

Annex 4/1: Country Report of Brunei Darussalam

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The Regional Training Workshop on Identification of Deep-Sea Fish

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INTRODUCTIONS

- ❖ Brunei Darussalam is located in the northwestern part of Borneo. It has a land area of about 5,765 square kilometer and 130 kilometer long coastline fronting the South China Sea.
- ❖ The total marine territorial area is estimated at about 38,600 square kilometer covering the Exclusive Economic Zone (EEZ) of Brunei Darussalam.
- ❖ The coastal waters of Brunei Darussalam are characterized by narrow continental shelves, having a total area of about 8,600 square



INTRODUCTIONS

- ❑ The 100-200 meter depth is a very narrow strip (about 2 nm) forming the continental edge with an area of about 120 nm² and 40 nm from the shoreline. The bottom type is generally muddy on the western side, and rocky on the eastern side.
- ❑ The continental slope creeps sharply from the 200 m depth up to about 3,000 m depth of the sea floor towards the Palawan trough that ends in Brunei waters.

RESEARCH SURVEY

- One of the major activity of Department of Fisheries is to conduct deep-sea survey
- The main objective of the survey is to assess ecological resources including both the deep demersal and pelagic fisheries resources in the area that covers zone 4 and to achieve sustainable development of these resources through proper management via the use of scientific data generated by the systematic surveys.

RESEARCH SURVEY

- From 2004 – 2008, collaborative deep-sea research survey between DOF and SEAFDEC were conducted at depths 100 – 3000 m of EEZ
- Annual surveys have been carried out regularly by Department on the continental shelf areas at depths of less than 100 m.

Experience of identification of deep sea species

Deep-water demersal trawl Survey 2008

✿ The major results of deep-sea trawl survey recorded about 160 species dominated by *Saurida tumbil*, *Nemipterus marginatus*, *Nemipterus bathybius* and *Priacanthus macranthus*.

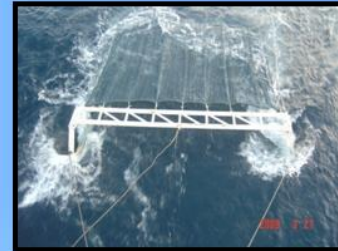


Experience of identification of deep sea species

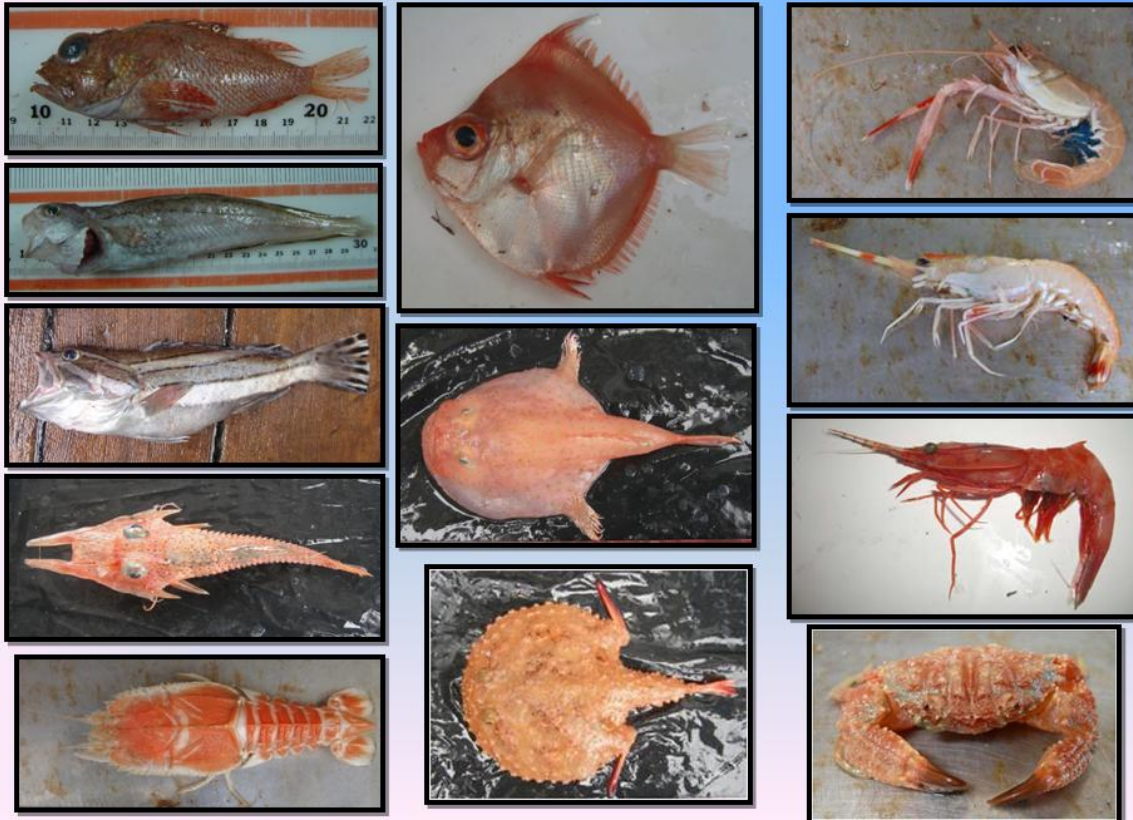
Beam Trawl Survey RESEARCH SURVEY & RESULT - 2008

✿ The deep-sea beam trawl survey recorded about 94 species of fishes and Crustaceans. Most of which are unidentified.

✿ The catch composition were dominated by *Saurida tumbil*, along 100 – 160 m depth. The 200 – 370 m depths were dominated by *Silverbelly seaperch*. Shrimps includes *Heterocampus spp*, *Plesiomika spp*, *Parahempomadus spp* and *Metanephrops spp*.



Deep-water fishes & shrimps



References used for marine fish identifications

Books

Description
Body elongate and compressed, head depressed, depth less than head length and about 2.6 times in standard length. Snout and snout-oral space without scales, preopercular head scaled or naked. Ridge of head with spines without postocular pit. Supercular muscle ridges present or absent, if present longer than eye. Dorsal originating above posterior part of opercle with 12 spines and 9 soft rays, posteriorly rounded with 16 rays, tip not reaching beyond origin of anal base; pelvic with 1 spine and 5 rays, anal with 3 spines and 5 rays. Caudal fin truncate.

Colour
Body reddish with dark blotches on dorsal and caudal.

Distribution
Found from Japan to Micronesia, Hawaii and the South China Sea.

Biology and Fishery
A small fish, maximum size 8 cm (SL). Usually inhabits rocky and coral bottom of shallow waters. Feeds on benthic living organisms.

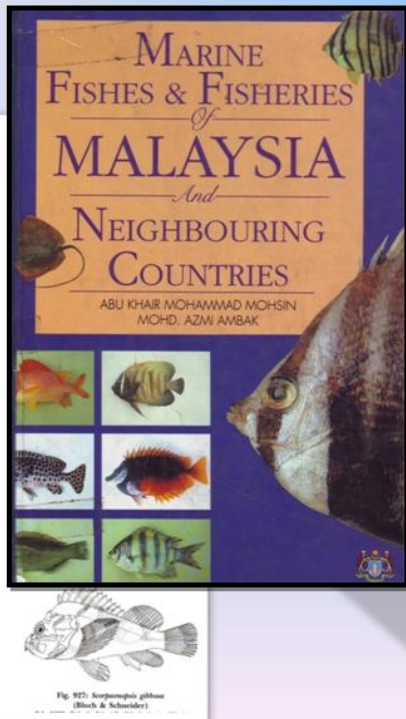
Catch
Caught with bottom trawls.

Commercial Importance
Not a food fish. Usually regarded as trash fish.

Depth, Lepis, Geology
Plattal Turkey Fish, Rose's Fire Fish

Fig. 926. *Pomacentrus* (Bassett)
DI, XII; DI-12; FI-14; P2-4, 5; A-III, 8

Description
Body compressed, depth greater than head length of about 2.3 times in standard length. Head distinct ridges and spines. Mouth oblique, very reaching to below middle of eye, with in jaws and vomer. Cycloid scales, not on origin and side of head. A pair large flap. Supercular ridge with



Internets

English | Español | Português (Br, Pt) | Français | Deutsch | Italiano | Nederlands | 简体中文 | 繁體中文 | 日本語

FishBase (31400 Species, 279600 Common names, 49000 Pictures, 43000 References, 1740 Collaborators, 23 million Observations) (19/2009)

Home | FishBase Book | FishBase Tour | Best Photos | Home | Guest Book | Download | Links | Fish Forum | FishNectar | Ichthyology Course | LarvalBase | Tools | Identification

Common Name
contains [] Search (14 matches) (19/2009)
ABCDEFGHIJKLMNOPQRSTUVWXYZ
中文 阿拉伯文 波斯文 日語 國語 英語 法語 德語 俄語 印地文 更多語文...

Scientific Name
Genus is [] Search (14 matches)
Species is [] Search (14 matches)
Genus + Species [] Search (14 matches)
You can search names also in the independent Catalog of Fishes.

Glossary
ABCDEFGHIJKLMNOPQRSTUVWXYZ (14 matches)

Information by Family

<input type="checkbox"/> Family info	<input type="checkbox"/> Pictures	<input type="checkbox"/> References (Fulltext)	<input type="checkbox"/> Clupea
<input type="checkbox"/> All bases	<input type="checkbox"/> Identification	<input type="checkbox"/> Morphology	<input type="checkbox"/> Species list
<input type="checkbox"/> Normal scales	<input type="checkbox"/> Identification keys	<input type="checkbox"/> Shrimps	<input type="checkbox"/> Species list

Note: Lists may be incomplete. Some lists may be very long and will take time to load.

Information by Country / Island

Biodiversity	Uses	Tools	Miscell
<input type="checkbox"/> All bases	<input type="checkbox"/> Commercial	<input type="checkbox"/> Identification keys	<input type="checkbox"/> Country list
<input type="checkbox"/> Marine	<input type="checkbox"/> Aquaculture	<input type="checkbox"/> Field guide	<input type="checkbox"/> Field guide
<input type="checkbox"/> Introduced	<input type="checkbox"/> Ornamental	<input type="checkbox"/> Taxonomy	<input type="checkbox"/> Taxonomy
<input type="checkbox"/> Endemic	<input type="checkbox"/> Game fishes	<input type="checkbox"/> Type localities	<input type="checkbox"/> Clupea

mysql:file:///E:/Fish_%20Search%20FishBase.mbt 14-01-2010

Retention of Scientific Fish Collections

- 1. All the deep-sea species collected during the surveys are frozen and kept in the freezers. Some are preserved in formalin or alcohol solution for further study and identification.**
- 2. Collection and preservation of samples are intended for identification and reference for future surveys.**

Expectations from the Workshop

- 1. Learn new methods and techniques on identification of deep-sea fishes;**
- 2. Meet experts and taxonomists on unknown deep-sea species ;**
- 3. Join a network of taxonomists and expert on deep-sea species.**