



IOTC – 23th WORKING PARTY TROPICAL TUNA
25-30 OCTOBER 2021

A preliminary report on Estimates of fecundity, age at maturity, sex ratios, spawning season, and spawning fraction for yellowfin tuna to be provided to the Working Party on Tropical Tunas.

Index

- ☐ Samples collected / Area
- ☐ Methodology
- ☐ Sex-ratio
- ☐ Spawning season
- ☐ Size at maturity (L_{50})
- ☐ Fecundity estimation (batch fecundity & spawning fraction)

Standardization of protocols

GONADS COLLECTION:

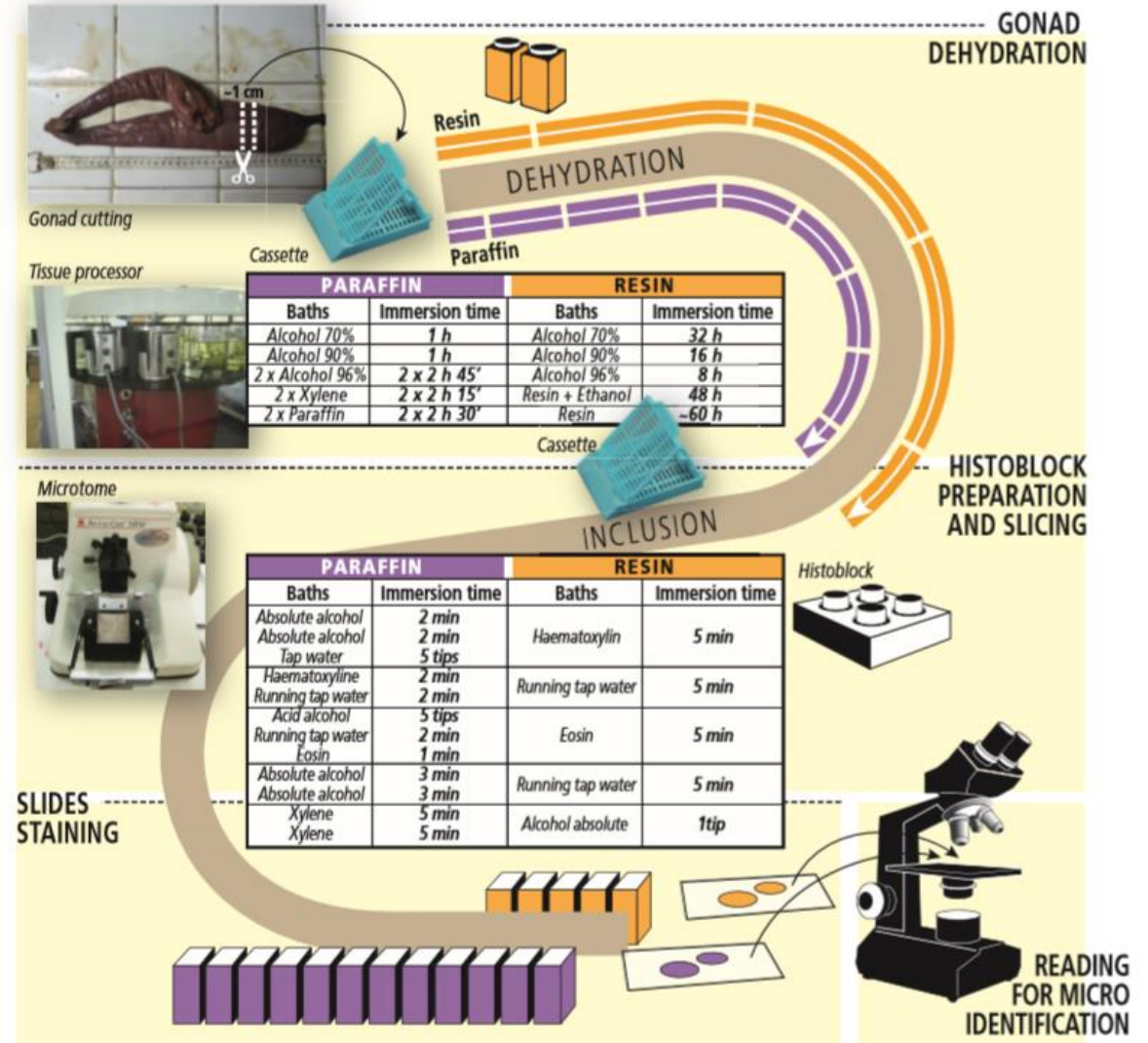
- FL / Weight collection
- Entire gonad extraction
- Total weight gonad
- Macroscopic identification
- Sectioned for cassette preparation

HISTOLOGICAL / FECUNDITY ANALYSIS:

Same procedure at SFA/AZTI/CSIRO

- Tissue processor
 - Formol
 - Paraffin / Resin
- Staining procedure
- Reading /Fecundity
 - Reproductive stages / Atresia / Maturity markers
 - Fecundity estimation – gravimetric methods

Reproductive analysis of YFT – IO



Standardization of protocols

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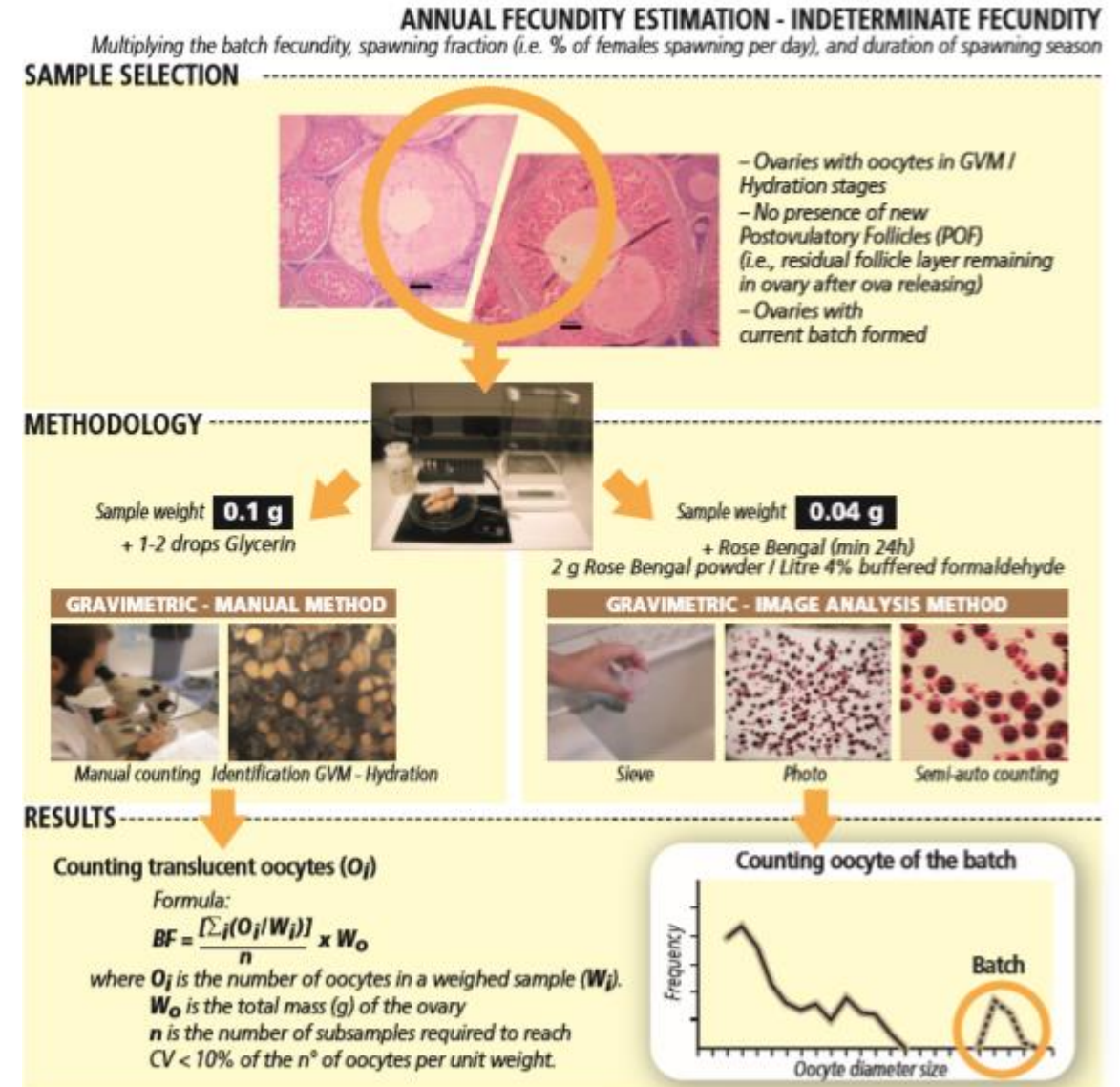
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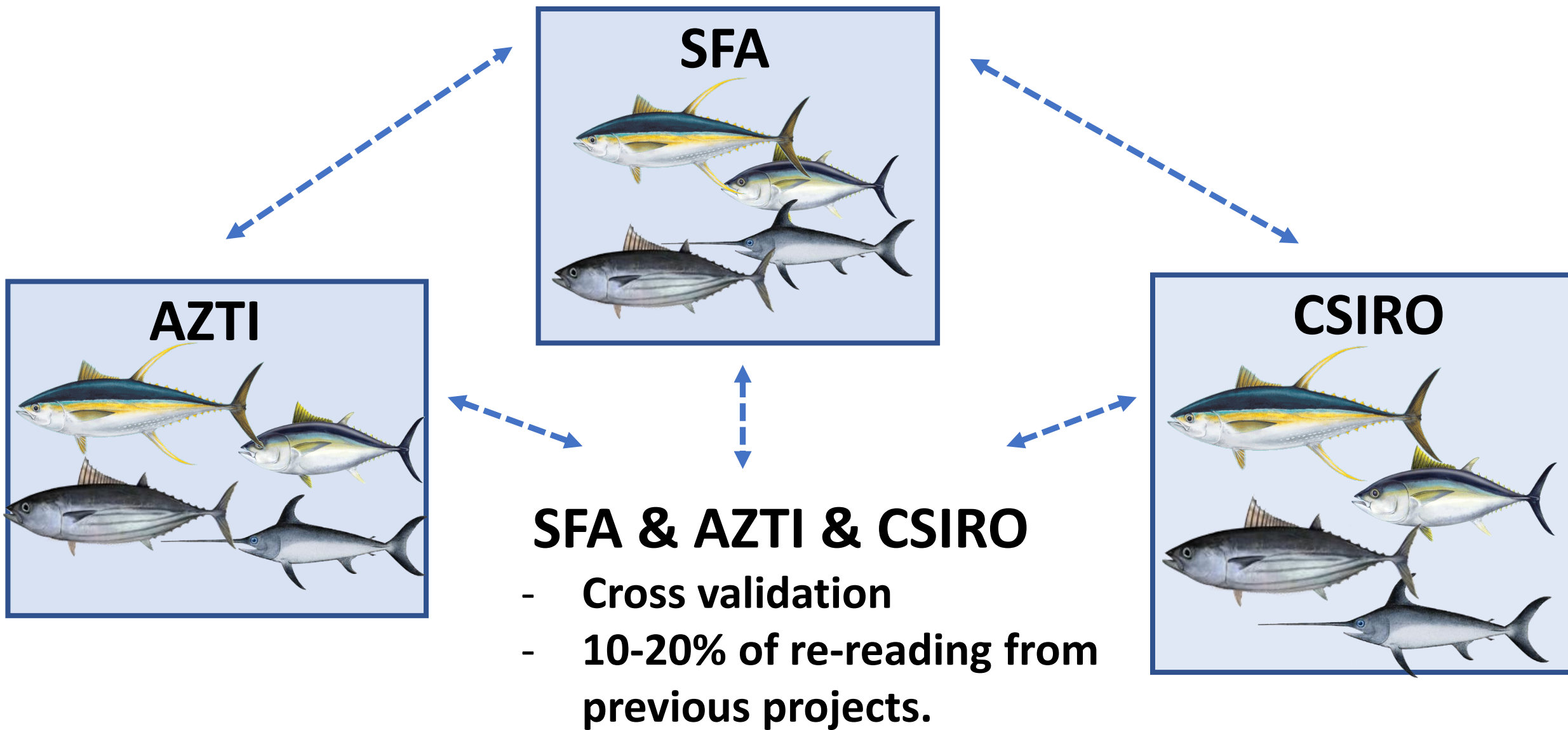
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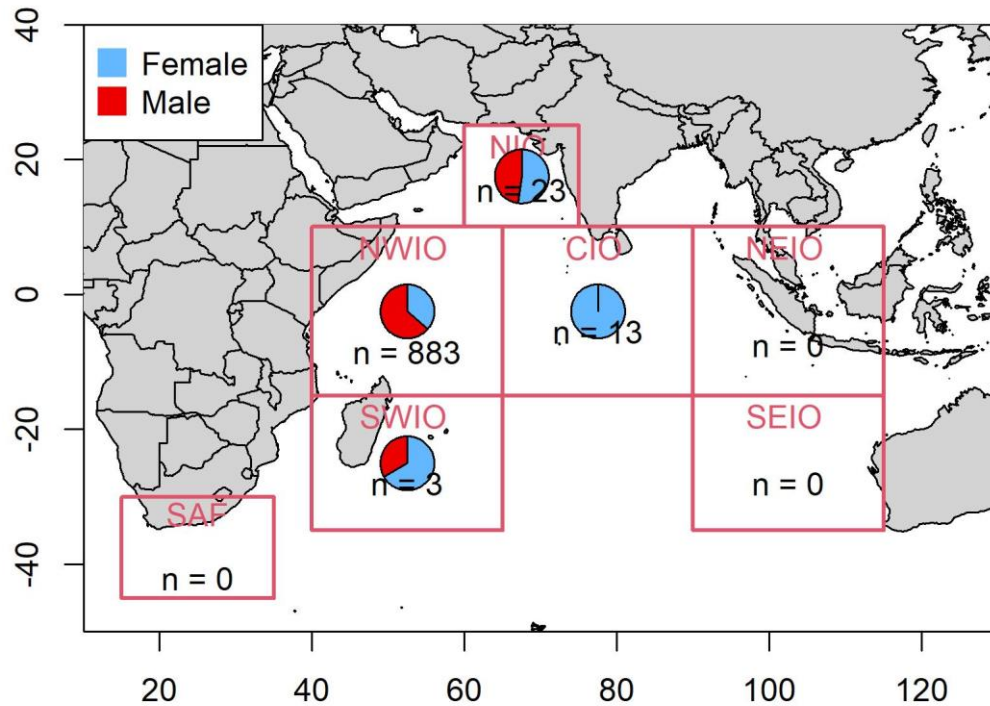
Standardization of protocols

Reproductive analysis of YFT – IO



Samples collected / Area

Reproductive analysis of YFT – IO

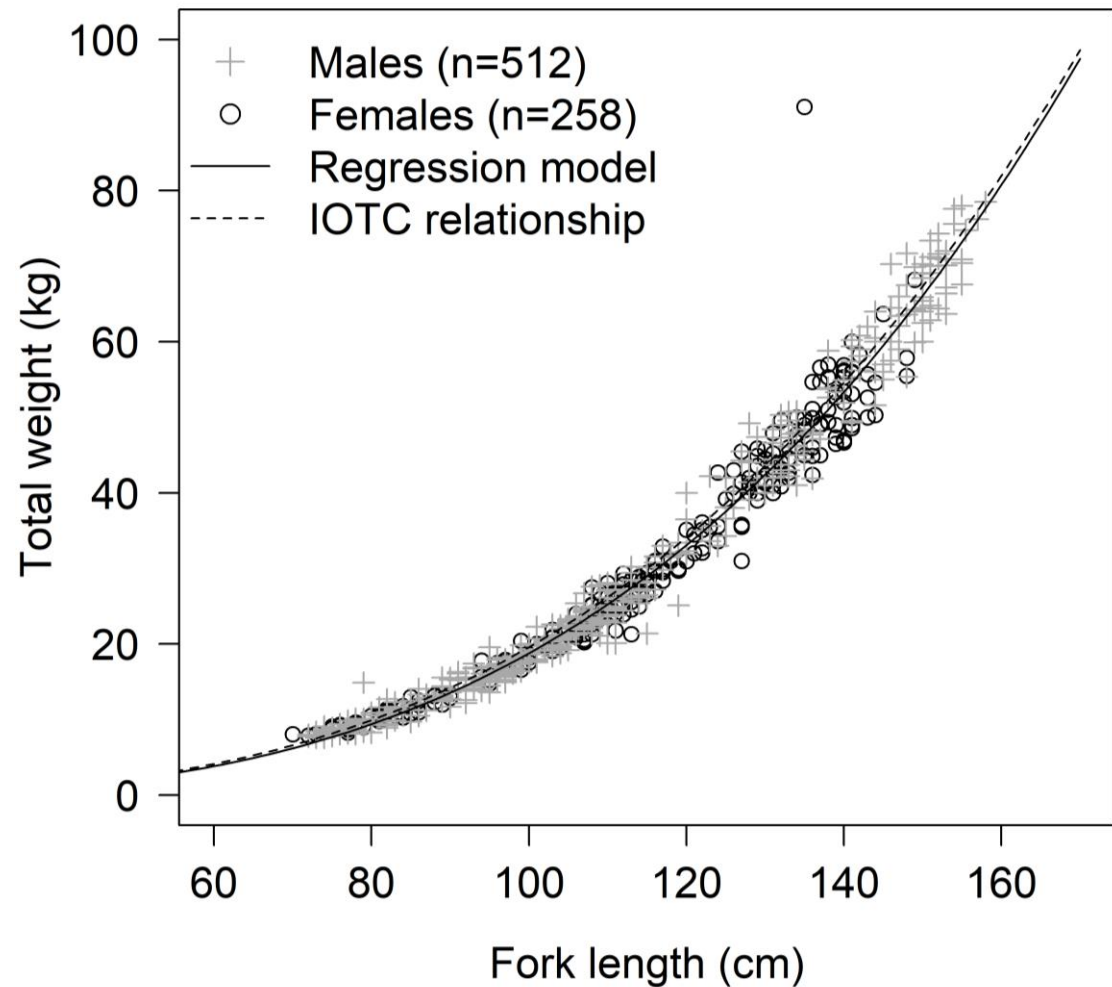
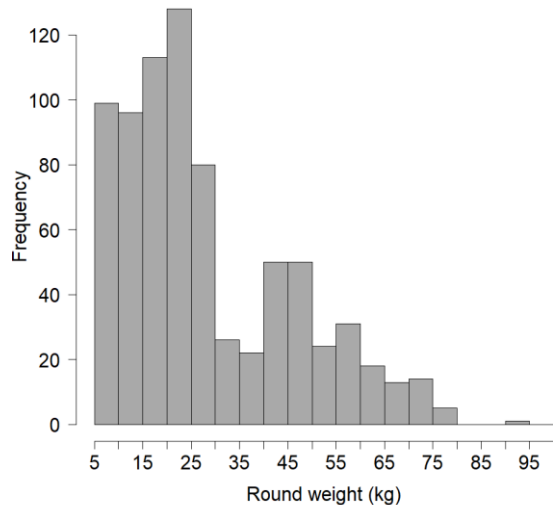
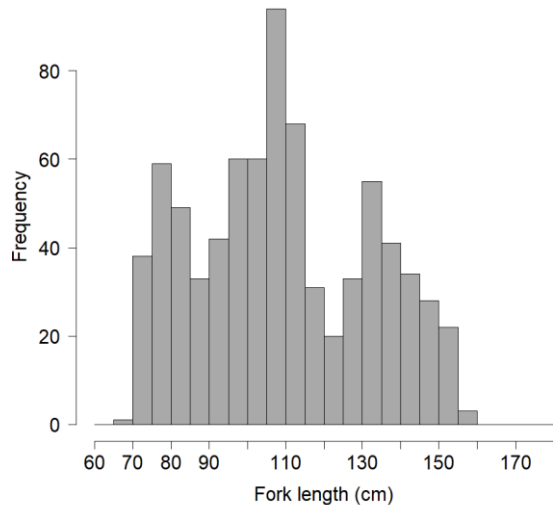


IOTC Area	Indeterminate	Female	Male	Total
SWIO	0	2	1	3
NWIO	9	324	559	892
NCIO	0	13	0	13
NIO	5	12	11	28
Total	14	351	571	936

Preliminary data/analysis

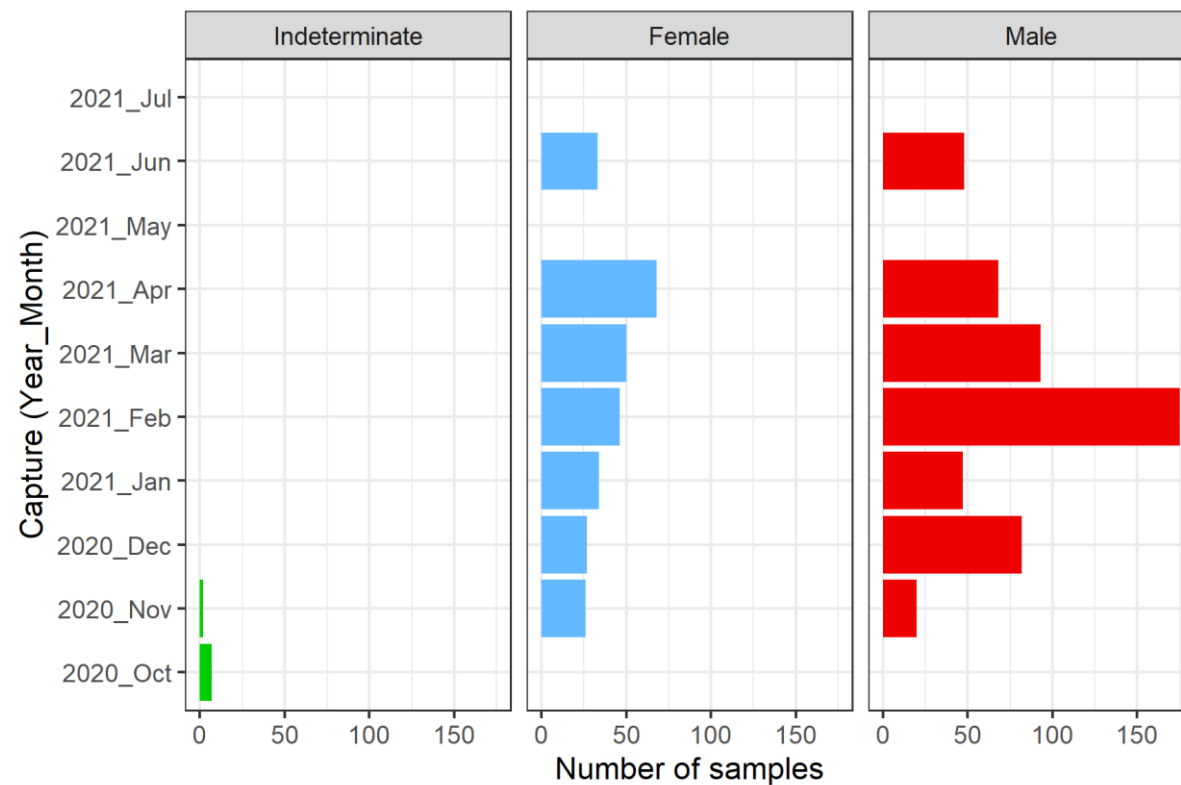
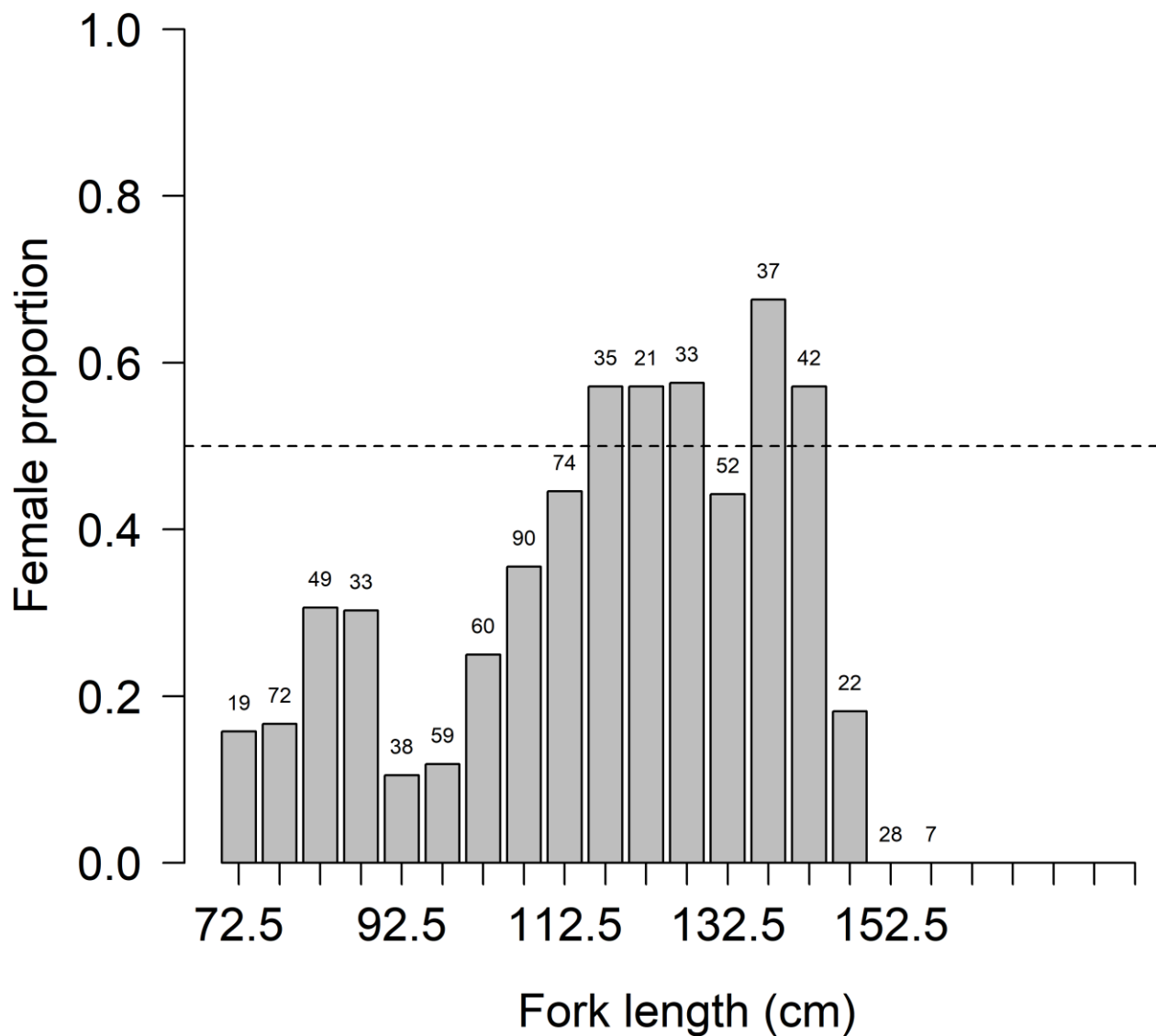
Reproductive analysis of YFT – IO

AZTI	Indeterminate	Female	Male	Total
October 2020	7	0	0	7
November 2020	2	26	20	48
December 2020	0	27	82	109
January 2021	0	34	47	81
February 2021	0	46	175	221
March 2021	0	50	93	143
April 2021	0	68	68	136
May 2021	0	0	0	0
June 2021	0	33	48	81
Total	9	284	533	826



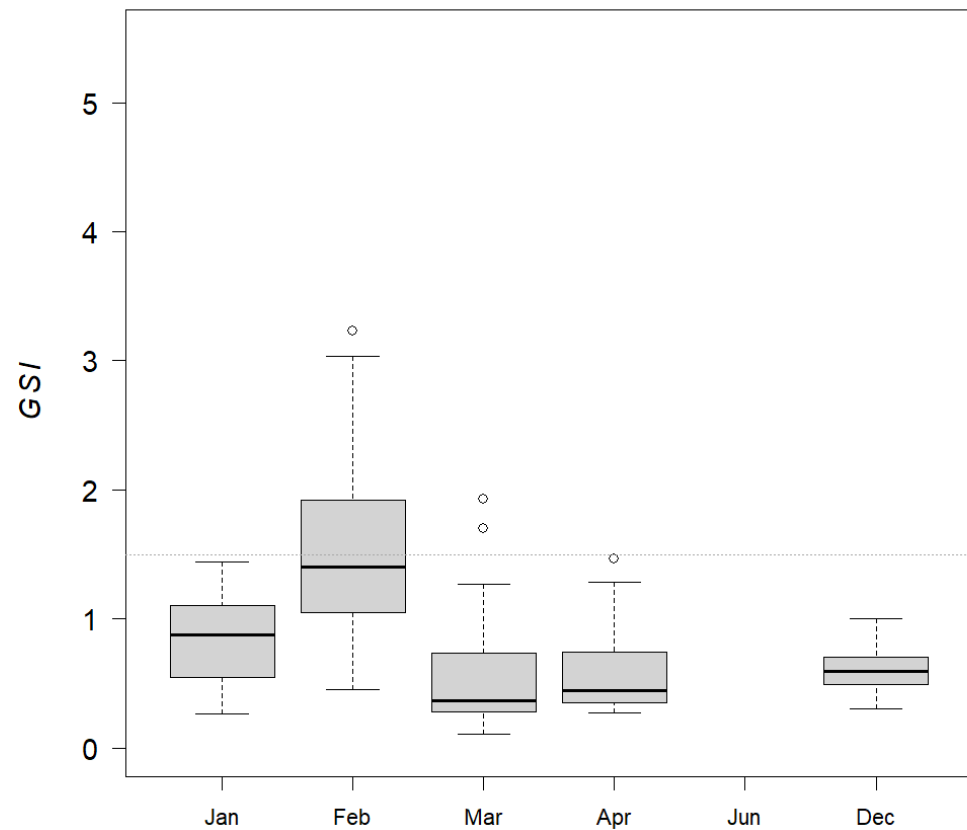
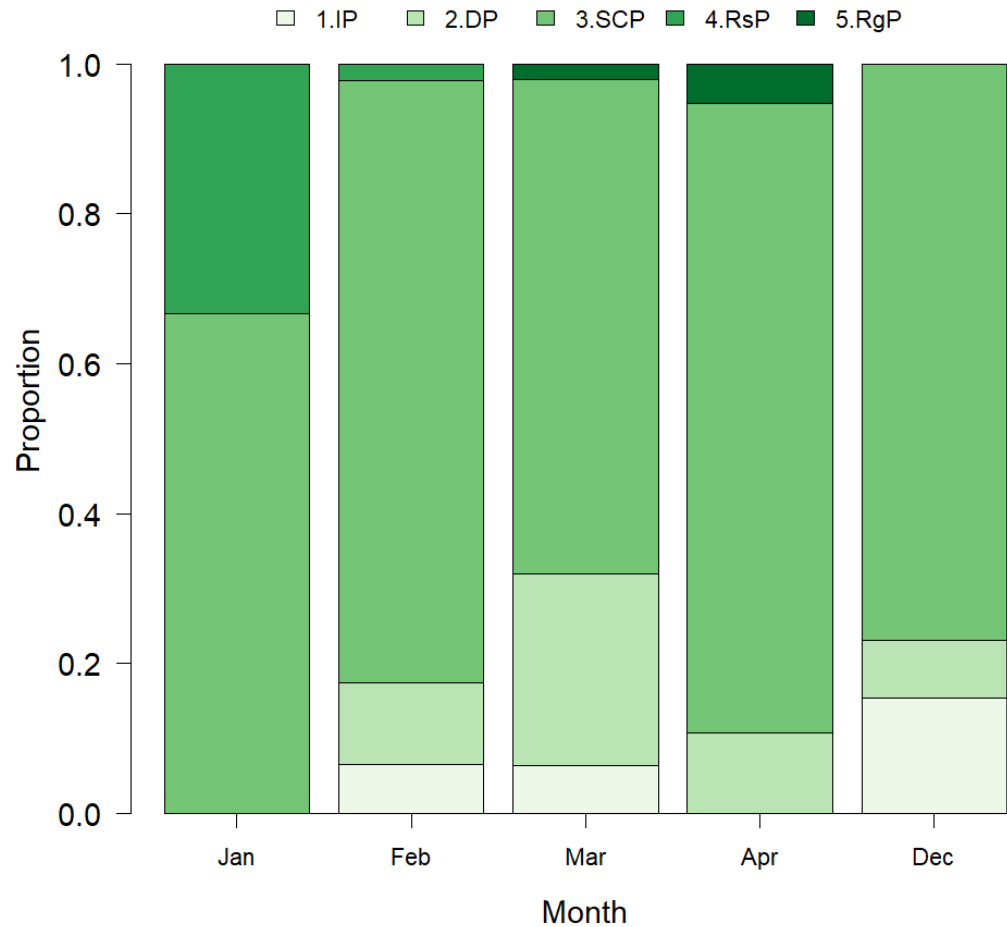
Sex-Ratio

Reproductive analysis of YFT – IO



Spawning season

Reproductive analysis of YFT – IO



Size at maturity & Fecundity estimation

are in progress and will be submitted to Scientific Committee with updated data from all Indian Ocean regions