



Answers to TR9.4: Billfish Identification Exercise

1. Blue Marlin – *Makaira mazara*

- Pectoral fins nearly straight, not sickle shaped
- Second dorsal fin slightly posterior to second anal fin
- Body coloration: blue-black on dorsal surface and white to silver below with approximately 15 vertical stripes

2. Black Marlin – *Makaira indica*

- Highly angled nape (area between bill and first dorsal fin)
- Pectoral fins sickle shaped and rigid; can not be folded flat to body
- First dorsal fin height is $\frac{1}{2}$ or less of the greatest body depth

3. Indo-Pacific sailfish – *Istiophorus platypterus*

- Tall first dorsal fin with long base marked with dark spots
- Vertical blue bars along the length of the body
- Pelvic fins are very long and narrow

4. Striped Marlin – *Tetrapterus audax*

- First dorsal fin height is equal to or greater than body depth
- Long, thin, sharp bill

5. Swordfish – *Xiphias gladius*

- Flattened bill
- Pectoral fins placed low on body
- Prominent falcate dorsal fin with a narrow base
- Large eyes





Answers to TR9.5: Sharks & Rays Identification Exercise

1. Oceanic whitetip shark – *Carcharhinus longimanus*

- Large pectoral and first dorsal fins with white or mottled tips
- Dorsal fin is fully rounded at tip
- Flattened head and rounded snout
- Body color typically brown, white ventrally

2. Common thresher shark – *Alopias vulpinus*

- Pectoral fin tips are pointed
- White ventral coloration extends above the pectoral and pelvic fins
- Margin between dark and light colours is irregular
- No groove on the head

3. Blue shark – *Prionace glauca*

- Long, narrow snout with long head
- Long, slender "flabby" body
- First dorsal fin closer to pelvic fins than pectoral fins
- Small gill slits
- Dorsal surfaced deep iridescent blue fading to blue with white ventral surfaces





Answers to TR9.6: Identification of common pelagic fish bycatch

1.

1. SPOTTED OCEANIC TRIGGER FISH (*Canthidermis maculatus*)
2. RAINBOW RUNNER (*Elagatis bipinnulata*)
3. GREAT BARACUDA (*Sphyræna barracuda*)

2.

1. BIGEYE SCAD (*Selar crumenophthalmus*)
2. SPOTTED OCEANIC TRIGGER FISH (*Canthidermis maculatus*)
3. RAINBOW RUNNER (*Elagatis bipinnulata*)

3.

1. SPOTTED OCEANIC TRIGGER FISH (*Canthidermis maculatus*)
2. BIGEYE SCAD (*Selar crumenophthalmus*)
3. BLUE SEA CHUB (*Kyphosus cinerascens*)





Answers to TR9.7: How To Use a Species Identification Guide

1a. Sharks → 2

2b. Has anal fin → 4, p.3

4b. Two dorsal fins. 5 gills → 5

5b. No hammer-head → 6

6b. Mouth does extend behind eyes. No checkerboard pattern → 7, p.12

7b. Caudal fin shorter than body length → 8

8a. Eyelids present → Carcharhinidae p.21

Carcharhinidae family

1b. Upper labial furrows do not extend in front of eyes. Lateral keels usually absent. → 2

2a. First dorsal fin much closer to pelvic fins than pectoral fins. Low lateral keels. Brilliant blue above.

→ *P. glauca*, p.27 (*Prionace glauca*, Blue Shark)

