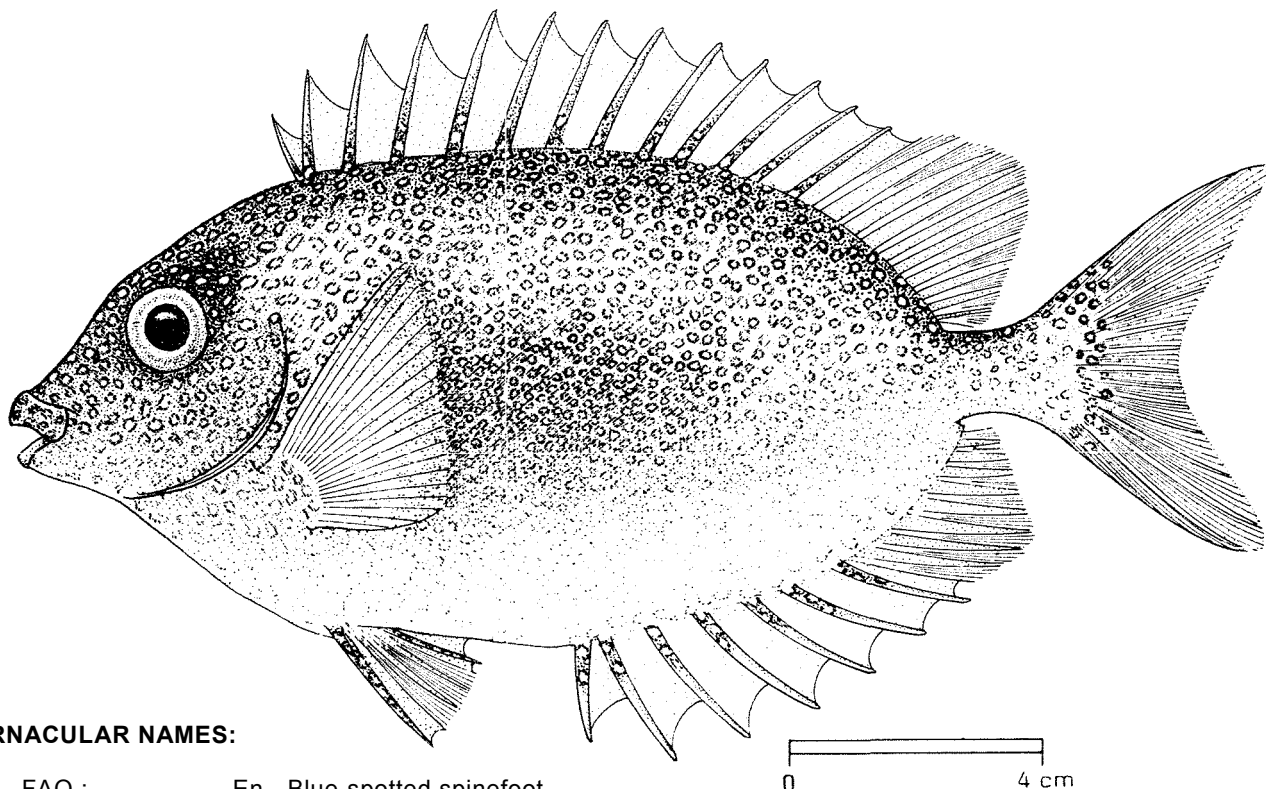
Separate statistics are not reported for this species.

Prejuveniles caught with lift nets, seines, and dip-nets; later stages with traps and setnets.

Marketed fresh; prejuveniles also made into fish paste or pickled in brine in other areas.

FAO SPECIES IDENTIFICATION SHEETS

FAMILY: SIGANIDAE

FISHING AREA 51
(W. Indian Ocean)Siganus corallinus (Valenciennes, 1835)OTHER SCIENTIFIC NAMES STILL IN USE : Teuthis corallina (Valenciennes, 1835)

VERNACULAR NAMES:

FAO : En - Blue-spotted spinefoot
Fr - Sigan corail
Sp - Sigano coral

NATIONAL:

DISTINCTIVE CHARACTERS:

Body deep and compressed, its depth contained 1.7 to 2.4 times in standard length. Profile of head descending at an angle of about 45°, strongly concave before eyes and behind chin so that snout protrudes prominently; anterior nostril with a high flange, a little higher posteriorly. A forward-directed spine present in front of dorsal fin; longest dorsal fin spine the 5th to 8th; last dorsal spine contained 1.1 to 1.4 times in longest dorsal spine; 3rd to last anal spines of similar length, last anal spine tends to be the longest in older fish, the 3rd to 5th in younger individuals; soft part of dorsal and anal fins high, longest dorsal ray 1 to 1.3 times the length of longest dorsal spine (ratio increasing with size of fish); caudal fin deeply forked, more so in adults than juveniles, tips of caudal lobes acutely pointed. Scales minute; cheeks almost completely covered with strong scales; 16 to 23 scale rows between lateral line and bases of leading dorsal spines.

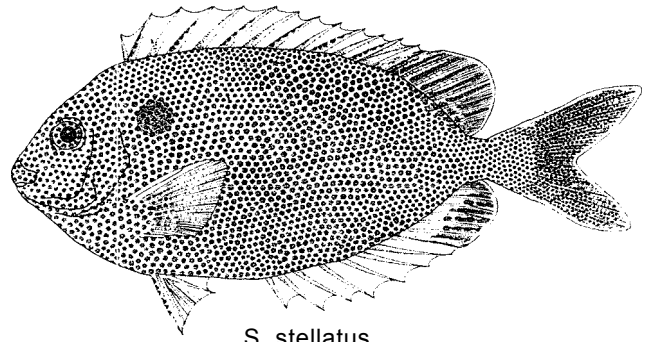
Colour: head, trunk and fins orange yellow. Head, breast and sides covered with pale blue ocelli with darker blue margins, which may cover whole of sides or may be absent from posterior and lower sides; ocelli about pinhead size and about same size as interspaces, larger and more crowded on head, sometimes smaller on sides and much smaller than interspaces, extending onto bases of dorsal and anal fin spines, first pelvic fin spine and first pelvic fin ray, and if present on caudal peduncle, extending onto bases of outer rays of caudal fin. Some small specimens (3 or 4 cm total length) have vertical blue lines on sides which later fragment into the ocelli. In living specimens a diffuse, dark, triangular smudge adjacent to and above orbit. Iris unspotted, orange brown.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

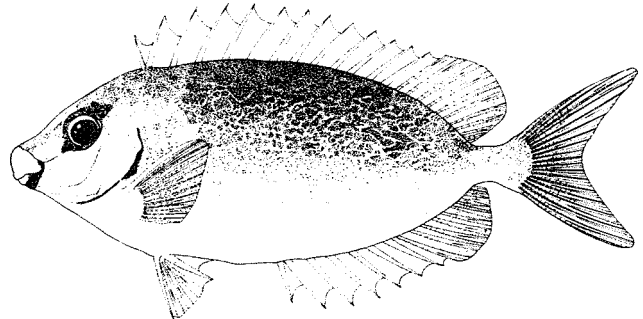
Siganus stellatus: large brown spots on sides, much larger than interspaces; iris with about 11 dark spots arranged radially; lower and, usually, upper lobes of caudal fin broadly rounded at tips.

S. puelloides: yellow spots on lower sides, larger than interspaces, fusing on upper sides; body less deep, depth 2.2 to 2.4 times in standard length (1.7 to 2.4 in S. corallinus); snout not so tubulate.

Other Siganus species: either not so deep bodied (body depth contained more than 2.4 times in standard length), or with lines and vermiculations on sides, or spots arranged in different patterns.



S. stellatus



S. puelloides

SIZE:

Maximum: 25 cm; common to 15 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, known only from Maldives, Seychelles and Aldabra. Elsewhere, from New Caledonia through the New Guinea arc and the Indo-Malayan Archipelago to the Andaman Sea and tropical islands of northwest Pacific.

Lives around coral reefs. Association in pairs begins at about 6 cm in length. By about 15 cm, pairs are sedentary; but up to this size pairs may form feeding groups in areas flooded by the tide.

Browses on algae growing on coral substrates.

PRESENT FISHING GROUNDS:

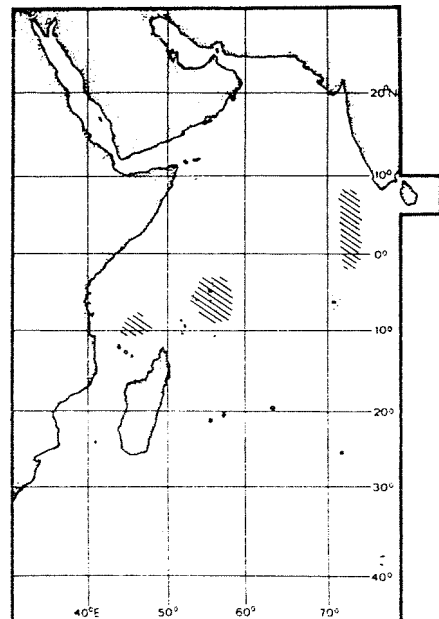
In shallow coastal waters.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

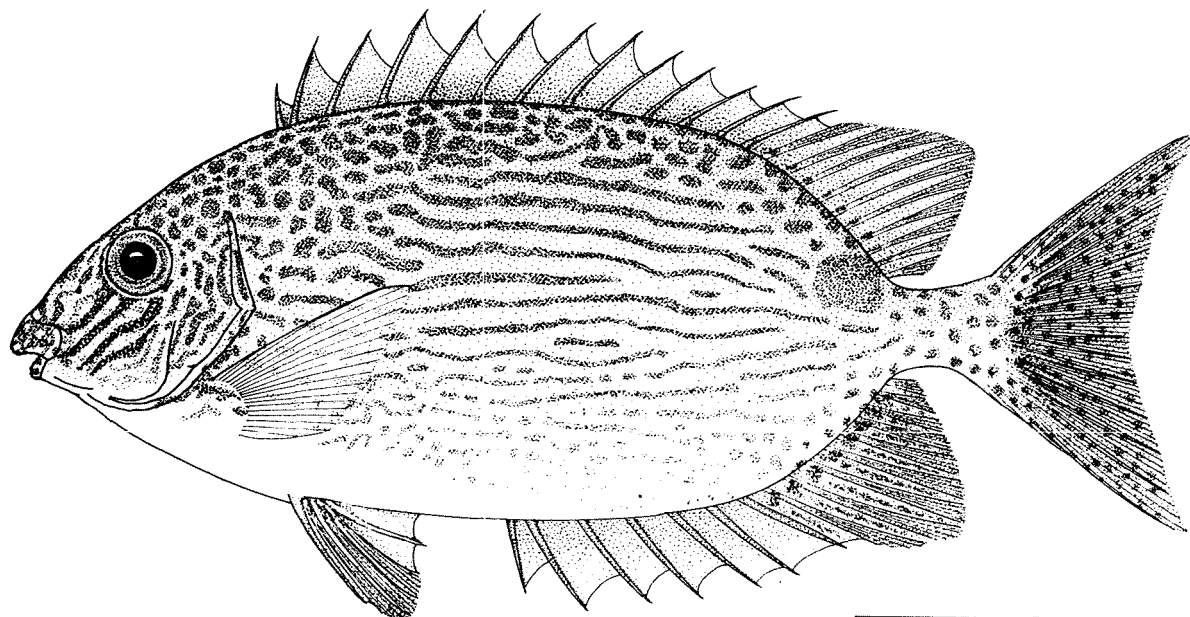
Caught by spearing, and with setnets and traps.

Marketed fresh.



FAO SPECIES IDENTIFICATION SHEETS

FAMILY: SIGANIDAE

FISHING AREA 51
(W. Indian Ocean)*Siganus lineatus* (Valenciennes, 1835)OTHER SCIENTIFIC NAMES STILL IN USE: *Teuthis lineata* (Valenciennes, 1835)

VERNACULAR NAMES:

FAO : En - Golden-lined spinefoot
 Fr - Sigan raies d'or
 Sp - Sigano rayas doradas

NATIONAL:

DISTINCTIVE CHARACTERS:

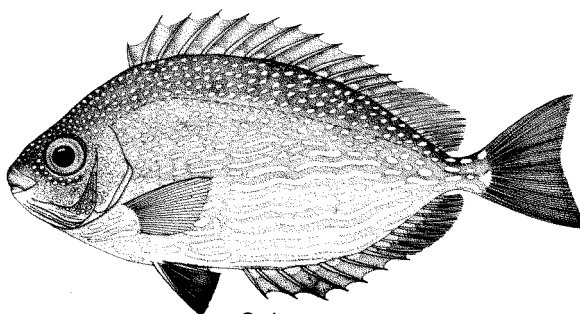
Body deep and compressed, its depth contained 1.9 to 2.2 times in standard length. Dorsal profile of head descending fairly steeply, slightly concave before eye; anterior nostril with a low flange slightly expanded posteriorly. A forward-directed spine present in front of dorsal fin, imbedded in nape; longest dorsal spine the 4th to 7th and only a little longer than (1.1 times) last dorsal spine; longest anal spine the last, about 1.7 times the length of the first; caudal fin emarginate. Scales minute; cheeks covered with prominent scales; 19 to 25 scale rows between lateral line and bases of leading dorsal fin spines.

Colour: blue above to silver below; horizontal golden bronze bands, some broken, running the length of the sides, breaking up into spots near bases of dorsal and anal fins and also on caudal peduncle. Head golden with blue spots and lines convoluted into various shapes, the most constant being a diagonal line across cheek from below orbit to corner of mouth. A bright yellow spot, about size of orbit, at base of last few rays of dorsal fin. Caudal fin bluish with rows of golden spots which appear as 3 or 4 crossbars on the folded fin; dorsal fin spines golden on a dusky membrane; dorsal fin rays silvery on a bluish membrane, with a row of golden spots at bases of rays; anal fin spines golden on a dusky blue membrane; anal fin rays bluish, membrane dusky with a golden spot at base and a bar above in each membrane cell; pelvic fins dusky blue, outer spine and ray silvery, other rays dusky; pectoral fins hyaline.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Siganus Javus: alternating silver and bronze horizontal bands on sides, but on lower half only, upper sides spotted; caudal fin without spots; no large yellow spot at base of dorsal fin; 30 to 35 scale rows between lateral line and leading dorsal spines (19 to 25 in S. lineatus).

Other Siganus species: without horizontal bands on sides or, if so, body less deep, depth usually more than 2.2 times in standard length (1.9 to 2.2 times in S. lineatus).



S. javus

SIZE:

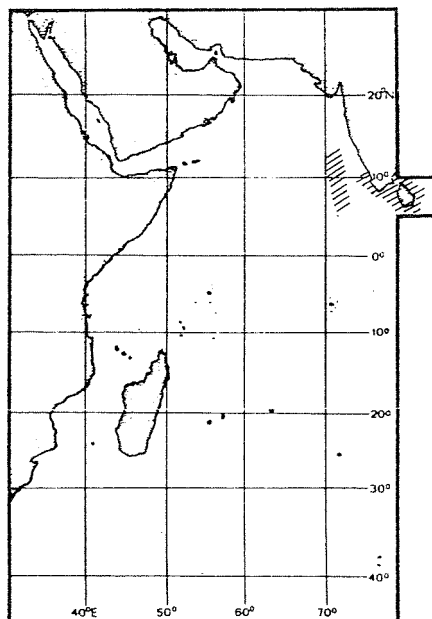
Maximum: 40 cm; common to 20 cm.

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

In the area, only Sri Lanka, Laccadive Islands and southern India. Apparently replaced by the related species, S. guttatus, in Southeast Asia, but reappears further east in the Philippines, New Guinea, northern Australia and as far east as New Caledonia.

Occurs in schools in coastal areas; particularly common in shallow waters of coralline areas; adults and subadults on reef flats, young about mangroves. Common school size about 20, but occasionally in thousands.

Feeds by scraping algae from coral surfaces and browsing on seaweeds and sea grasses.



PRESENT FISHING GROUNDS:

Shallow coastal waters.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught mainly with setnets and fixed traps on reef flats.

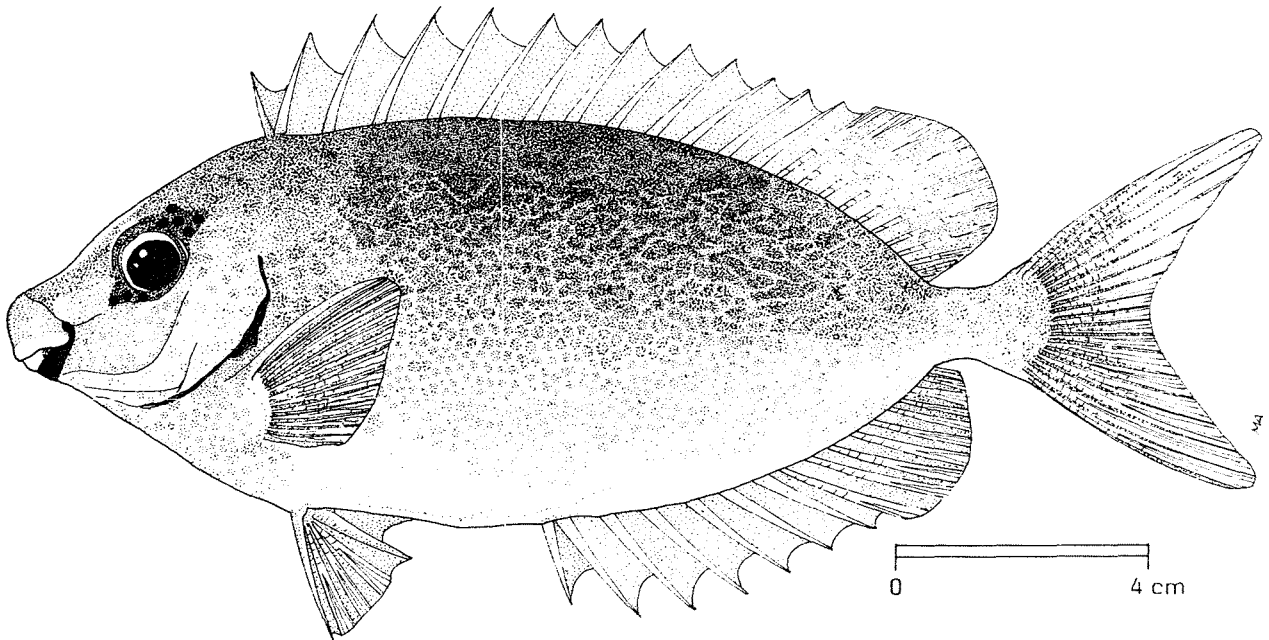
Marketed fresh.

FAO SPECIES IDENTIFICATION SHEETS

FAMILY: SIGANIDAE

FISHING AREA 51
(W. Indian Ocean)Siganus puelloides Woodland & Randall, 1979

OTHER SCIENTIFIC NAMES STILL IN USE: None



VERNACULAR NAMES:

FAO: En - Black-eyed spinefoot
Fr - Sigan oeil noir
Sp - Sigano ojinegro

NATIONAL:

DISTINCTIVE CHARACTERS:

Body compressed, not particularly deep, its depth contained 2.2 to 2.4 times in standard length. Anterior profile wedge-shaped, more or less symmetrical about its midline; snout slightly protuberant; anterior nostril with a small flange, produced into a very short peak posteriorly. A forward-directed spine present in front of dorsal fin; longest dorsal spine the 6th or 7th, but only slightly longer than (1.1 to 1.2 times) the last; longest anal spine the 4th or last, these spines more or less subequal; soft part of dorsal and anal fins high, longest dorsal ray 1.1 to 1.4 times the length of longest dorsal spine; caudal fin prominently forked, the tips of its lobes acutely pointed. Scales minute; cheeks completely covered with fine scales; about 20 scale rows between lateral line and bases of leading dorsal fin spines.

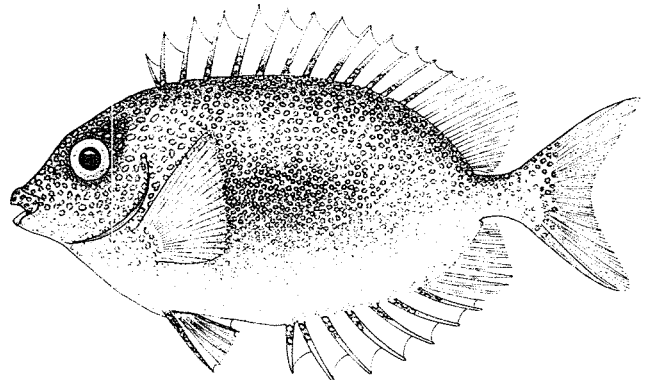
Colour: head and trunk covered with yellow spots, mostly round on lower sides but joining to form an irregular anastomosing pattern on upper sides; spots larger than interspaces. Areas between spots bluish above grading to silvery below. A dark brown band under chin, terminating at angle of jaws; lips yellow; a diagonal, diffuse, dark brown patch around eye containing 3 to 5 small black spots just above, and 2 or 3 just below, orbit. Pelvic fins silvery; rays and spines of other fins yellow-orange, their membranes blue to dusky.

DISTINGUISHING CHARACTERS OF SIMILAR SPECIES OCCURRING IN THE AREA:

Siganus corallinus: blue ocelli on sides, much smaller than interspaces; body deeper, its depth contained 1.7 to 2.4 times in standard length (2.2 to 2.4 times in S. puelloides); snout more tubulate.

S. stellatus: large spots on sides, extending onto fins; lobes of caudal fin obtusely rounded at tips.

Other Siganus species: either not deep bodied, or lines or vermiculations present on sides.



S. corallinus

SIZE:

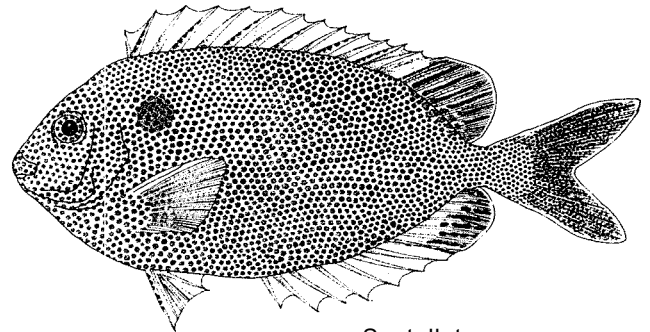
Maximum: 30 cm; common to 20

GEOGRAPHICAL DISTRIBUTION AND BEHAVIOUR:

Known only from the Maldives and the Andaman Sea.

Lives in pairs amongst coral and deeper areas of reefs.

Browses on sponges, tunicates and algae.



S. stellatus

PRESENT FISHING GROUNDS:

Shallow coastal waters.

CATCHES, FISHING GEAR AND FORMS OF UTILIZATION:

Separate statistics are not reported for this species.

Caught by spearing.

Marketed fresh.

