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NEED FOR A SOUND KNOWLEDGE ON THE ICHTHYOFAUNA OF THE
LOCALITY, WHERE WORK IS TAKEN UP-SPAWNING SEASON AND
SPAWNING GROUNDS

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For a study of the early developmental stages of marine fishes occurring in the locality where work is taken up, it is essential to acquire a sound knowledge on the various species occurring in that area. The Ramanathapuram District wherein Mandapam and the adjoining areas are located, has a coast-line of about 260 km covering the sea front of Gulf of Mannar and Palk Bay. These seas have lucrative fishing grounds with good concentration of finfishes, shellfishes, seaweeds and other organisms of economic importance. These are mainly exploited by indigenous crafts and gears in the nearshore waters extending to a depth of 10-15 m. With the technological advancement and establishment of infrastructure facilities, the annual marine fish production of the District increased from 30,000 tonnes to over 60,000 tonnes during the past one and half decades.

A large variety of fishes constitute to the catches. The most important of these are: Silver bellies, elasmobranchs, croakers, clupeids, goat fishes, perches, cat fishes, lizard fishes and carangids. The annual fish production by mechanised boats at Mandapam fluctuated between 2533 tonnes in 1980 and 721 tonnes in 1984, the average catch being 5557 tonnes. Silver bellies (2692 t) accounted for 48% of the catch followed by penaeid prawns (12%). Croakers and elasmobranchs contributed to the tune of 270 and 240 t respectively, the percentage composition being 5 and 4% of the total yield. Goat

fishes, carangids, cat fishes, flat fishes, clupeids and other miscellaneous fishes together accounted for about 1700 t (30%). The names of some of the oviparous bony fishes, the gear in which they are caught, size at maturity, spawning season, etc. are as follows:-

I. CLUPEIDAE

1. Sardinella gibbosa

| | |
|------------------------------------|----------------|
| Gear | : Gill net |
| Peak period of occurrence | : May-June |
| Depth of occurrence | : Upto 15 m |
| Length range in commercial fishery | : 100 - 180 mm |
| Size at first maturity | : 120 mm |
| Spawning season | : Jan-April |

2. Sardinella albella

| | |
|------------------------------------|--------------|
| Gear | : Gill net |
| Peak period of occurrence | : May-June |
| Depth of occurrence | : Upto 15 m |
| Length range in commercial fishery | : 100-165 mm |
| Size at first maturity | : 115 mm |
| Spawning season | : Jan-April |

II. LEIOGNATHIDAE

(Silver bellies)

1. Leiognathus jonesi

| | |
|------------------------------------|----------------------------------|
| Gear | : Trawl net/shore seine |
| Peak period of occurrence | : Throughout the year |
| Depth of occurrence | : 5-20 m |
| Length range in commercial fishery | : 35-95 mm |
| Size at first maturity | : Males-70 mm Females - 65 mm |

- Spawning season : Throughout the year
2. Leiognathus brevirostris
- Gear : Trawl net/Shore seine
- Peak period of occurrence : Throughout the year
- Depth of occurrence : 12-15 m
- Length range in commercial fishery : 45-95 mm
- Size at first maturity : Male : 68 mm
Female : 63 mm
- Spawning season : May-Jun and Oct-Nov.
3. Leiognathus dussumieri
- Gear : Trawl net/Shore seine/
Gillnet.
- Peak period of occurrence : Throughout the year
- Depth of occurrence : 20-40 mm
- Length range in commercial fishery : 40-90 mm
- Size at first maturity : Males : 78 mm
Females : 83 mm
- Spawning season : Apr-May and Nov-Dec.
4. Leiognathus berbis
- Gear : Trawl net/Shore seine
- Peak period of occurrence : Throughout the year
- Depth of occurrence : 3-8 m
- Length range in commercial fishery : 60-90 mm
- Size at first maturity : --
- Spawning season : --
5. Leiognathus equulus
- Gear : Trawl net/gillnet
- Peak period of occurrence : Throughout the year
- Depth of occurrence : 10-25 m
- Length range in commercial fishery : 125-200 mm

- Size at first maturity : --
Spawning season : Jan-Mar and May
6. Gazza minuta
- Gear : Trawl net/Shore seine
Peak period of occurrence : Throughout the year
Depth of occurrence : 7-20 m
Length range in commercial fishery : 45-115 mm
Size at first maturity : --
Spawning season : Jan-Apr and Aug-Dec.
7. Secutor ruconius
- Gear : Trawl net/Shore seine
Peak period of occurrence : Throughout the year
Depth of occurrence : 5-20 m
Length range in commercial fishery : 40-50 mm
Size at first maturity : 45 mm
Spawning season : Oct-Dec.
8. Secutor insidiator
- Gear : Trawl net/Gill net
Peak period of occurrence : Throughout the year
Depth of occurrence : 7-20 m
Length range in commercial fishery : 15-85 mm
Size at first maturity : 70 mm
Spawning season : Oct-Feb.

III. SCOMBRIDAE

1. Rastrelliger kanagurta (Indian mackerel)

- Gear : Drift gill net/
Shore seine
Peak period of occurrence : Sep-Mar.
Depth of occurrence : 5-18 m

| | |
|------------------------------------|------------------------|
| Length range in commercial fishery | : 220-240 mm |
| Size at maturity | : -- |
| Spawning season | : Jun-Jul and Jan-Mar. |

IV. SERRANIDAE, SIGANIDAE, SCARIDAE AND LETHERINDAE

(Perches)

1. Epinephelus tauvina

| | |
|------------------------------------|---------------------|
| Gear | : Trap/Hooks & line |
| Peak period of occurrence | : Oct-Mar |
| Depth of occurrence | : 10-30 m |
| Length range in commercial fishery | : 180-790 mm |
| Size at first maturity | : -- |
| Spawning season | : -- |

2. Siganus canaliculatus

| | |
|------------------------------------|---------------------|
| Gear | : Trap/Hooks & line |
| Peak period of occurrence | : Oct-May |
| Depth of occurrence | : 2-5 m |
| Length range in commercial fishery | : 150-300 mm |
| Size at first maturity | : -- |
| Spawning season | : -- |

3. Lethrinus nebulosus

| | |
|------------------------------------|--|
| Gear | : Traps/Gillnet/Hooks & line/Trawl net |
| Peak period of occurrence | : Oct-Mar. |
| Depth of occurrence | : 10-30 m |
| Length range in commercial fishery | : 70-320 mm |
| Size at first maturity | : -- |
| Spawning season | : -- |

4. Calliyodon ghobban

| | |
|------------------------------------|----------------------|
| Gear | : Traps/Hooks & line |
| Peak period of occurrence | : Nov-May |
| Depth of occurrence | : 2-5 m |
| Length range in commercial fishery | : 150-300 mm |
| Size at first maturity | : -- |
| Spawning season | : -- |

A list of the more dominant bony fishes of Mandapam area is given below:-

Group names/Scientific names

Common name

SHADS, SPRATS AND SARDINES

| | |
|---------------------------|------------------------|
| <u>Dussumieria acuta</u> | : Rainbow sardine |
| <u>Hilsa ilisha</u> | : Indian shad |
| <u>Pellona ditchella</u> | : Indian pellona |
| <u>Sardinella gibbosa</u> | : Gold striped sardine |
| <u>S. albella</u> | : Short body sardine |

ANCHOVIES

| | |
|--------------------------------|--------------------|
| <u>Stolephorus bataviensis</u> | : Batavian anchovy |
| <u>S. devisi</u> | : Devisi anchovy |
| <u>S. commersonii</u> | |
| <u>S. indicus</u> | : Indian anchovy |
| <u>Thryssa mystax</u> | |
| <u>T. dussumieri</u> | |

WOLF HERRING

| | |
|---------------------------|--------------------------|
| <u>Chirocentrus dorab</u> | : Dorab wolf herring |
| <u>C. nudus</u> | : White fin wolf herring |

MILK FISH

| | |
|----------------------|-------------|
| <u>Chanos chanos</u> | : Milk fish |
|----------------------|-------------|

LIZARD FISHES

Saurida tumbil

: Greater lizard fish

S. undosquamis

: Brush tooth lizard fish

CAT FISHES

Tachysurus thalassinus

I. dussumieri

I. serratus

HALF BEAKS

Hemirhamphus spp.

FLYING FISHES

Cypselurus sp.

FLUTEMOUTHS

Fistularia villosa

SQUIRREL FISH

Holocentrus rubrum

Red squirrel fish

H. sammara

Blood spot squirrel fish

MULLET

Mugil cephalus

Flat headed grey mullet

Valamugil seheli

Blue spot grey mullet

Liza parasia

Gold spot mullet

L. macrolepis

Borneo mullet

THREADFINS

Polynemus indicus

Indian thread fin

P. sexfilis

Golden six-thread
threadfin

P. heptadactylus

Seven-finger threadfin

P. sextarius

Black-spot threadfin

SEA PERCHES

Ambassis commersoni

A. gymnocephalus

Lates calcarifer

Epinephelus tauvina

E. diacanthus

E. fasciatus

E. malabaricus

Giant sea perch

Greasy reef cod

Six-barred reef cod

Banded reef cod

Malabar reef cod

WHITINGS

Sillago sihama

Silver whiting

WHITEFISH

Lactarius lactarius

White fish

CARANGIDS

Carangoides malabaricus

Atol mate

Selaroides leptolepis

Caranx sexfasciatus

C. ignobilis

Malabar trevally

One finlet scad

Dusky trevally

Yellowfin trevally

BLACK POMFRETS

Formio niger

Black pomfret

SNAPPERS

Lutianus argentimaculatus

L. fulviflamma

L. johni

L. kasmira

L. malabaricus

L. russelli

Pristipomoides typus

SILVER BELLIES

Gazza achlamys

Leiognathus berbis

L. bindus

L. brevirostris

L. daura

L. dussumieri

L. equulus

L. fasciatus

L. ionesi

L. leuciscus

L. lineolatus

L. splendens

•Secutor insidiator

S. ruconius

MOJARRAS

Gerres filamentosus

G. setifer

CROAKERS

Johnieops sina

Johnius carutta

J. dussumieri

J. maculatus

Kathala axillaris

Otolithes argentius

Otolithoides microdon

Sin croaker

Karutta croaker

Bearded croaker

EMPEROR BREAMS

Lethrinus nebulosus

L. ornatus

Starry emperoor bream

Ornate emperor bream

GOAT FISHES

Parupeneus indicus

Upeneus traquila

U. sulphureus

U. vittatus

Indian goat fish

Yellow goatfish

Yellow-striped
goatfish

CORAL FISHES AND ANGEL FISHES

Chaetodon spp.

Pomacanthodes spp.

PARROT FISHES

Callyodon ghobban

C. scaber

Flame parrot fish

Five band parrot fish

SPINE FOOTS

Siganus canaliculatus

S. javis

S. eramin

S. stellatus

Estuarine spinefoot

Streaked spinefoot

White-spotted spinefoot

Blotched spinefoot

MOORISH IDOL

Zanclus cornutus

RIBBON FISHES

Lepturacanthus savala

Trichiurus lepturus

MACKEREL AND SEERFISHES

Rastrelliger kanagurta

Scomberomorus commerson

S. guttatus

S. lineolatus

Indian mackerel

Narrow barred seerfish

Indo-Pacific seerfish

Streaked seerfish

SAIL FISHES

Istiophorus platypterus

Makaira indica

Sailfish

Black marlin

SWORD FISHES

Xiphias gladius

Swordfish

POMFRETS

Pampus argenteus .

Silver pomfret

P. chinensis

Chinese pomfret

FLAT FISHES

Psettodes erumei

Indian halibut

Cynoglossus bilineatus

C. dubius

C. macrostomus

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