



Regional training workshop on fish larvae

Phase1: Larval Fish Identification and Early life History Science

Results of species identification and morphological description of examinee larvae and juvenile and future working subjects to be planned

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Introduction



fish larvae identification is essential for understanding spawning grounds and their abundance and also identification helps to confirm the morphological identification result.

This study's purpose is to confirm on fish larvae morphological identification result is possible following as :

❖ Developmental stage of fish

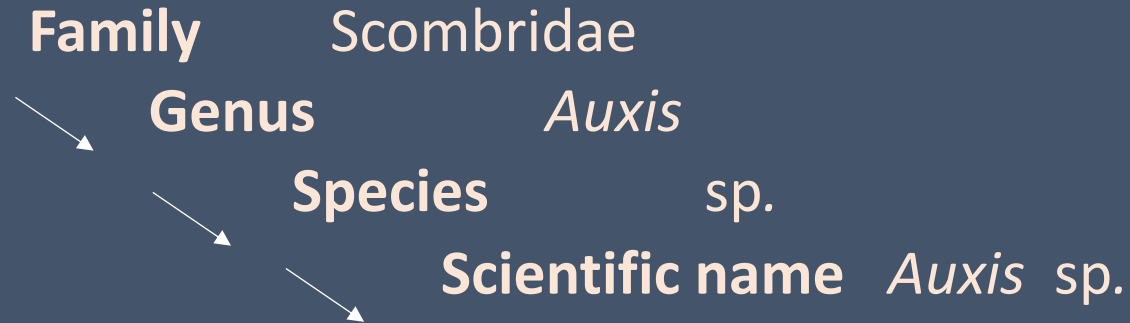
- Egg development
- Newly Hatched (yolk-sack)
- Larvae (Characters of Pre flexion larvae and external Characters of Post flexion Larvae)

❖ Identification Method

- Description of body shape fish larvae
- Standard measurement



Genera of Scombridae



□ Standard Measurement (mm)

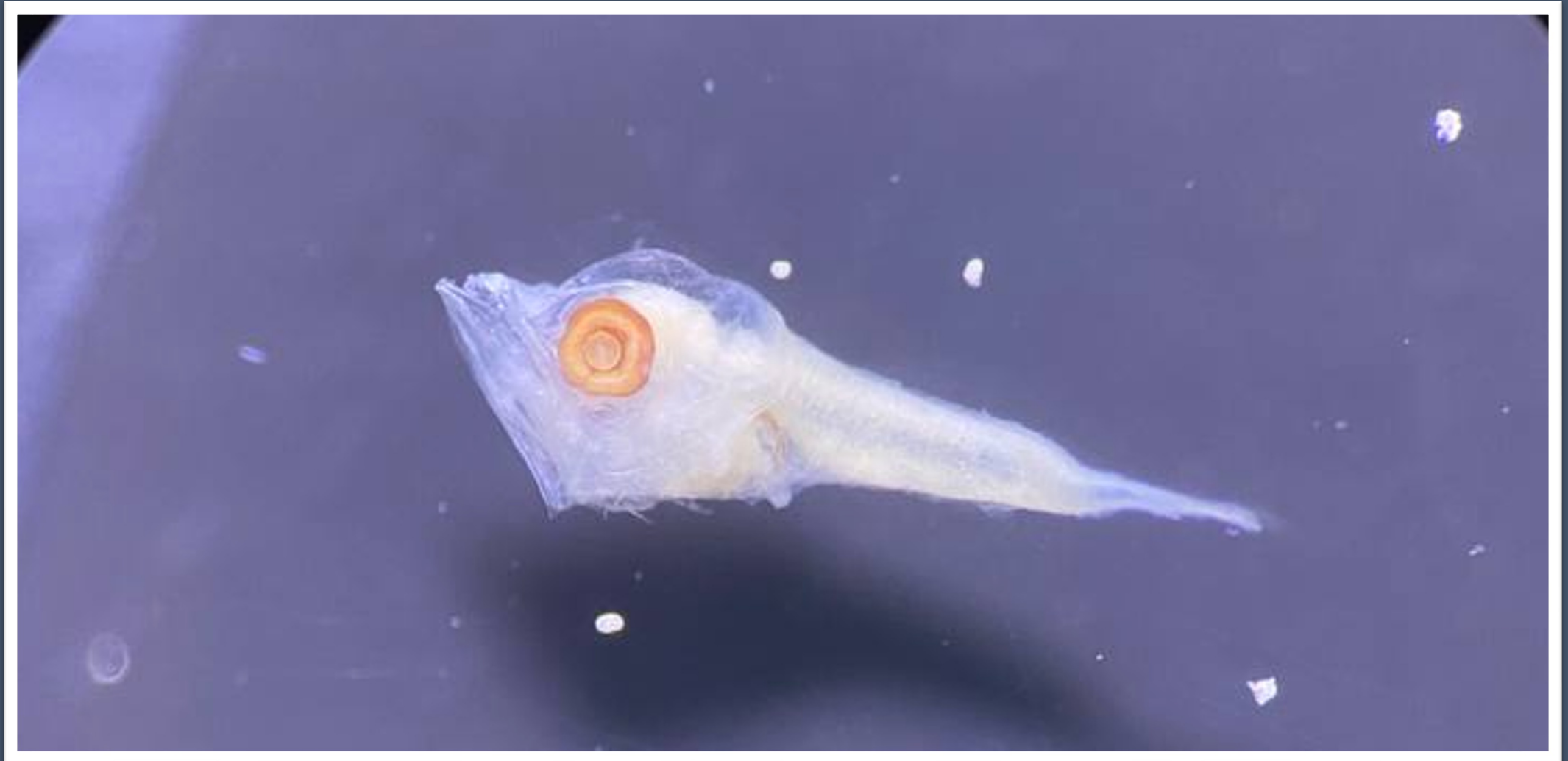
- Standard length :11.28mm
- Body depth :2.66mm
- Body length :12.28mm
- Snot Length :1.95mm
- Eye Diameter :1.34mm
- Head Length :6.43mm
- Pre-Anal length :6.15mm



Description of *Auxis* sp.

- **Body Shap** : Moderate (BD 30% of SL)
- **Head** : large Preopercular and well developed
- **Myomere** : Around TM 34-36
- **Gut** : Compact and anus position with growth
- **Snout** : Snout pointed
- **Mouth** : Low jaw tip usually pigment
- **Fin Information** : fin-tail are present
- **Pigment** : No pigment on anterior margin of the forebrain, dorsal line, and literal line .

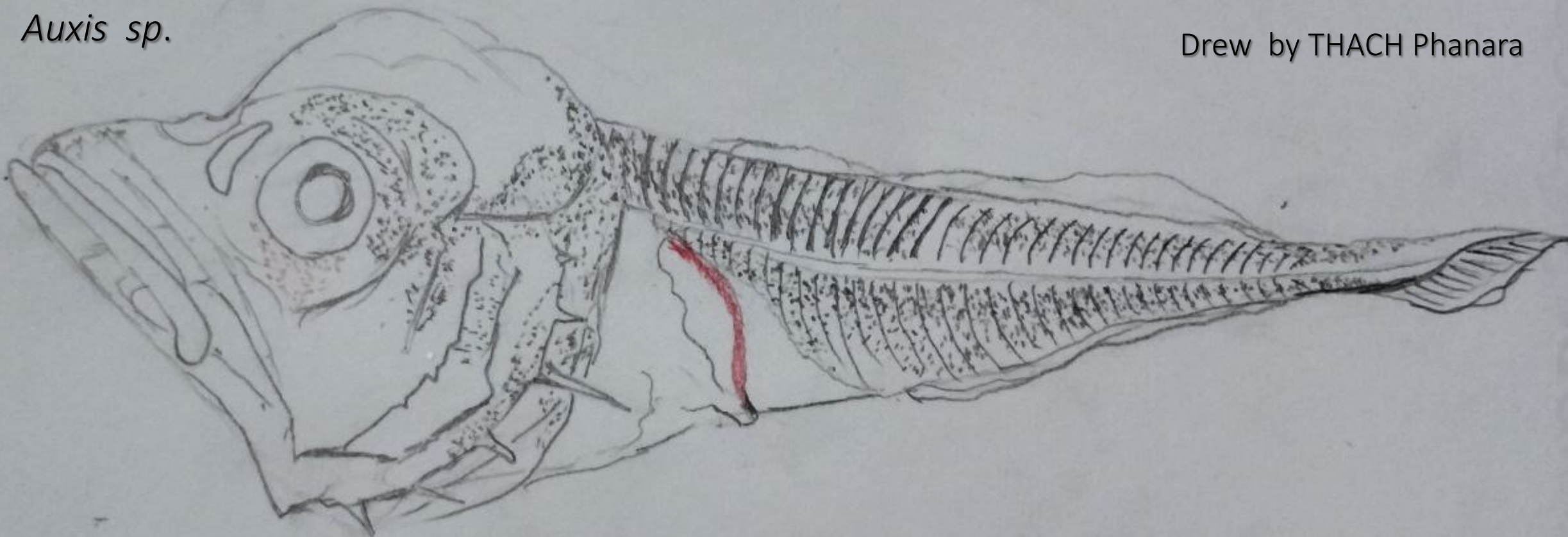
Species *Auxis* sp.



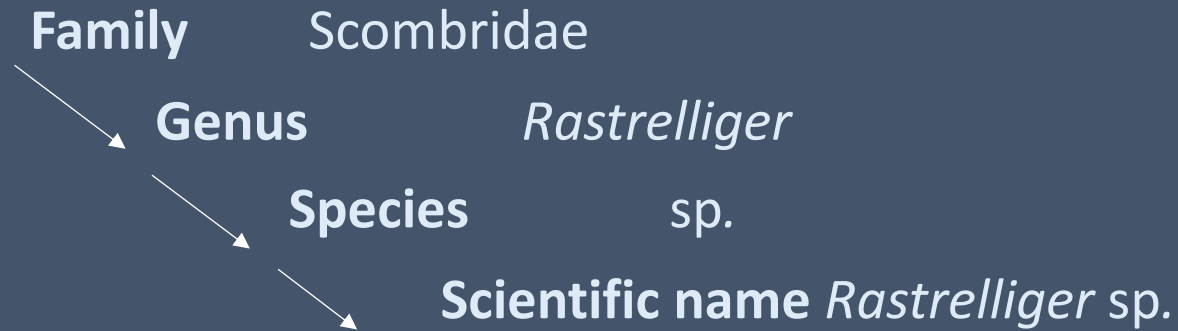
Species *Auxis* sp.

Auxis sp.

Drew by THACH Phanara



Genera of Scombridae (cont)



□ Standard Measurement (mm)

- Standard length :6.82mm
- Body depth :2.25mm
- Body length :6.82mm
- Snout Length :0.88mm
- Eye Diameter :0.80mm
- Head Length :2.50mm
- Pre-Anal length :2.67mm
- Pre-Dosal-fin length :0.50mm



Description of *Rastrelliger* sp.

- **Head** : Pigment over brain sparse at pre flexion to flexion stage
- **Myomere** : Around TM 29-31
- **Anus** : Anus and anal-fin origin spaced
- **Snout** : No point
- **Mouth** : Both jaw tips nearly join
- **Fin Information** : Dorsal-fin and Anal-fin develops are presented
- **Pigment** : No pigment on anterior margin of the forebrain, dorsal line, and literal line,

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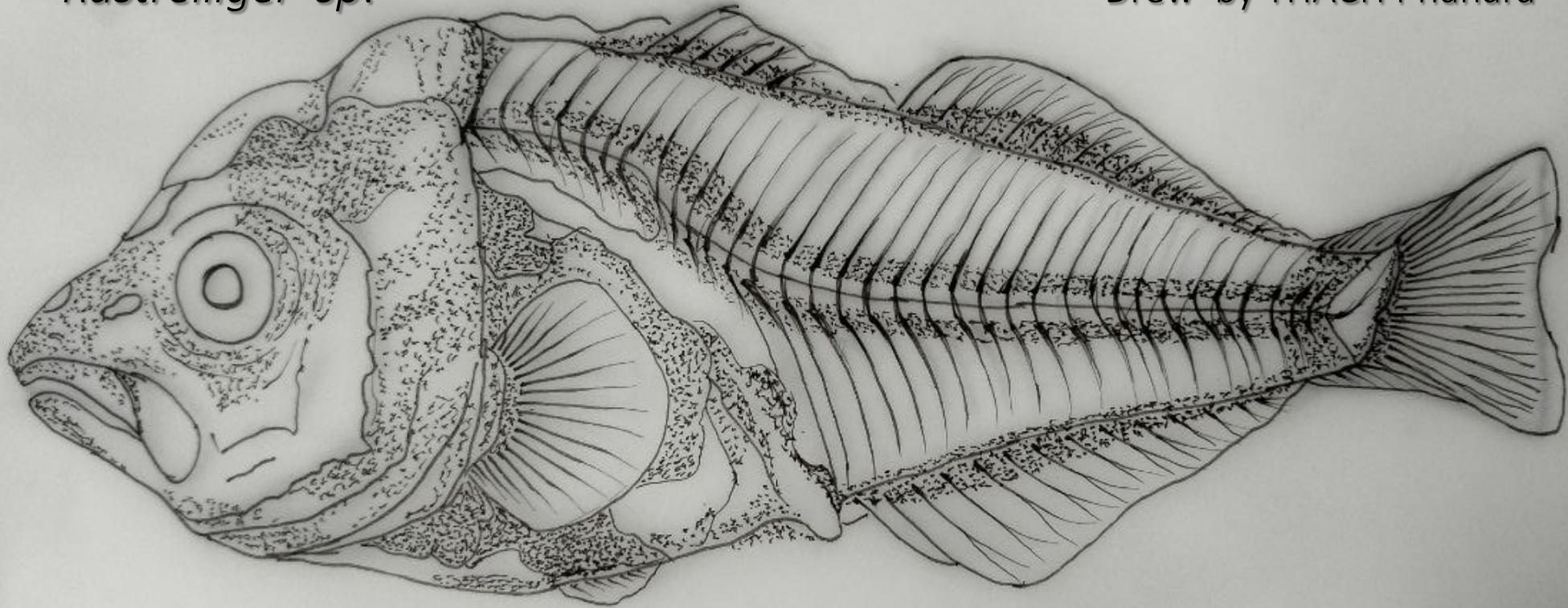
Species *Rastrelliger* sp.



Species *Rastrelliger* sp.

Rastrelliger sp.

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Genera of Carangidae

Family Carangidae
 Genus *Decapterus*
 Species spp.
 Scientific name *Decapterus* spp.

Standard Measurement (mm)

- Standard length :3.41mm
- Body depth :1.21mm
- Body length :3.88mm
- Snout Length :0.48mm
- Eye Diameter :0.43mm
- Head Length :1.13mm
- Pre-Anal length :2.06mm
- Pre-Dosal-fin length :1.44mm



Description of *Decapterus* spp.

- **Head** : Large and pigment present on head 3-5
- **Myomere** : Around TM 24-26
- **Vertebrae** : Around TV 10+16
- **Gut** : Compact and anus position with growth
- **Snout** : Snout pointed and around
- **Mouth** : Low jaw tip usually pigment
- **Fin Information** : 2 rows present melanophores appear long and dorsal fin base
- **Pigment** : pigment are present on anterior margin of the forebrain, dorsal line, and literal line .

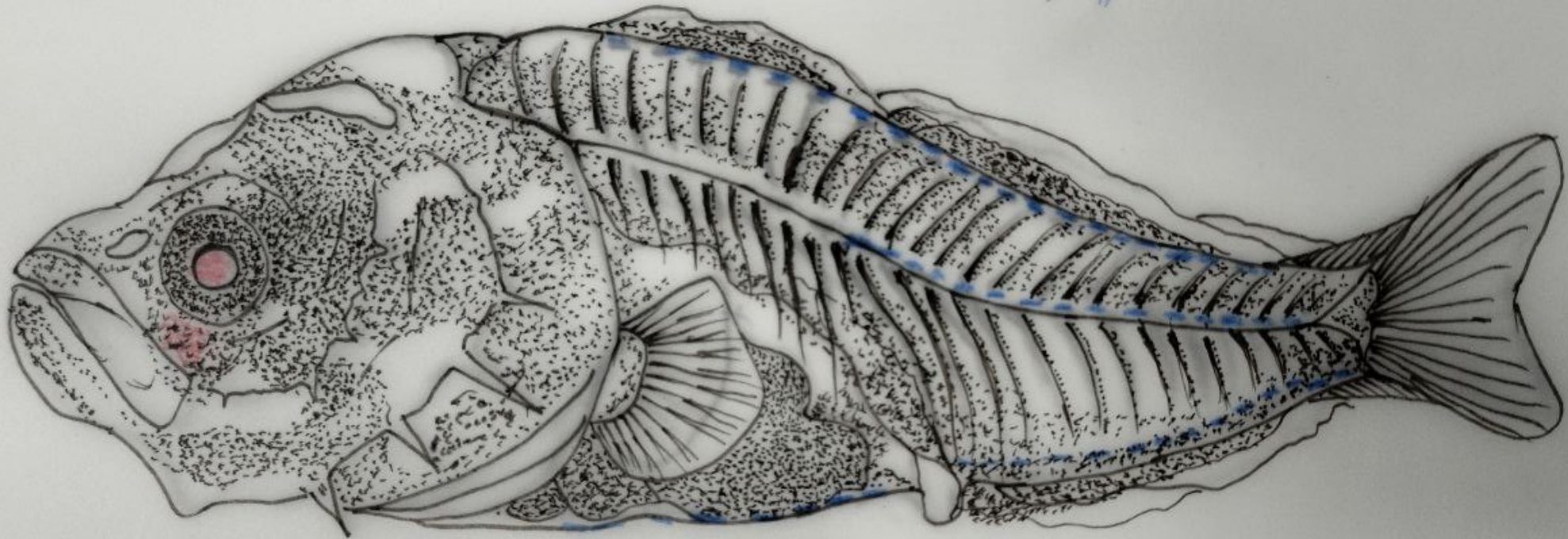
Species *Decapterus* spp.



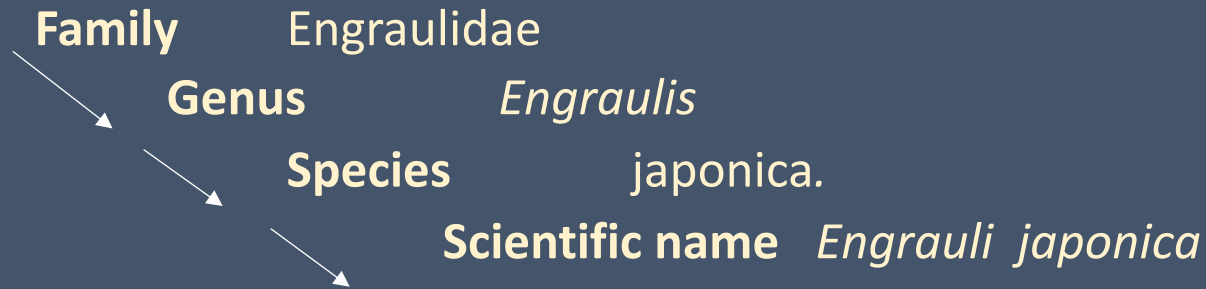
Species *Decapterus* spp.

Decapterus spp.

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Genera of Engraulidae



□ Standard Measurement (mm)

- Standard length :11.23mm
- Body depth :1.52mm
- Body length :11.88mm
- Snout Length :0.68mm
- Eye Diameter :0.52mm
- Head Length :2.68mm
- Pre-Anal length :5.31mm
- Pre-Dosal-fin length :7.81mm



Description of *Engraulis japonica*

- **Myomere** : Around TM 42-44
- **Gut** : Compact, gut relatively short and anus under or just posterior to dorsal fin
- **Snout** : Snout pointed and around
- **Mouth** : Low jaw tip usually pigment
- **Fin Information** : Origin of anal fin just under end of dorsal fin, anal fin base short (Dorsal fin 13-14 , Anal fin 14-16)
- **Pigment** : pigment present on the ventral midline
- **Remark** : Dorsal and the ventral midline of the caudal peduncle heavily pigment

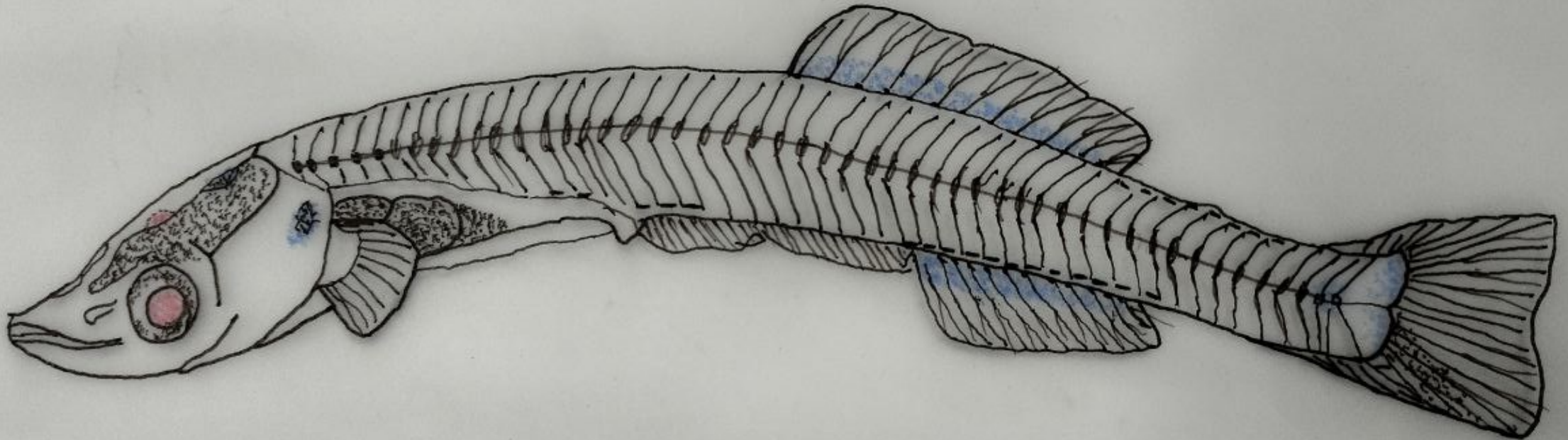
Species *Engraulis japonica*



Species *Engraulis japonica*

Engraulis Japonica

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Genera of Siganidae



Family Siganidae

Genus *Siganus*

Species *guttatus*

Scientific name *Siganus guttatus*

□ Standard Measurement (mm)

- Standard length :6.15mm
- Body depth :2.32mm
- Body length :6.65mm
- Snout Length :0.63mm
- Eye Diameter :0.77mm
- Head Length :2.27mm
- Pre-Anal length :2.18mm
- Pre-Dosal-fin length :2.26mm
- VAFL :1.67mm

Description of *Siganus guttatus*

- **Head** : Large and pigment present on heavily
- **Myomere** : Can't Count
- **Vertebrae** : Can't Count
- **Gut** : Anus beyond the middle body
- **Mouth** : both jaws are present
- **Fin Information** : first dorsal spine is short, the dorsal fin is pigment, dorsal fin 13, dorsal fin ray 9, Anal fin spine 6, second anal fin ray 8
- **Pigment** : Caudal fin Dorsal fin Anus fin and body shape present on heavily
- **Remark** : second dorsal spine elongates and the second spine is present, Pelvic spine2 and soft spine ray elongate

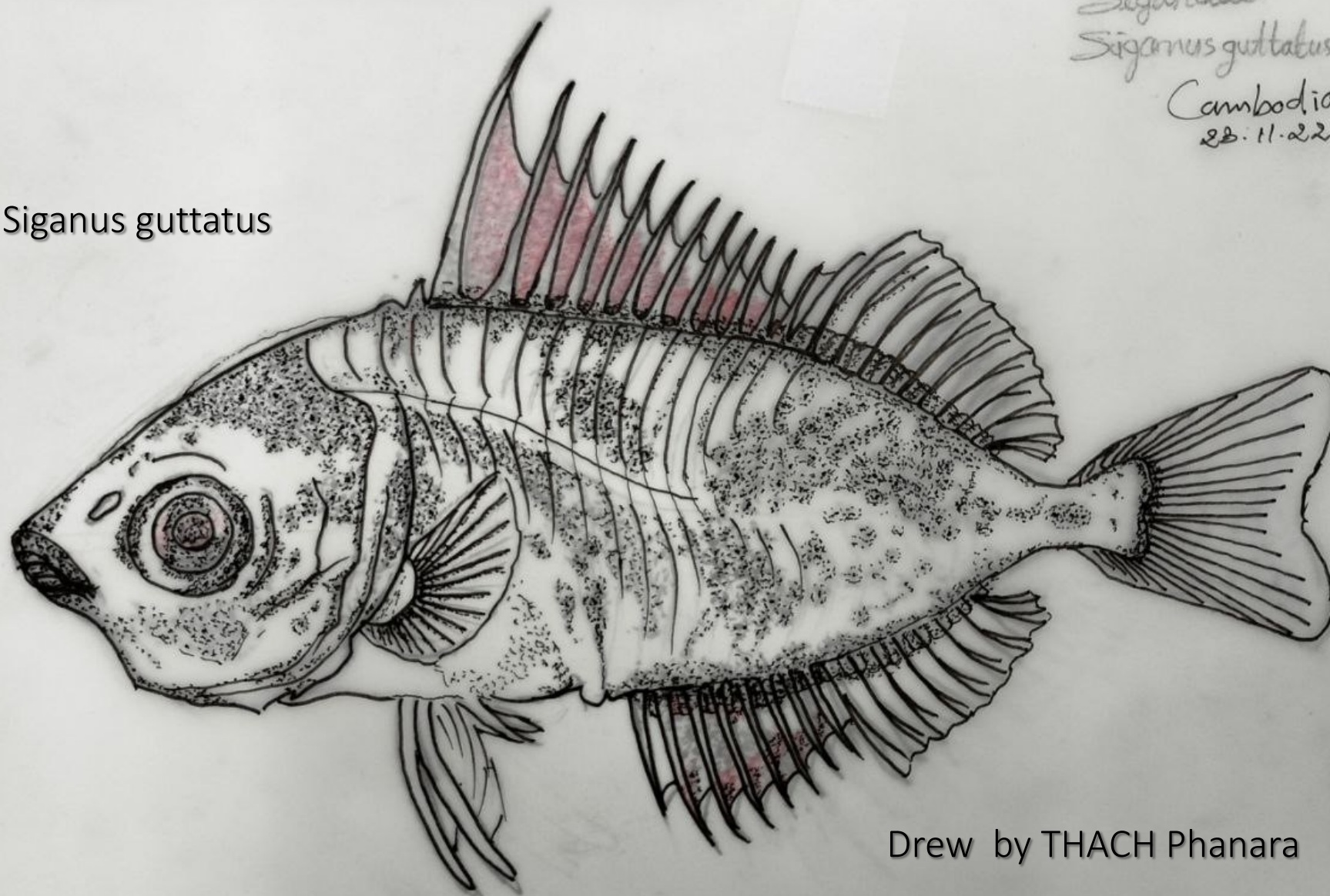
Siganus guttatus



Siganus guttatus



Siganus guttatus



Siganidae
Siganus guttatus
Cambodia
28.11.22

Drew by THACH Phanara



Planning Future Work

- To study larvae and juvenile fish abundance and diversity through two sampling locations – Mekong and Tonle Sap Rivers close to Phnom Penh
- To assess fish larvae quantity and density.
- To compare fish larvae abundance, quantity/density, and diversity amongst the left, middle and right monitoring sites of the river.
- To assess the likely fish spawning grounds.



Thank you