

## THE SNAPPER (LUTJANIDAE) OF SPERMONDE ARCHIPELAGO, SOUTH SULAWESI

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### ABSTRACT

Fish diversity monitoring could be used as a basis for formulating management of the fisheries resources. This study was conducted to describe the snapper of the family Lutjanidae from the Spermonde Archipelago, South Sulawesi. Specimens were collected in Rajawali and Paotere Fish Landing Port Makassar, South Sulawesi from November 2005 to August 2009. The result showed that there was 42 species representing eight genera of family Lutjanidae inhabiting the area were examined and identified: *Aphareus furca*, *A. rutilans*, *Aprion virescens*, *Etelis carbunculus*, *E. radius*, *Lutjanus argentimaculatus*, *L. bengalensis*, *L. biguttatus*, *L. bohar*, *L. bouton*, *L. carponotatus*, *L. decussatus*, *L. fulvus*, *L. sebae*, *L. fulviflamma*, *L. fuscescens*, *L. johnii*, *L. kasmira*, *L. gibbus*, *L. lemniscatus*, *L. lunulatus*, *L. lutjanus*, *L. malabaricus*, *L. monostigma*, *L. quinquelineatus*, *L. rivulatus*, *L. russelli*, *L. sebae*, *L. timorensis*, *L. vitta*, *Macolor macularis*, *M. niger*, *Paracaesio kusakarii*, *Pristipomoides argyrogrammicus*, *P. auricilla*, *P. filamentosus*, *P. flavipinnis*, *P. multidentis*, *P. typus*, *P. zonatus*, *Symphoricthys spilurus*, *S. nematophorus*. The local name available of each species was given.

Key words: Lutjanidae, Snapper, South Sulawesi, Spermonde.

### INTRODUCTION

Spermonde archipelago (Spermonde shelf) located in the Southern Makassar Strait, southwest coast of Sulawesi Island. The distribution of coral island in the archipelago is Spermonde stretching from north to south parallel to the mainland of Sulawesi Island (de Klerk, 1983; Amri, 2009). The commercial fishes in some publications were collected from South Sulawesi region and reported by Iwatsuki *et al.* (2000), included snapper of the genus *Lutjanus*. But they did not correspond well with species descriptions.

Thirteen snapper of the genus *Lutjanus* in the South Sulawesi region were collected and reported by Iwatsuki *et al.* (2000). Furthermore, seventeen species from the Makassar Strait was reported by Burhanuddin *et al.* (2006). This study aimed to describe the lutjanid fishes as the important commercial fishes from the Spermonde Archipelago, coast of the South Sulawesi, Indonesia. The result of this work will be used as basic data for further study especially on bio-

diversity monitoring and could hopefully be used as a basic data for formulating management regulation of the fisheries resources for the Spermonde Archipelago, South Sulawesi.

### MATERIAL AND METHOD

Specimens of *Lutjanid* fishes were purchased in Rajawali Fish Landing Port and Paotere Fish Landing Port Makassar, South Sulawesi, from November 2005 to August 2009. The specimens mostly had been collected by gill net and handline or small trawl from the Spermonde Archipelago, South Sulawesi. Most examined specimens deposited in the Division of Fisheries Science, Faculty of Agriculture, Miyazaki University, Japan. Some specimens deposited in the Laboratory of Marine Biology, Faculty of Marine Science and Fisheries, Hasanuddin University.

Counts and proportional measurements follow Randall and Myers (1993). Identification is based on Rau & Rau (1980), Allen (2000), and Carpenter (2001). Abbreviation used in this re-

port was as below: Standard length (SL), Dorsal (D), Anal (A), Pectoral (P), and Gill rakers (GR).

## RESULTS AND DISCUSSION

### Diagnostic features of the family Lutjanidae

The snapper of family Lutjanidae has the body oblong, moderately compressed, and covered with moderate or small ctenoid scales. Some rows of scales on preopercle and on gill cover. Lateral line is complete, straight or gently curved. Mouth terminal and fairly large, extending somewhat when opened. Preopercle usually serrated, often finely. Enlarged canine teeth usually present on jaws, small teeth on palatines and usually on vomer. A single dorsal fin with X-XII, 10-17; anal fin with III, 7-11; pelvic fin with I, 5; caudal fin truncate to deeply forked. Snout and suborbital area without scales; preopercle scaled; no spines on opercle. Color highly variable, mainly from yellow through red to blue, often with blotches, lines or other pattern (Burhanuddin *et al.*, 2006).

The study collected 128 specimens, which mostly deposited in the Division of Fisheries Sciences, Faculty of Agriculture, Miyazaki University. Some specimens deposited in the laboratory of Marine Biology, Faculty of Marine Sciences and Fisheries, Hasanuddin University. The description of the species examined during the study presented below:

### *Aphareus furca* (Lacepède, 1801)

English: rusty jobfish; Indonesian: kakap. Descriptions (based on 4 specimens): DX, 11; A III, 8; P<sub>1</sub> 15-16; Body elongate, laterally compressed. Depth 3 to 3.4 times in standard length (SL); nostrils on each side of snout close together. Lower jaw protruding. Premaxillae not protrusible, fixed by a frenum. Maxilla without scales; head and body steel-blue silvery on side and be-

low. Dark outline on rear edge and bar in gill cover. Scaleless part of head olive. Caudal fin olive with yellow hind margin. Iris brownish. Vertical and horizontal margins of preoperculum finely serrated. Caudal fin strongly forked.

### *Aphareus rutilans* (Cuvier, 1830)

English: smalltoothed jobfish; Indonesian: kakap. Descriptions (based on 3 specimens): DX, 11; A III, 8; P<sub>1</sub> 15-16; Gr 22-28. Body oblong, compressed; forehead sloping steeply; snout somewhat pointed; preopercular notch indistinct or absent. Body color varied from blue-grey or mauve to overall reddish; margin of maxilla black; in some specimens, at least, inside of mouth, gill chamber, and gills shining silver; fins yellowish to reddish except pelvic and anal fins sometimes whitish.

### *Aprion virescens* (Valenciennes, 1830)

English: green jobfish; Indonesian: kakap merah. Descriptions (based on 3 specimens): DX, 11; A III, 8; P<sub>1</sub> 16-17. Body elongate, robust and rounded. Snout below nostrils and each side of snout close together. Very distinct horizontal groove on snout ventral to nostrils. Snout long. Mouth terminal; upper and lower jaw about equal, maxilla without scales or longitudinal ridges. Maxilla extends to vertical through about anterior margin of orbit or somewhat short of orbit. Teeth in both jaws are in bands, with strong canines anteriorly; teeth on roof of mouth in chevron or crescent-shaped patch on vomer and in elongate band on each palatine. Dorsal fin continuous, not deeply incised near junction of spinous and soft portions. Last soft ray of both dorsal and anal fins well produced, longer than next to last ray. Caudal fin forked. Tubed lateral-line scales 47 to 51. Body color is dark green, bluish, or grey-blue.

***Etelis carbunculus*** (Cuvier, 1828)

English: ruby snapper; Indonesian: kakap merah. Descriptions (based on 2 specimens): DX, 11; A III, 8; P<sub>1</sub> 16-17. Body relatively elongate laterally compressed. Nostrils on each side of snout close together. Maxilla with scales, but without longitudinal ridges. Lower jaw protrudes slightly. Premaxillae protrusible. Maxilla extends to below middle of eye. Dorsal fin continuous, but spinous portion of fin deeply incised at its junction with soft portion. Last soft ray of both dorsal and anal fins produced, longer than next to last ray. Caudal fin forked the lobes relatively short. Membranes of dorsal and anal fins are without scales. Tube lateral-line scales 48 to 50. Body mainly pink to red, white on lower sides and belly.

***Etelis radiosus*** (Anderson, 1981)

English: scarlet snapper; Indonesian: kakap merah. Descriptions (based on 2 specimens): D X, 11; A III, 8; P 16-17. Body relatively elongate, laterally compressed. Snout short, nostrils on each side of snout close together. Maxilla with scales, but without longitudinal ridges. Inter-orbital region flattened. Lower jaw protrudes. Premaxillae protrusible. Dorsal fin continuous, but spinous portion of fin deeply incised at its junction with soft portion. Last soft ray of both dorsal and anal fins produced, longer than next to last ray. Membranes of dorsal and anal fins without scales. Caudal fin lunate. Pectoral fins fairly long, a little shorter than head. Tube lateral-line scales 49 or 51. Mainly red, lighter on lower sides and belly.

***Lutjanus argentimaculatus*** (Forsskål, 1775)

English: mangrove red snapper; Indonesian: kakap merah. Descriptions (based on 4

specimens): D X, 13-14; A III, 8; P 16-17; Gr 16-20. Body oblong, compressed; forehead sloping steeply; snout somewhat pointed; preopercular notch indistinct or absent; scales on lateral line 49-50; body greenish brown to reddish dorso-laterally, whitish or silvery ventrolaterally. Vertical and horizontal margins of preopercle finely serrated. Caudal fin emarginated to nearly truncate.

***Lutjanus bengalensis*** (Bloch, 1790)

English: bengal snapper; Indonesian: kakap kuning garis. Descriptions (based on 3 specimens; 142-149 mm SL): D XI, 12-14; A III, 8; P 16-17; Gr 26-28. Body fusiform, slender to moderately deep. Snout somewhat pointed; body with four bright blue stripes; back and sides yellowish; no black spot on back below middle of dorsal fin. Caudal fin emarginated.

***Lutjanus biguttatus*** (Valenciennes, 1830)

English: two-spot banded snapper; Indonesian: tanda-tanda pasir. Descriptions (based on 5 specimens): D X, 12; A III, 8; P 16-17; Gr 23-26. Body fusiform, very slender; snout profile low, sloping very gently; eyes lowset, comparatively large; scales on lateral line 52; a broad pearly-white band from snout to caudal fin base. Two pearly lateral blotches above lateral line, one below spinous dorsal base and other below soft dorsal base. Caudal fin truncate.

***Lutjanus bohar*** (Forsskål, 1775)

English: two-spot red snapper; Indonesian: kakap mailah. Descriptions (based on 3 specimens; 160-360 mm SL): D X, 13-14; A III, 8; P 16-17; Gr 22-23. Body moderately deep; snout somewhat pointed, dorsal profile of head rounded; a deep groove or pit from nostrils to front

eye; vertical and horizontal borders of opercle finely denticulate. Red or purplish red. Juvenile and some adults with two distinct silvery spots on body between lateral line and dorsal profile. Caudal fin slightly emarginate.

***Lutjanus bouton*** (Lacepède, 1803)

English: moluccan snapper; Indonesian: kakap maluku. Descriptions (based on 4 specimens; 170-250 mm SL): D X, 13-14; A III, 8; P 16-17; Gr 20-23. Body moderately deep; snout somewhat pointed. Eye large (3.5-4.2 times in head length). Back and sides pink or reddish; body usually with 10-12 faint yellow stripes on sides; fins mainly yellowish. Caudal fin emarginate.

***Lutjanus carponotatus*** (Richardson, 1842)

English: Spanish flag snapper; Indonesian: kakap bendera. Descriptions (based on 5 specimens; 210-340 mm SL): D X-XII, 14-16; A III, 8; P 15-17; Gr 15-18. Body moderately deep, snout slightly pointed; dorsal profile of head steeply sloped. Scales on lateral line 50-53. Body usually with 8-9 orange, yellow, or golden-brown stripes on side. Pectoral fin with a distinct black spot at base of uppermost rays and axil; fins yellowish. Caudal fin emarginate.

***Lutjanus decussatus*** (Cuvier, 1828)

English: checkered snapper; Indonesian: kakap bendera. Descriptions (based on 4 specimens): D X, 13-14; A III, 8 or 9; P 14-16; Gr 14-16. Scales on lateral line 45-56. Upper jaw with some small conical teeth, anteriorly four outstanding canines, the outer ones larger. Preopercle serrated and with a shallow notch above angle. Generally whitish with a "checker-board" pattern on upper half of side. A large black spot

covering most of caudal fin base. Caudal fin emarginate.

***Lutjanus fulvus*** (Forster, 1801)

English: blacktail snapper; Indonesian: kakap tambak. Descriptions (based on 3 specimens): D X, 14; A III, 8; P 16; Gr 16-20. Body elongated, compressed; dorsal fin sometime with abroad dark grey brown margin; scales on lateral line 47-61. Body yellowish-brown. Dorsal fin reddish. Caudal fin black with broad reddish-brown margin. Ventral, pectoral and anal fin yellow. Caudal fin slightly emarginate.

***Lutjanus fulviflamma*** (Forsskål, 1775)

English: blackspot snapper; Indonesian (Makassar): bunga baru. Descriptions (based on 5 specimens; 185-220 mm SL): D X, 12-14; A III, 8; P 15-17; Gr 16-19. Body moderately deep to somewhat slender; dorsal profile of head moderately sloped; scales on lateral line 50-52. Body yellowish or green/yellow above, silvery-pink below. Sometimes with marked longitudinal golden stripes. Black blotch on lateral line below junction of soft and spinous part of dorsal fin, sometimes by a pearly border. Fins yellowish. Caudal fin truncate or slightly emarginate.

***Lutjanus gibbus*** (Forsskål, 1775)

English: humpback red snapper; Indonesian: kakap jenaha. Descriptions (based on 5 specimens; 150-320 mm SL): D X, 13-15; A III, 8; P 16-17; Gr 25-30. Body deep, compressed; dorsal profile of head moderately sloped; caudal fin becoming deeply forked with age, its upper lobe larger than lower lobe in adults and distinct rounded. Scales on lateral line 45-53. Body uniformly dark red in adults. Fin red or frequently dark brown to blackish; soft part of dorsal, anal

and caudal fin with a narrow white margin.

***Lutjanus fuscescens*** (Valenciennes, 1830)

English: freshwater snapper; Indonesian: kakap. Descriptions (based on 3 specimens). D X, 13-15; A III, 8; P 16-17. Dorsal profile of head moderately sloped; preorbital width about equal to, or slightly narrower than eye diameter; preopercular notch and knob poorly developed; vomerine tooth patch crescentic, without a medial posterior extension; tongue smooth, without teeth. Caudal fin truncate or slightly emarginate. Back and sides greyish brown or olive, whitish on belly; a prominent black spot on back, bisected by lateral line, below anterior soft dorsal-fin rays; juveniles with a series of diffuse blackish bars on sides.

***Lutjanus johnii*** (Bloch, 1792)

English: John's snapper; Indonesian: kakap. Descriptions (based on 3 specimens). D X, 13-15; A III, 8; P 16-17. Body moderately deep. Dorsal profile of head steeply sloped; preorbital width equal to eye diameter or larger (4.9 to 6.0 times in head length); preopercular notch and knob poorly developed; vomerine tooth patch crescentic, without a medial posterior extension; tongue with a patch of granular teeth. Posterior part of dorsal and anal fins rounded. Caudal fin truncate or slightly emarginate. Pectoral fins with 16 or 17 rays. Scale rows on back parallel to lateral line. Generally yellow with a bronze to silvery sheen, grading to silvery white on belly and underside of head; centre of each scale often with a reddish brown spot, giving an overall appearance of series of horizontal lines on side of body; a round black spot, larger than eye, on back, mainly above lateral line, below anterior soft dorsal-fin rays.

***Lutjanus kasmira*** (Forsskål, 1775)

English: common bluestripe snapper; Indonesian: kakap. Descriptions (based on 2 specimens): DX, 12-14; A III, 8; P<sub>1</sub> 15-17. Body moderately deep, its depth 2.4 to 2.8 times in standard length. Dorsal profile of head steeply sloped; preorbital width usually greater than eye diameter, but sometimes less in small specimens; preopercular notch and knob well developed; vomerine tooth patch crescentic, without a medial posterior extension; tongue smooth, without teeth. Posterior profile of dorsal and anal fins somewhat angular. Caudal fin slightly emarginate. Pectoral fins with 15 or 16 rays. Scale rows on back rising obliquely above lateral line. Back and sides bright yellow; lower sides and underside of head white; 4 bright blue stripes on side; several faint grayish stripes on lowermost part of sides; fins yellow.

***Lutjanus lemniscatus*** (Valenciennes, 1828)

English: Yellowstreaked snapper; Indonesian: kakap. Descriptions (based on 4 specimens): DX, 13 or 14; A III, 8; P<sub>1</sub> 16. Body moderately deep, its depth 2.5 to 2.8 times in standard length. Dorsal profile of head steeply sloped; snout profile slightly concave; preorbital bone usually much greater than eye diameter, at least in larger specimens; preopercular notch and knob poorly developed; vomerine tooth patch crescentic, without a medial posterior extension; tongue with a patch of granular teeth. Posterior profile of dorsal and anal fins rounded. Caudal fin truncate or slightly emarginate. Pectoral fins with 16 rays. Scale rows on back rising obliquely above lateral line. Back and upper sides grey-brown or olive; sides grey, brown or reddish; belly and underside of head whitish; dorsal and caudal fins brownish, remaining fins pink or reddish.

*Lutjanus lunulatus* (Park, 1797)

English: lunartail snapper; Indonesian: kakap. Descriptions (based on 2 specimens): DX, 13-15; A III, 8; P<sub>1</sub> 15-17. Body moderately deep, its depth 2.5 to 2.6 times in standard length. Dorsal profile of head steeply sloped; preorbital width about equal to eye diameter; preopercular notch and knob poorly developed; vomerine tooth patch crescentic, without a medial posterior extension; tongue with a patch of granular teeth. Posterior profile of dorsal and anal fins somewhat angular. Caudal fin slightly emarginate. Back and upper side brown to reddish pink; reddish pink to mauve on middle of side; rear half of maxilla, lower part of preopercle, breast and abdomen creamy yellow; dorsal fin reddish pink to clear; caudal fin with a broad, crescentic black band with the posterior portion of fin pink; pectoral, anal, and pelvic fins yellow.

*Lutjanus lutjanus* (Bloch, 1790)

English: bigeye snapper; Descriptions (based on 6 specimens): D X-XII, 12; A III, 8; P 16-17; Gr 22-23. Body fusiform, slender. Dorsal profile of head gently sloped; Upper back golden-brown; side silvery-white; a broad yellow to brownish stripe from eye to caudal fin. A series of yellow horizontal lines on lower half of body, and similar line running obliquely above lateral line; fins pale yellow to whitish. Caudal fin truncate or slightly emarginated.

*Lutjanus malabaricus* (Schneider, 1801)

English: malabar blood snapper; Indonesian: kakap merah. Descriptions (based on 2 specimens; 430-435 mm SL): D XI, 14; A III, 8; P 16-17; Gr 22-23. Body relatively deep. Dorsal profile of head sloped. Space between eyes strongly convex. Edges of preopercle finely serrated.

Back and sides red or red-orange, lighter on lower parts; fins reddish. Caudal fin truncate.

*Lutjanus monostigma* (Cuvier, 1828)

English: one-spot snapper; Indonesian: kakap merah. Descriptions (based on 2 specimens; 250-300 mm SL): D X, 12-13; A III, 8; P 16-17; Gr 18-19. Body slightly compressed. Dorsal profile of head sloped. Preoperculum finely serrated behind and below in juvenile, rugose to entire with age. Fins yellowish; ventral and anal fins golden-yellow. Small oval, dusky blotch below front part of soft dorsal base, roughly bisected by lateral line. Large adults are grays red with orange yellow fins. The dusky blotch becoming smaller with age. Caudal fin truncate or slightly emarginate.

*Lutjanus quinquelineatus* (Bloch, 1790)

English: five-lined snapper; Indonesian (Makassar): bunga baru. Descriptions (based on 6 specimens; 150-165 mm SL): D X, 13-15; A III, 8; P 16-17; Gr 20-23. Body moderately deep. Dorsal profile of head sloped. Upper part of head brownish; sides and belly bright yellow; a series of five bright blue stripes on side; a round black spot, eye sized or larger, below anterior most soft dorsal rays at level of lateral line; fins yellow. Caudal fin truncate or slightly emarginate.

*Lutjanus sebae* (Cuvier, 1828)

English: emperor red snapper; Indonesian (Makassar): Bambang. Descriptions (based on 4 specimens; 200-295 mm SL): D XI, 15-16; A III, 10-11; P 16-17; Gr 22-23. Body very deep. Dorsal profile of head steeply sloped. Red or pink in adults. Juvenile and smaller adults pink with dark red band. Margin of soft part of dorsal, upper margin of caudal and anterior rays of anal

fins dark. Caudal fin slightly forked.

***Lutjanus timorensis*** (Quoy & Gaimard, 1824)

English: timor snapper; Indonesian: kakap merah. Descriptions (based on 2 specimens; 210-320 mm SL): D X, 13-14; A III, 8; P 16-17; Gr 19-20. Body relatively deep. Dorsal profile of head steeply sloped; preorbital width greater than eye diameter. Back and upper sides reddish; lower sides and belly red or pinkish to silvery-white; fins reddish; axil of pectoral fin black. Caudal fin truncate or slightly emarginate.

***Lutjanus vitta*** (Quoy & Gaimard, 1824)

English: brownstripes red snapper; Indonesian: kakap mailah. Descriptions (based on 3 specimens): D X, 10-13; A III, 7-8; P 16-17; Gr 15-20. Body moderately deep to relatively slender. Dorsal profile of head moderately sloped. Vertical and horizontal edges of preoperculum with fine serration. Two flat spines on operculum. Body with blackish or brown longitudinal band as wide as pupil, extending from eye to caudal base. Upper part of body pale red/yellow silvery with horizontal light brown lines. Fins yellowish and caudal fin slightly emarginated or truncate.

***Macolor macularis*** (Fowler, 1931)

English: midnight snapper; Indonesian: kakap. Descriptions (based on 3 specimens): DX, 13 or 14; A III, 8; P<sub>1</sub> 10 or 11. Body relatively deep, laterally compressed. Dorsal profile of head convex in adults, in oblique straight line in young. Maxilla reaching vertical through middle of eye. Row of conical teeth in each jaw, enlarged anteriorly, and inner bands of villiform teeth on sides of upper jaw and front of lower jaw; vomerine tooth patch broadly V-shaped. Caudal fin rounded in specimen less than about 20 mm standard length, marginate in individual's more

than about 10 cm standard length. Pelvic fins very long and pointed in young, but short and rounded in adults. Soft dorsal and anal fins with scales basally. Adults mostly brownish black to black; individuals less than about 20 cm total length black on upper sides (usually with 6 to 10 white spots) and white below, black vertical bar through eye, broad black horizontal band from eye to rear edge of opercle, and black stripe from pectoral region to distal end of lower caudal-fin lobe.

***Macolor niger*** (Forsskål, 1775)

English: black-and-white snapper; Indonesian: kakap. Descriptions (based on 3 specimens): DX, 13-15; A III, 9-11; P<sub>1</sub> 16-18. Body relatively deep, laterally compressed. Dorsal profile of head convex in adults, in oblique straight line in young. Lacrimal (suborbital region) relatively. Premaxillae protrusible. Dorsal fin continuous and anal fins distinctly pointed posteriorly. Last soft ray of both dorsal and anal fins not produced, shorter than next to last ray. Caudal fin rounded Pectoral fins fairly long; in specimens more than about 95 mm standard length. Adults mostly brownish black to black; individuals less than about 24 cm standard length have black and white bands on body, about 5 (4 to 7) white spots on upper side, and white at tips of caudal fin lobes and in middle of fin.

***Paracaesio kusakarii*** (Abe, 1960)

English: saddleback snapper; Indonesian: kakap. Descriptions (based on 4 specimens): DX, 10; A III, 8; P<sub>1</sub> 16 or 17. Body moderately deep, laterally compressed. Nostrils on each side of snout close together. Lower jaw protruding slightly when mouth closed. Anterior end of upper lip without a thick fleshy protrusion. Maxilla with scales, but without longitudinal ridges.

Interorbital region rather strongly convex. Large individuals with pronounced hump on nape as a result of higher supraoccipital crest. Caudal fin lunate to emarginate; middle of distal margin of caudal fin becoming rounded with age. Back and upper side of body light brown; remainder of body silvery white; 4 broad dark vertical bars on upper side of body; fins grayish, whitish, or yellowish.

*Pristipomoides argyrogrammicus* (Valenciennes, 1832)

English: ornate jobfish; Indonesian: kakap. Descriptions (based on 2 specimens): DX, 11; A III, 8; P<sub>1</sub> 15 or 16. Body moderately deep, laterally compressed. Nostrils on each side of snout close together. Jaws about equal or upper jaw protruding slightly. Maxilla without scales or longitudinal ridges. Interorbital region flattened to slightly convex. Last soft ray of both dorsal and anal fins well produced, longer than next to last ray. Caudal fin forked. Membranes of dorsal and anal fins without scales. Tubed lateral-line scales 58 to 62. Upper part of head reddish; back mainly yellow; sides and belly silvery, sometimes pinkish; body with many bright blue spots and vermiculations; zigzag line running at about level of lateral line anteriorly and then onto dorsolateral part of caudal peduncle posteriorly; dorsal and caudal fins yellowish.

*Pristipomoides auricilla* (Jordan, Evermann, & Tanaka, 1927)

English: goldflag jobfish; Indonesian: kakap. Descriptions (based on 3 specimens): DX, 11; A III, 8; P<sub>1</sub> 15 or 16. Body elongate, laterally compressed. Nostrils on each side of snout close together. Jaws about equal or lower jaw protruding slightly. Maxilla without scales or longitudinal ridges. Interorbital region flattened. Dorsal fin continuous, not deeply incised near

junction of spinous and soft portions. Last soft ray of both dorsal and anal fins well produced, longer than next to last ray. Caudal fin forked. Pectoral fins long, equal to or somewhat shorter than head length. Body purplish or brownish violet; sides with numerous yellow spots or faint yellow chevron-shaped bands; dorsal fin yellowish to yellowish brown; upper lobe of caudal fin yellow.

*Pristipomoides filamentosus* (Valenciennes, 1830)

English: crimson jobfish; Indonesian: kakap. Descriptions (based on 3 specimens): DX, 11; A III, 8; P<sub>1</sub> 15 or 16. Body elongate, laterally compressed. Nostrils on each side of snout close together. Jaws about equal or lower jaw protruding slightly. Maxilla without scales or longitudinal ridges. Interorbital region flattened. Dorsal fin continuous, not deeply incised near junction of spinous and soft portions. Last soft ray of both dorsal and anal fins well produced, longer than next to last ray. Caudal fin forked. Pectoral fins long, about equal to or somewhat shorter than head length. Dorsal fin with X spines and 11 soft rays. Anal fin with III spines and 8 (rarely 7 or 9) soft rays. Pectoral-fin rays 15 or 16. Membranes of dorsal and anal. Back and sides variable, ranging from brownish to lavender or reddish purple; snout and interorbital space with arrow yellow lines and blue spots often persisting as dark spots in preservative; dorsal and caudal fins light blue or lavender with reddish orange margins.

*Pristipomoides flavipinnis* (Shinohara, 1963)

English: goldeneye jobfish; Indonesian: kakap. Descriptions (based on 2 specimens): DX, 11; A III, 8; P<sub>1</sub> 16 or 17. Body elongate, laterally compressed. Nostrils on each side of snout close together. Lower jaw protruding slightly. Maxilla without scales or longitudinal ridges. Interorbital



region flattened. Dorsal fin continuous, not deeply incised near junction of spinous and soft portions. Last soft ray of both dorsal and anal fins well produced, longer than next to last ray. Caudal fin forked. Pectoral fins long, about equal to or somewhat shorter than head length. Membranes of dorsal and anal fins without scales. Back and upper sides pale lavender or pinkish; lower sides and belly silvery; network of dark spots on top of head; margin of dorsal fin yellow when fresh.

***Pristipomoides multidentis*** (Day, 1871)

English: snapper; Indonesian: kakap. Descriptions (based on 3 specimens): DX, 11; A III, 8; P<sub>1</sub> 15 or 16. Body elongate, laterally compressed. Nostrils on each side of snout close together. Jaws about equal or lower jaw protruding very slightly. Maxilla without scales or longitudinal ridges. Interorbital region flattened. Dorsal fin continuous, not deeply incised near junction of spinous and soft portions. Last soft ray of both dorsal and anal fins well produced, longer than next to last ray. Caudal fin forked. Pectoral fins long, a little shorter than length of head. Yellowish to rosy, with about 6 broken golden stripes on sides; side of snout and cheek with 2 golden stripes bordered with blue (specimens brownish stripes in preserved); top of head with a series of transverse brownish yellow vermiculations; dorsal fin with yellowish stripes or rows of spots.

***Pristipomoides typus*** (Bleeker, 1852)

English: sharptooth jobfish; Indonesian: kakap. Descriptions (based on 3 specimens): DX, 11; A III, 8; P<sub>1</sub> 15 or 16. Body elongate, laterally compressed. Nostrils on each side of snout close together. Jaws about equal or lower jaw protruding slightly. Maxilla without scales or longitudinal ridges. Interorbital region flattened. Dorsal

fin continuous, not deeply incised near junction of spinous and soft portions. Last soft ray of both dorsal and anal fins well produced, longer than next to last ray. Caudal fin forked. Pectoral fins long, a little shorter than length of head. Body and fins rosy; top of head with longitudinal brownish yellow vermiculations and spots of brownish yellow; dorsal fin with wavy yellow lines.

***Pristipomoides zonatus*** (Valenciennes, 1830)

English: obliquebanded snapper; Indonesian: kakap. Descriptions (based on 2 specimens): DX, 11; A III, 8; P<sub>1</sub> 15 or 16. Body moderately deep, laterally compressed. Nostrils on each side of snout close together. Jaws about equal or lower jaw protruding slightly. Maxilla without scales or longitudinal ridges. Interorbital region flattened to slightly convex. Dorsal fin continuous, not deeply incised near junction of spinous and soft portions. Last soft ray of both dorsal and anal fins well produced, longer than next to last ray. Caudal fin forked. Pectoral fins long, a little shorter than length of head. Overall pink or reddish with alternating oblique red and yellow bars on side of body; dorsal and caudal fins yellow, other fins pink

***Symphorichthys spilurus*** (Günther, 1874)

English: sailfin snapper; Indonesian: kakap. Descriptions (based on 3 specimens): DX, 17-19; A III, 11; P<sub>1</sub> 16 or 17. Body deep, laterally compressed. Head extremely blunt. Upper jaw with a row of submolar teeth; lower jaw with about three rows of smaller submolars; anterior ends of both jaws with an outer row of short canines, slightly larger than the other teeth; vomer toothless; upper and lower pharyngeal bones enlarged and bearing enlarged molariform teeth. Maxilla without scales or longitudinal ridges.

Dorsal fin continuous, notched slightly near junction of spinous and soft portions. Spinous part of dorsal fin distinctly lower than soft part. One or more anterior soft rays of dorsal and anal fins produced into filaments. Last soft ray of dorsal and anal fins not produced. Caudal fin marginated to lunate in adults, truncate in juveniles. Pectoral fins somewhat longer than head. Overall yellowish, with a series of bright blue stripes on sides and head; a prominent black spot with a pale margin on dorsal surface of caudal peduncle; sometimes with an orange bar across interorbital region and an orange bar above pectoral-fin base; juveniles light brown above and whitish below with broad black stripe along midbody.

***Symphorus nematophorus*** (Bleeker, 1860)

English: Chinamanfish; Indonesian: kakap. Descriptions (based on 3 specimens): DX, 14-17; A III, 8; P<sub>1</sub> 16 or 17. Body moderately deep, laterally compressed. Eye located well above mouth. Lacrimal (suborbital region) broad. Deep groove running obliquely downward from eye to anterior nostril or a little beyond. Nostrils on each side of snout not very close together. Mouth terminal, jaws almost equal. Premaxillae protrusible. Maxilla reaching vertical through about middle of eye. Teeth in jaws in narrow bands, with the outer teeth enlarged; canine teeth present at anterior end of upper jaw; vomer toothless; tongue with a patch of dorsal fin continuous, notched slightly near junction of spinous and soft portions. Spinous part of dorsal fin distinctly lower than soft part. One or more anterior soft rays of dorsal fin produced into long filaments in juveniles. Last soft ray of dorsal and anal fins not produced. Caudal fin emarginate. Adults mainly reddish, frequently with lighter blotching or

transverse bars; young brown or yellowish on back and upper sides, yellowish below, and with bright blue stripes on side.

**CONCLUSION**

Forty two species representing eight genera of family Lutjanidae inhabiting in the Spermonde Archipelago, South Sulawesi area were examined and identified.

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