Introduction

By Tomohiro Yoshida

The Gulf of Thailand is surrounded by the Malay and Indochinese Peninsulas on the west, and north and east sides, respectively. It has an area of approximately 350,000 km^2 with an average depth of 50 m and a maximum depth of 85 m (Wattayakorn, 2005). It is unclear what this refers to the range that connects Kota Bharu, Malaysia from Baibun Cape, Vietnam. The diversity of marine fishes of the Gulf of Thailand is still unclear, although Satapoomin (2000) recently reported 241 species of coral reef-associated fishes from the Gulf.

The coastal environment of the Gulf is characterized by having long sandy beaches with only a few rocky or coral reefs. This is because it is strongly influenced by the large amount of fresh water discharge from two large rivers with wide estuaries, i.e., the Chao Phraya and Bang Pakong rivers. The coral reef ecosystem is well developed on islands, e.g., Samui islands, which are distant from the influences of river discharge, turbidity and siltation. These marine and coastal habitats are a vital support for a vast variety of marine and estuarine biota, including fishes.

We carried out field surveys of fishes in the Gulf in 2009–2012 to find out the diversity of marine and estuarine fishes of the area. As a result, 109 families (372 spp.) were recorded. Among these, 4 species including *Apogon fleurieu* (Lacepède, 1802) (family Apogonidae), *A. gularis* Fraser & Lachner, 1984 (Apogonidae), *Johnius heterolepis* Bleeker, 1873 (Sciaenidae) and *Thamnaconus hypargvreus* (Cope, 1871) (Monacanthidae) are recorded for the first time in the Gulf.

This field guide is produced based on the above surveys. It covers most of the diversity of coastal fishes occurring in marine and estuarine habitats, and commercial fishes sold at various fish markets and ports from the Gulf of Thailand.

Species reported in this book are based on voucher specimens collected and deposited at the Kagoshima University Museum to make them available for future scientific studies. We intend this book to be useful for the study and research of ichthyology and fishery sciences by researchers, students and local government administrators.

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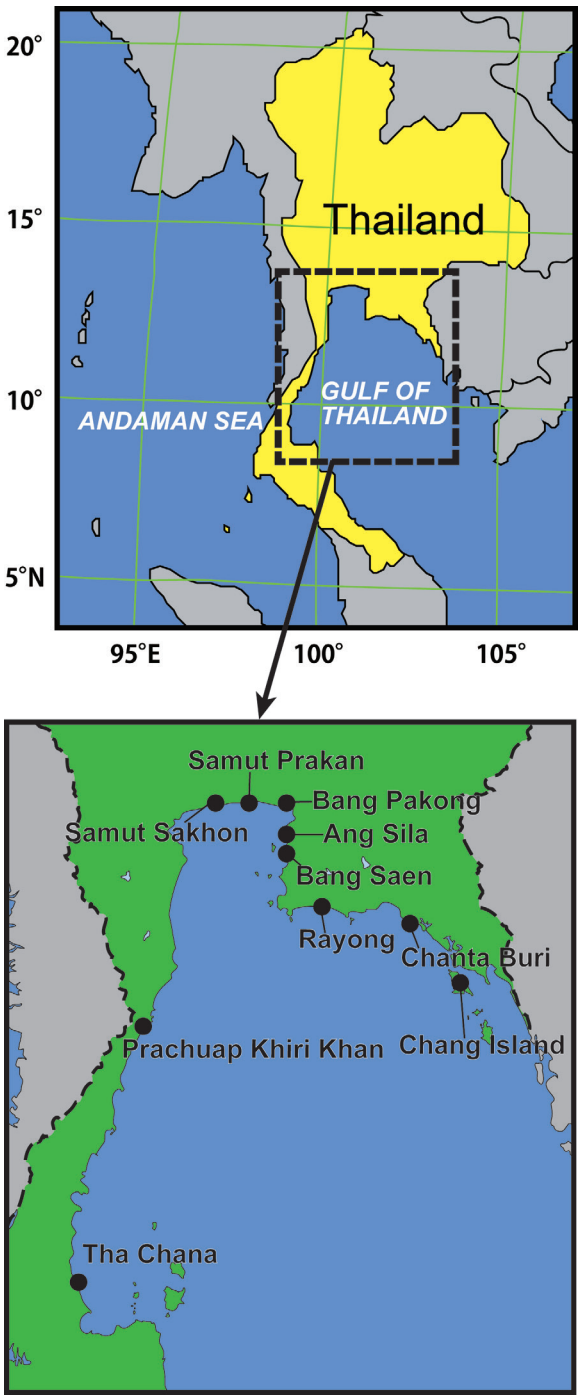
Collection Sites

Surveys of fishes in the Gulf of Thailand were made three times during the period between 2009 and 2012.

The first survey, carried out from August to October 2009, highlighted fishes in commercial trawl catches sold at local fish markets in Ang Sila, Bang Pakong and Samut Sakon. A small number of fishes were caught by beach-seining at Bang Sean.

The second survey observed from October to December 2010, also highlighted fishes in commercial trawl catches sold at the same sites as in the first survey, and included another local fish market i. e. Samut Prakan. A



Collection Sites

small number of fishes were also obtained from a fish landing port at Prachuap Khiri Khan. Additionally, we also used cast-nets and fishing to collect in estuaries at Prachuap Khiri Khan and Chang Island.

The third survey observed from June to August 2012, highlighted fishes in commercial trawl catches sold at the same sites as in the second survey. A small number of fishes were obtained from fish landing ports at Bang Sean, Prachuap Khiri Khan and Rayong.

The systematic arrangement of families generally follows Nelson (2006). Species in families are arranged in alphabetical order by species name. Each species record is based on voucher specimens. The photographs are cataloged at the Fish Image Database of Kagoshima University Museum (KAUM–II).

On figure legends of photographs of fish specimens which were obtained at ports or fish markets during the surveys, some sampling localities are shown as SS and SP in parentheses. SS and SP indicate Samut Sakon and Samut Prakan, respectively. Specimens obtained during the surveys are deposited at the Kagoshima University Museum (KAUM), Japan.

Samut Prakan

Ang Sila

Prachuap Khiri Khan

Bang Pakong

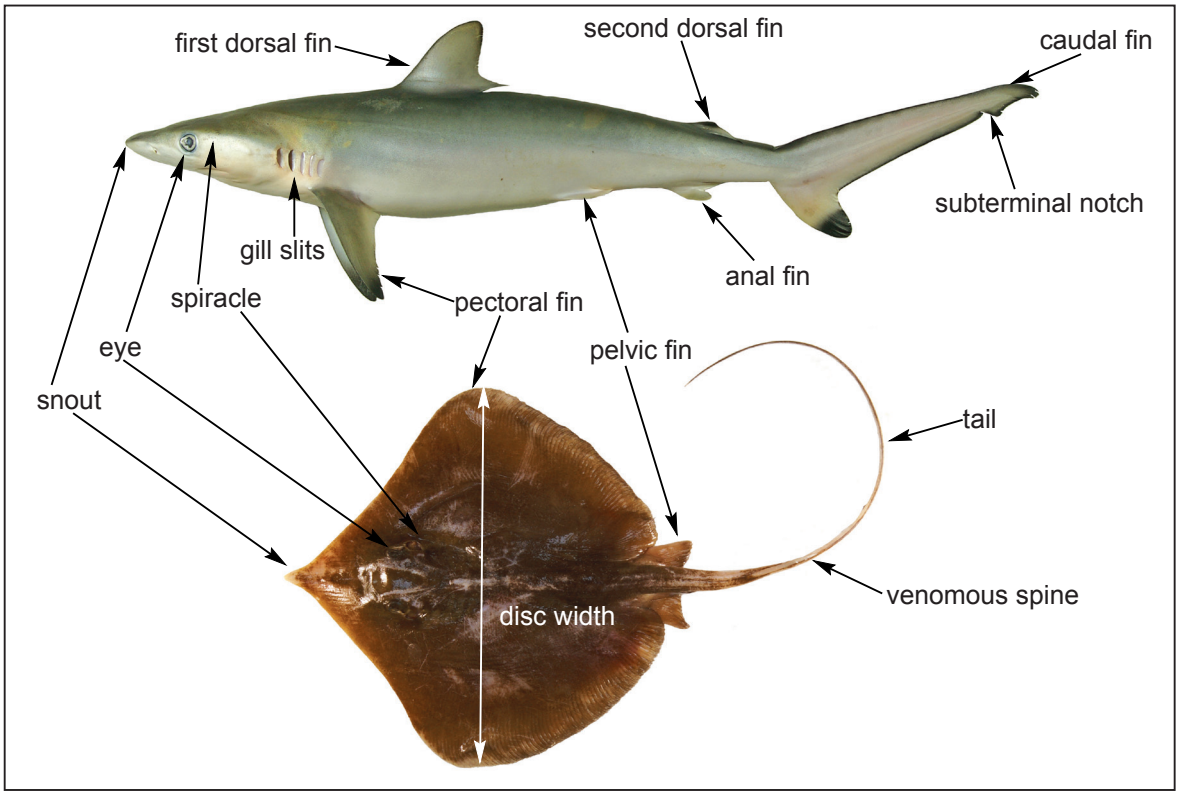
Samut Sakon

Rayong

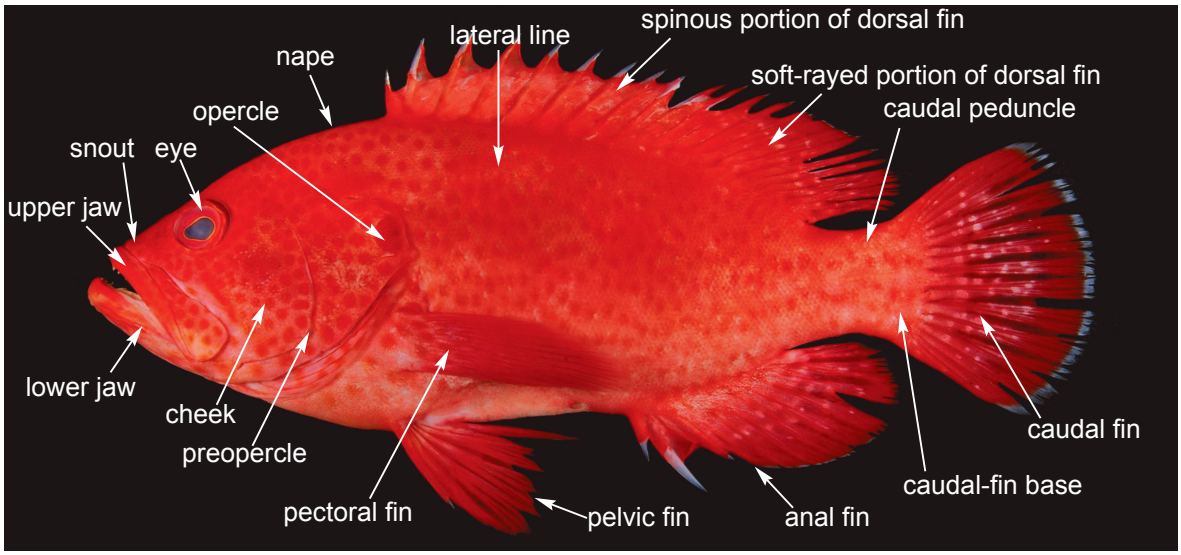
Methods of Measurements and Counts

Methods of measurements and counts generally follow Nakabo (2002). For fin formulae, the number of spinous and soft fin rays are described by Roman numerals (I, II, III, ...) and Arabic numerals (1, 2, 3, ...), respectively. The unbranched soft rays are sometimes expressed in small Roman numerals (i, ii, iii, ...). Spinous fin rays are generally called spines. In the case of the dorsal or anal (sometimes pectoral or pelvic) fins containing spine and soft rays, the number of spines and soft rays are separated by a comma. When the dorsal (or anal) fin consists of two or more fins (i.e. first dorsal fin, second dorsal fin, ...), each fin is separated by a "+" sign. Gill rakers on the first gill arch on the right side of the body are used for counting. Number of gill rakers on the upper and lower limbs are separated by a "+" sign. When present, the one or more gill rakers between the limbs are included in the lower limb counts. Number of vertebrae includes the urostyle. Counts of abdominal and caudal vertebrae are separated by a "+" sign.

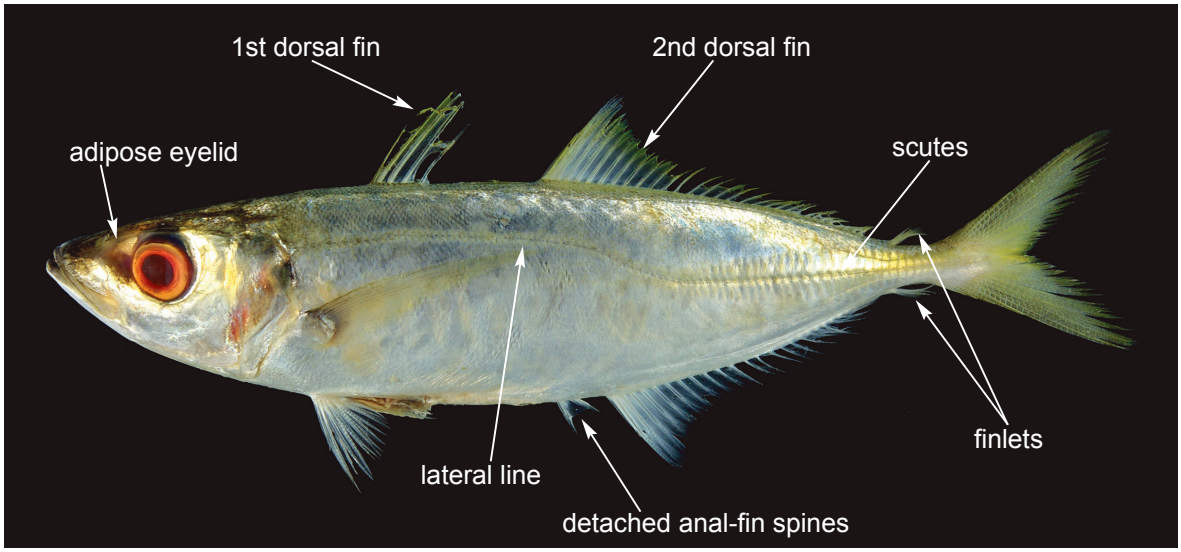
A – number of anal-fin rays.
BR – number of branchiostegal rays
D – number of dorsal-fin rays.
DW – disc width: extremities of the left and right pectoral fins.
DPC – number of dorsal procurrent caudal-fin rays.
FL – fork length: linear distance from most anterior point of head to bottom of concave margin of caudal fin.
GR – number of gill rakers.
LGR – number of gill rakers on lower limb.
LL – number of lateral line scales: number of scales on lateral line from the scale behind the posttemporal to the caudal-fin base.
LLp – number of pored scales on lateral line: only the number of pored scales on lateral line is counted.
LR – number of scales in longitudinal row: number of scales in longitudinal row from the dorsal end of the opercular membrane to the caudal-fin base.
MP – number of mandibular pores.
P_1 – number of pectoral-fin rays.
P_2 – number of pelvic-fin rays.
PDS – number of predorsal scales: number of scales on the dorsal midline from the origin of dorsal fin forward to occipital region.
PLp – preanal lateral-line pores: number of pores along lateral line behind gill opening to just above the anus.
SL – standard length: linear distance from most anterior point of upper jaw (or snout) with mouth closed to caudal fin base (posterior end of hpurals, roughly where fold formed by bending caudal fin).
TL – total length: greatest linear distance between most anteriorly projecting part of head with mouth closed and farthest tip of caudal fin. All unspecified lengths are assumedto be total lengths.
V – number of vertebrae.



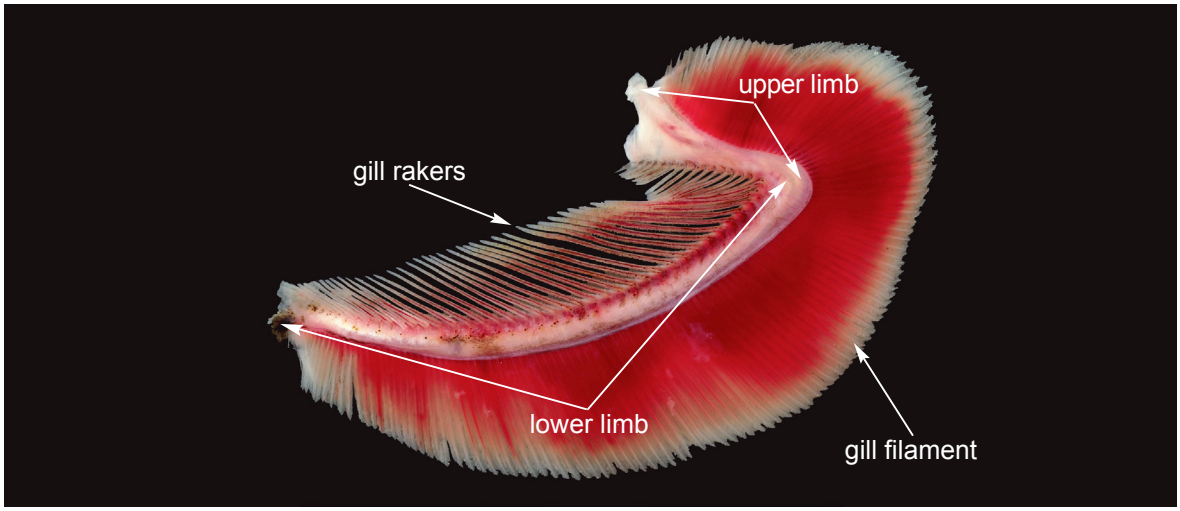
Body parts of elasmobranchs



Body parts of bony fish



Body parts of carangid



Gill arch of carangid

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