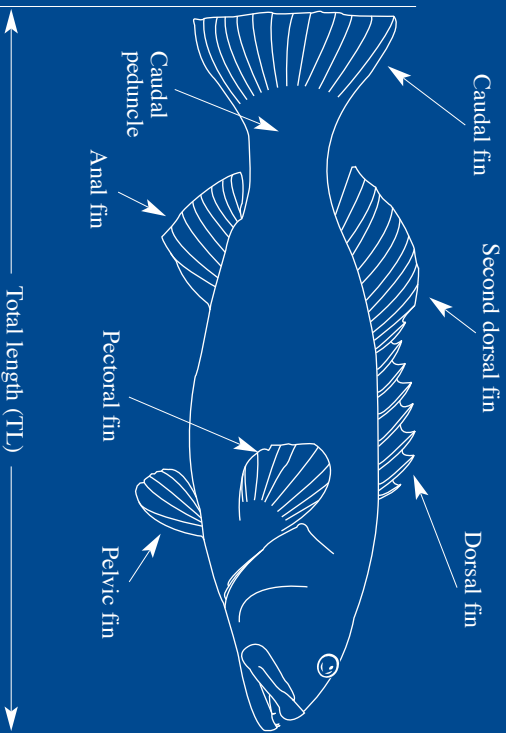


# Fish Identification Cards



## The Pacific Regional Live Reef Fish Trade Initiative



The  
Nature  
Conservancy



INTERNATIONAL  
MARINELIFE  
ALLIANCE



These fish identification cards were originally produced in 2002 as part of a series of awareness materials developed for the Pacific Live Reef Fish Trade Initiative by the Secretariat of the Pacific Community, The Nature Conservancy, International Marinelifelife Alliance, and the World Resources Institute.



SPC  
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of the Pacific  
Community



The  
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MACARTHUR  
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## *Cheilinus trilobatus*

- **Local name(s):**
- **English name:** Tripletail wrasse
- **Hong Kong name:** Chap Mei
- **Description:** Olivaceous, with a vertical red line on each body scale; small red spots and irregular lines on head and chest; red lines radiating anteriorly from eye. Large adults have tri-lobed caudal fins.





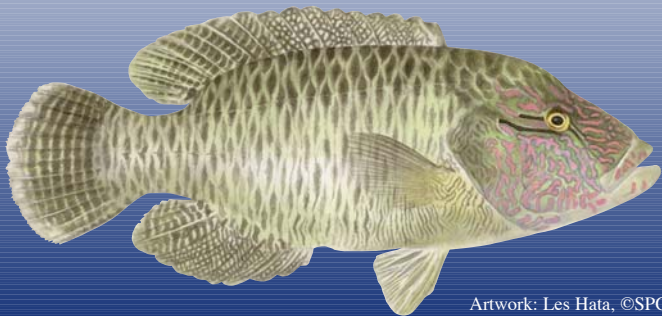
## *Cheilinus trilobatus*

- **Biology:** Inhabits lagoon and seaward reefs at depths of 1 to over 30 m. Found along shallow reef margins with coral cover. Usually solitary. Feeds mainly on invertebrates such as molluscs and crustaceans but occasionally takes fish.
- **Reproduction:** Protogynous hermaphrodite (sex changes from female to male); male-dominated harem mating system (i.e. one male for several females). Pelagic spawning.
- **Maximum size:** 45 cm TL
- **Importance:** Fisheries: commercial and subsistence / Aquarium: commercial and show aquaria.
- **IUCN Red List status:** Under assessment (Aug. 2009).
- **Poisonous:** No reports of ciguatera poisoning.
- **Distribution in Indo-Pacific region:** Indonesia and Philippines east to the Tuamotus and Austral Islands in French Polynesia; Ryukyu Islands (Japan) south to Queensland (Australia) and New Caledonia.



## *Cheilinus undulatus*

- **Local name(s):**
- **English name:** Humphead wrasse
- **Hong Kong name:** So Mei
- **Description:** Adults olive to green with a vertical dark line on scales; juveniles pale greenish with elongate spots on scales tending to form bars; small juveniles black and white; 2 black lines posteriorly from eye, more evident in juveniles. Adults develop lips and a prominent bulbous hump on the forehead.





## *Cheilinus undulatus*

- **Biology:** Inhabits steep outer reef slopes, channel slopes, and lagoon reefs between 1 and 60 m. Solitary or paired but small mating groups may be found following the largest individual(s). Juveniles encountered in coral-rich areas of lagoon reefs where staghorn *Acropora* spp. corals abound. Adults rove the reefs by day, and rest in reef caves and under coral ledges at night. Primary food includes molluscs, fish, sea urchins, crustaceans and other large invertebrates. One of the few predators of toxic animals such as sea hares, boxfish and crown-of-thorns starfish.
- **Reproduction:** Protogynous hermaphrodite (sex changes from female to male); male-dominated harem mating system (i.e. one male for several females), but spawning aggregations may also occur at high population densities. Pelagic spawning.
- **Maximum size:** 229 cm TL (maximum weight: 191 kg)
- **Importance:** Fisheries: commercial and subsistence / Aquarium: commercial and show aquaria.
- **IUCN Red List status:** Endangered (considered to be facing a very high risk of extinction in the wild) – Assessed in 2004.
- **Poisonous:** Reports of ciguatera poisoning.
- **Distribution in the Indo-Pacific region:** Indonesia and Philippines east to the Tuamotus (French Polynesia); Ryukyu Islands (Japan) south to New Caledonia.



## *Choerodon schoenleinii*

- **Local name(s):**

- **English name:** Blackspot tuskfish
- **Hong Kong name:** Ching Yi
- **Description:** Greenish grey on back, shading to light yellowish below; a vertical blue line on each scale becomes spots posteriorly and blue stripes on caudal peduncle; a black spot smaller than eye at base of last dorsal spine; irregular blue bands extending posteriorly from eye. Caudal fin truncate to slightly rounded.





## *Choerodon schoenleinii*

- **Biology:** Inhabits flat sandy or weedy areas near lagoon and seaward reefs between 10 and 60 m. Solitary. Feeds mainly on hard-shelled invertebrates including crustaceans, molluscs and sea urchins.
- **Reproduction:** Protogynous hermaphrodite (sex changes from female to male). Mating system not determined. Pelagic spawning.
- **Maximum size:** 100 cm TL
- **Importance:** Fisheries: commercial and subsistence / Gamefish: yes / Aquarium: commercial and show aquaria.
- **IUCN Red List status:** Near Threatened (likely to qualify for a threatened category in the near future) – Assessed in 2004.
- **Poisonous:** No reports of ciguatera poisoning.
- **Distribution in the Indo-Pacific region:** Indonesia and Philippines east to Papua New Guinea; Ryukyu Islands (Japan) south to the southern Great Barrier Reef (Australia).



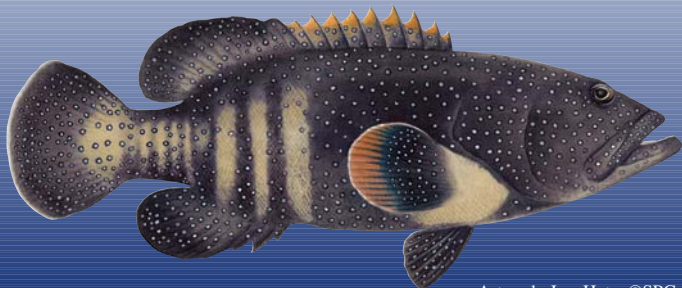
## *Cephalopholis argus*

• **Local name(s):**

• **English name:** Peacock hind

• **Hong Kong name:** Nam Sing

• **Description:** Dark brown, with small blue, black-edged spots; 5–6 pale bars on rear of body; large pale area over chest; distal part of pectoral fins sometimes maroon brown; orange-gold triangular membranes at tips of dorsal spines.





## *Cephalopholis argus*

- **Biology:** Occurs in a variety of coral habitats, from tide pools and reef flats to reef slopes at depths of 1–40 m but usually 1–10 m. Feeds mainly on fish and, to a lesser extent, crustaceans. In some places it feeds early in the morning and late afternoon; but in other places, it appears to feed more at night.
- **Reproduction:** Protogynous hermaphrodite (sex changes from female to male) in a male-dominated harem mating system (i.e. one male for several females). Pelagic spawning.
- **Maximum size:** 60 cm TL
- **Importance:** Fisheries: commercial and subsistence / Gamefish: yes / Aquarium: commercial and show aquaria.
- **IUCN Red List status:** Least Concern (does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened) – Assessed in 2008.
- **Poisonous:** Reports of ciguatera poisoning.
- **Distribution in the Indo-Pacific region:** Indonesia and Philippines east to Pitcairn Group; Ryukyu Islands (Japan) south to Queensland (Australia) and New Caledonia.



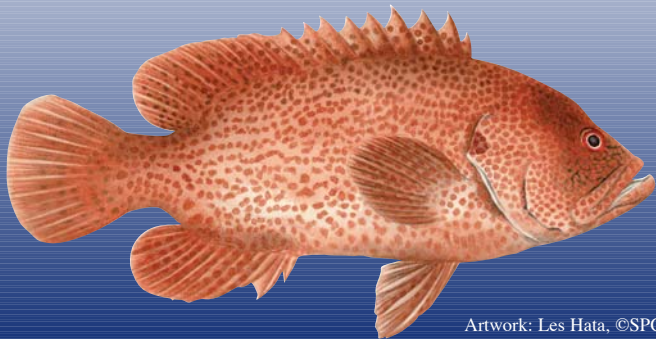
## *Cephalopholis sonnerati*

• **Local name(s):**

• **English name:** Tomato hind

• **Hong Kong name:** Hung Kwa Chi

• **Description:** In the Pacific, adults are light reddish to yellowish brown with numerous small, brownish-red spots on head, body and fins; juveniles dark reddish-brown to black with a white posterior border on caudal fin (broadest at corners). Pelvic fins usually reach or extend beyond anus; caudal fin rounded.





## *Cephalopholis sonnerati*

- **Biology:** Occurs in deep lagoon reefs and steep outer reef slopes between 10 and 150 m, and occasionally on exposed reef fronts. Found in corals and rocky substrata. Juveniles found usually near sponges or coral heads. Feeds on small fish and crustaceans.

**Reproduction:** Protogynous hermaphrodite (sex changes from female to male) in a male-dominated harem mating system (i.e. one male for several females). Pelagic spawning.

**Maximum size:** 57 cm TL

**Importance:** Fisheries: commercial and subsistence.

**IUCN Red List status:** Least Concern (does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened) – Assessed in 2008.

**Poisonous:** No reports of ciguatera poisoning.

**Distribution in the Indo-Pacific region:** Indonesia and Philippines east to the Line Islands (Kiribati); southern Japan to southern Queensland (Australia) and New Caledonia.



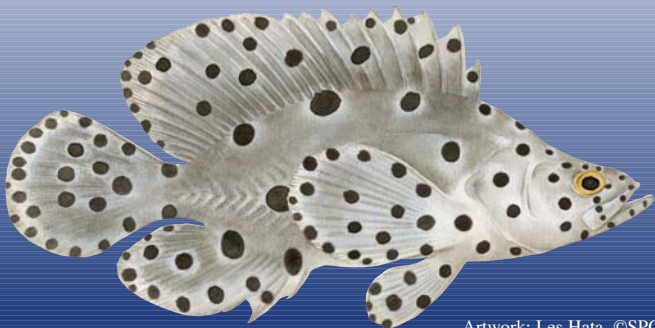
## *Cromileptes altivelis*

• **Local name(s):**

• **English name:** Humpback grouper

• **Hong Kong name:** Lo Shu Pan

• **Description:** Greenish-white to light greenish-brown, with scattered large round black spots; juveniles white with black spots. Front part of head containing a very small eye; dorsal profile of head nearly straight to above eye, then rising steeply to beginning of dorsal fin.





## *Cromileptes altivelis*

- **Biology:** Inhabits lagoon and seaward reefs and is found typically in rubble or silty areas between 2 and 40 m; sometimes found on reefs and in tide pools; juveniles found commonly on shallow seagrass flats. Juveniles are captured for the aquarium trade; adults for food.
- **Reproduction:** Protogynous hermaphrodite (sex changes from female to male). Mating system not determined. Pelagic spawning.
- **Maximum size:** 70 cm TL
- **Importance:** Fisheries: commercial and subsistence / Aquaculture: likely in future / Aquarium: commercial and show aquaria.
- **IUCN Red List status:** Vulnerable (facing a high risk of extinction in the wild) – Assessed in 2008.
- **Poisonous:** No reports of ciguatera poisoning.
- **Distribution in the Indo-Pacific region:** Indonesia east to Fiji; southern Japan south to southeast Australia and New Caledonia.



## *Epinephelus coeruleopunctatus*

- **Local name(s):**

- **English name:** Whitespotted grouper
- **Hong Kong name:** Yau Charm Pan
- **Description:** Grey-brown; posterior head, body, and dorsal fin have scattered large white spots (some as large or larger than eye) and numerous small pale spots; a series of indistinct dark blotches on back at base of dorsal fin and one on caudal peduncle; a black streak above maxilla. Caudal fin rounded.





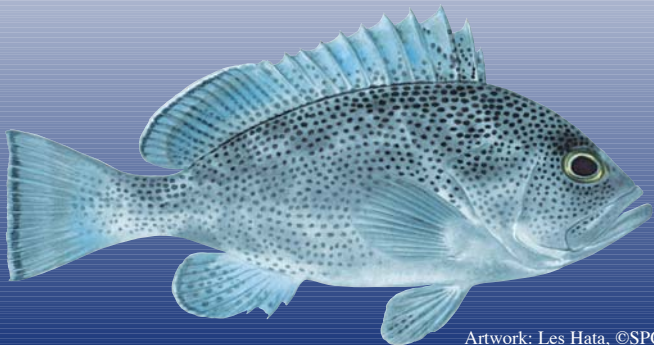
## *Epinephelus coeruleopunctatus*

- **Biology:** Inhabits rocky or coral-rich areas of deep lagoons, channels, and outer reef slopes between 2 and 65 m. Juveniles usually found in tide pools. Feeds on fish and crustaceans.
- **Reproduction:** Assumed to be protogynous hermaphrodite (sex changes from female to male). Mating system not determined. Pelagic spawning.
- **Maximum size:** 76 cm TL
- **Importance:** Fisheries: commercial and subsistence.
- **IUCN Red List status:** Least Concern (does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened) – Assessed in 2008.
- **Poisonous:** No reports of ciguatera poisoning.
- **Distribution in the Indo-Pacific region:** Indonesia and Philippines east to Fiji; southern Japan south to New South Wales (Australia).



## *Epinephelus cyanopodus*

- **Local name(s):**
- **English name:** Speckled blue grouper
- **Hong Kong name:** Nam Kwa Chi
- **Description:** Light bluish grey with numerous tiny black spots and scattered larger blackish points on the head and fins. Caudal fin truncate.





## *Epinephelus cyanopodus*

- **Biology:** Found usually around isolated coral heads in lagoons or bays but also on outer reefs between 2 and 150 m. Often swims out in the open, up to several meters above the bottom. Feeds on fish, mainly sand-dwelling snake eels, and crustaceans, such as box crabs.
- **Reproduction:** Protogynous hermaphrodite (sex changes from female to male). Spawns pelagically in aggregations. Highly vulnerable to exploitation by hook-and-line gear during spawning season.
- **Maximum size:** 122 cm TL
- **Importance:** Fisheries: commercial and subsistence / Aquarium: show aquaria.
- **IUCN Red List status:** Least Concern (does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened) – Assessed in 2008.
- **Poisonous:** Reports of ciguatera poisoning.
- **Distribution in the Indo-Pacific region:** Philippines east to Fiji; southern Japan south to New South Wales (Australia).



## *Epinephelus fuscoguttatus*

- **Local name(s):**
- **English name:** Brown-marbled grouper
- **Hong Kong name:** Lo Fu Pan
- **Description:** Light yellowish-brown with large irregular brown blotches on head and body, the darkest along back; black saddle-like spot on caudal peduncle; head, body, and fins with numerous close-set small dark brown spots.





## *Epinephelus fuscoguttatus*

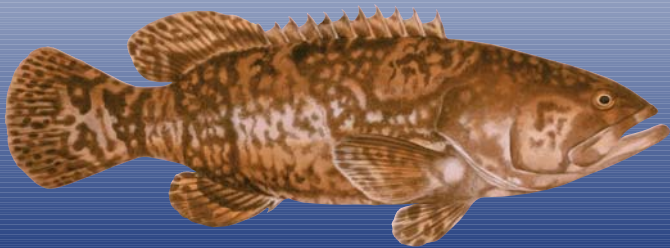
- **Biology:** Inhabits lagoon pinnacles, channels, and outer reef slopes in coral-rich areas with clear waters between 1 and 60 m. Feeds on fish, crabs and cephalopods.
- **Reproduction:** Protogynous hermaphrodite (sex changes from female to male). Spawns pelagically in aggregations. Highly vulnerable to exploitation by hook-and-line gear during spawning season.
- **Maximum size:** 95 cm TL
- **Importance:** Fisheries: commercial and subsistence / Aquaculture: commercial.
- **IUCN Red List status:** Near Threatened (likely to qualify for a threatened category in the near future). – Assessed in 2004.
- **Poisonous:** Reports of ciguatera poisoning.
- **Distribution in the Indo-Pacific region:** Philippines east to Samoa; Taiwan south to Queensland (Australia) and New Caledonia.

Often confused with *E. polyphemadion* because of similarity in colour pattern. To distinguish between the two species, *E. fuscoguttatus* has indentation at the head profile above the eye and a more deeply incised dorsal fin membrane than *E. polyphemadion*.



## *Epinephelus lanceolatus*

- **Local name(s):**
- **English name:** Giant grouper
- **Hong Kong name:** Fa Mei, Long Dan
- **Description:** Adults mottled dark greyish-brown; juveniles irregularly barred with dark brown and yellow. Thick body; eye small and interorbital space broad; dorsal spines short; caudal fin rounded.





## *Epinephelus lanceolatus*

- **Biology:** The largest bony fish found on coral reefs. Formerly common in shallow waters near caves, wrecks, and in estuaries between 1 and 100 m. Individuals more than one meter long have been caught from shore and in harbours. Feeds on spiny lobsters and other crustaceans, juvenile sea turtles, and fish (including small sharks and batfish).
- **Reproduction:** Has been observed spawning pelagically in couple or very small aggregations.
- **Maximum size:** 270 cm TL (maximum weight: 300 kg)
- **Importance:** Fisheries: commercial and subsistence / Gamefish: yes / Aquarium: commercial and show aquaria / Aquaculture: commercial.
- **IUCN Red List status:** Vulnerable (facing a high risk of extinction in the wild) – Assessed in 2006.
- **Poisonous:** No reports of ciguatera poisoning.
- **Distribution in the Indo-Pacific region:** Indonesia and Philippines east to Hawaiian, Line and Pitcairn Islands; Ryukyu and Bonin Islands (Japan) south to Australia and New Caledonia (also northern New Zealand).



## *Epinephelus maculatus*

- **Local name(s):**
- **English name:** Highfin grouper
- **Hong Kong name:** Fa Ying
- **Description:** Light brown with numerous round to polygonal close-set dark brown spots (those on body about the size of the pupil); two very large dusky areas on back that extend broadly into the dorsal fin where they are more heavy and separated by a whitish area. Caudal fin rounded.





## *Epinephelus maculatus*

- **Biology:** Adults found in association with isolated coral heads on lagoon and seaward reefs between 2 and 100 m; juveniles found in association with shallow coral rubble. Feeds mainly on sand-dwelling fish and crustaceans, and occasionally octopus.
- **Reproduction:** Assumed to be protogynous hermaphrodite (sex changes from female to male). Has been observed spawning pelagically in small aggregations.
- **Maximum size:** 62 cm TL
- **Importance:** Fisheries: commercial and subsistence / Aquarium: show aquaria.
- **IUCN Red List status:** Least Concern (does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened) – Assessed in 2008; needs updating; petitioned.
- **Poisonous:** Reports of ciguatera poisoning.
- **Distribution in the Indo-Pacific region:** Philippines east to Samoa; Ryukyu Islands (Japan) south to Lord Howe Island (Australia).



## *Epinephelus polyphekadion*

- **Local name(s):**
- **English name:** Camouflage grouper
- **Hong Kong name:** Charm Pan
- **Description:** Light brown with large irregular blotches on head and body, overlaid by numerous, small close-set dark brown spots; a prominent black saddle-like spot on caudal peduncle; all fins with many dark brown spots. Fins rounded.





## *Epinephelus polyphkadion*

- **Biology:** Usually found in coral-rich areas of lagoon and outer reefs. Feeds mainly on crustaceans (such as portunid crabs) and fish; occasionally feeds on cephalopods and gastropods.
- **Reproduction:** Protogynous hermaphrodite (sex changes from female to male). Spawns pelagically in aggregations. Highly vulnerable to exploitation by hook-and-line gear during spawning season.
- **Maximum size:** 75 cm TL
- **Importance:** Fisheries: commercial and subsistence / Aquaculture: experimental / Aquarium: show aquaria.
- **IUCN Red List status:** Near Threatened (likely to qualify for a threatened category in the near future) – Assessed in 2006.
- **Poisonous:** Reports of ciguatera poisoning.
- **Distribution in the Indo-Pacific region:** Indonesia and Philippines east to Pitcairn Group; Ryukyu and Ogasawara Islands (Japan) south to New Caledonia and Lord Howe Island (Australia).

Often confused with *E. fuscoguttatus* because of similarity in colour pattern. To distinguish between the two species, *E. fuscoguttatus* has indentation at the head profile above the eye and a more deeply incised dorsal fin membrane than *E. polyphkadion*.



## *Epinephelus tukula*

- **Local name(s):**
- **English name:** Potato grouper
- **Hong Kong name:** Kam Chin Pan
- **Description:** Overall colour is pale brownish grey with several dark brown to black widely-spaced blotches; head has smaller dark brown spots and streaks, many radiating from the eye; dark spots on fins small distally. Large adults nearly black.





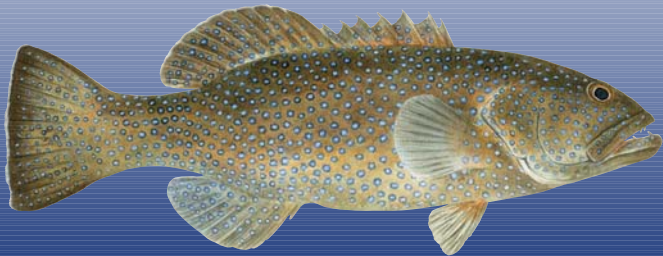
## *Epinephelus tukula*

- **Biology:** Inhabits outer lagoon and exposed reefs between 10 and 150 m. Juveniles may be found in tide pools. Feeds on reef fish, skates, crabs, and spiny lobsters. Highly territorial and aggressive towards intruders.
- **Reproduction:** Mating system unknown. Spawns pelagically.
- **Maximum size:** 200 cm TL
- **Importance:** Fisheries: commercial and subsistence / Gamefish: yes / Aquarium: show aquaria.
- **IUCN Red List status:** Least Concern (does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened) – Assessed in 2008.
- **Poisonous:** No reports of ciguatera poisoning.
- **Distribution in the Indo-Pacific region:** Indonesia and Philippines east to Papua New Guinea; southern Japan south to Queensland (Australia), but absent from many intervening localities.



## *Plectropomus areolatus*

- **Local name(s):**
- **English name:** Squaretail coralgroupers
- **Hong Kong name:** Sai Sing
- **Description:** Reddish-brown with numerous round dark-edged blue spots on head and body, including ventrally; median fins have dark-edged blue spots notably smaller than those on body. Caudal fin truncate to slightly emarginate with a white posterior margin and broad blackish submarginal band.





## *Plectropomus areolatus*

- **Biology:** Inhabits lagoon and seaward reefs in areas with rich coral growth. Feeds mainly on fish.
- **Reproduction:** Protogynous hermaphrodite (sex changes from female to male). Spawns pelagically in aggregations, before or at the new and full moons, seasonally. Highly vulnerable to exploitation by hook-and-line gear during spawning season.
- **Maximum size:** 73 cm TL
- **Importance:** Fisheries: commercial and subsistence /  
Aquarium: show aquaria.
- **IUCN Red List status:** Vulnerable (facing a high risk of extinction in the wild) – Assessed in 2008.
- **Poisonous:** Reports of ciguatera poisoning.
- **Distribution in the Indo-Pacific region:** Philippines and Indonesia east to Samoa; Ryukyu Islands (Japan) south to Queensland (Australia).



## *Plectropomus laevis*

• **Local name(s):**

- **English name:** Blacksaddled coral grouper
- **Hong Kong name:** Pau Sing
- **Description:** Two colour forms. Pale form: white with five chocolate brown bars that are broader dorsally on head and body; scattered small dark-edged blue spots, and yellow fins. Dark form: reddish-brown with numerous small dark-blue spots on head, body and fins; dark bars as in the first phase usually present but less conspicuous. Caudal fin slightly emarginate.



Pale form



Dark form



## *Plectropomus laevis*

- **Biology:** Voracious piscivore inhabiting coral-rich areas of lagoon and seaward reefs between 4 and 100 m. Commonly found in channels and on outer reef shelves. Juveniles found in shallow water reef habitats, especially around coral rubble. Feeds mostly on fish, especially large-sized species, and occasionally on crustaceans. Juveniles feed on crustaceans and squids.
- **Reproduction:** Protogynous hermaphrodite (sex changes from female to male). Spawns pelagically in aggregations and is highly vulnerable to exploitation during spawning periods.
- **Maximum size:** 125 cm TL
- **Importance:** Fisheries: commercial and subsistence / Gamefish: yes / Aquarium: show aquaria.
- **IUCN Red List status:** Vulnerable (facing a high risk of extinction in the wild) – Assessed in 2008; needs updating; petitioned.
- **Poisonous:** Numerous reports of ciguatera poisoning.
- **Distribution in the Indo-Pacific region:** Philippines east to Tuamotus and Rapa Island (French Polynesia); Ryukyu Islands (Japan) south to the southern Great Barrier Reef (Australia).



## *Plectropomus leopardus*

• **Local name(s):**

• **English name:** Leopard coralgroupers

• **Hong Kong name:** Tung Sing

• **Description:** Greenish to reddish-brown with numerous dark-edged blue dots on head, body and median fins but not extending onto abdomen and thorax below level of lower edge of pectoral fins. The only *Plectropomus* species with a nearly complete blue ring around the eye. Caudal fin slightly emarginate.





## *Plectropomus leopardus*

- **Biology:** Inhabits coral-rich areas of lagoon and mid-shelf reefs between 3 and 100 m. Inactive at night; reported to hide under ledges. Juveniles in shallow water habitats, especially rubble. Feeds on fish and crustaceans; juveniles feed on crustaceans, small fish and invertebrates (including squids).
- **Reproduction:** Protogynous hermaphrodite (sex changes from female to male). Spawns pelagically in aggregations and is highly vulnerable to exploitation during spawning periods.
- **Maximum size:** 120 cm TL
- **Importance:** Fisheries: commercial and subsistence / Aquaculture: commercial including cage culture / Aquarium: commercial and show aquaria.
- **IUCN Red List status:** Near Threatened (likely to qualify for a threatened category in the near future) – Assessed in 2004.
- **Poisonous:** Reports of ciguatera poisoning.
- **Distribution in the Indo-Pacific region:** Philippines and Indonesia east to Fiji; southern Japan south to southern Queensland (Australia) and New Caledonia.



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## Glossary

- **Aggregation:** Behavioural grouping of animals; also used to describe concentrations of fish.
- **Ciguatera:** A kind of poisoning caused by eating fish that have accumulated one or several poisons called ciguatoxins in their flesh and viscera. Can be fatal.
- **English name:** English common name proposed by FAO.
- **Hermaphrodite:** Having both sexes in the same individual, either at the same time (synchronous hermaphrodite) or at different times (successive hermaphrodite). When the female form occurs first, this is referred to as protogynous hermaphroditism, otherwise protandrous hermaphroditism. In some species listed as protogynous, males may develop both by sex change and from the juvenile form.
- **Indo-Pacific region:** For this publication, the Indo-Pacific region refers to an area that extends from Indonesia east to the Pitcairn Islands.
- **IUCN Red List:** List of threatened animals and plants issued by IUCN - the International Union for Conservation of Nature (<http://www.iucn.org>).
- **Mature:** A stage at which fish are able to develop ripe gonads and to participate in spawning. Immature fish are juveniles.
- **Pelagic:** Living and feeding in the open sea; associated with the surface or middle depths of a body of water; not in association with the bottom. Pelagic spawning refers to the release of eggs in the water column.
- **Piscivore:** Feeding primarily on fish.
- **TL:** Total length (see cover drawing).