

# Research Section Newsletter

## Quarter one of 2020



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March 2020



**I'M NEW!**

Welcome to the team



Fisheries Scientist,  
Ms. Annie Vidot



Able Seaman,  
Mr. Pejo Nicette



Research Technician,  
Ms. Hemma Saffrance



Principal Scientist,  
Ms. Sabrena Lawrence  
\*Resumed duties

## Team Building



Our last team building activity December 2019.

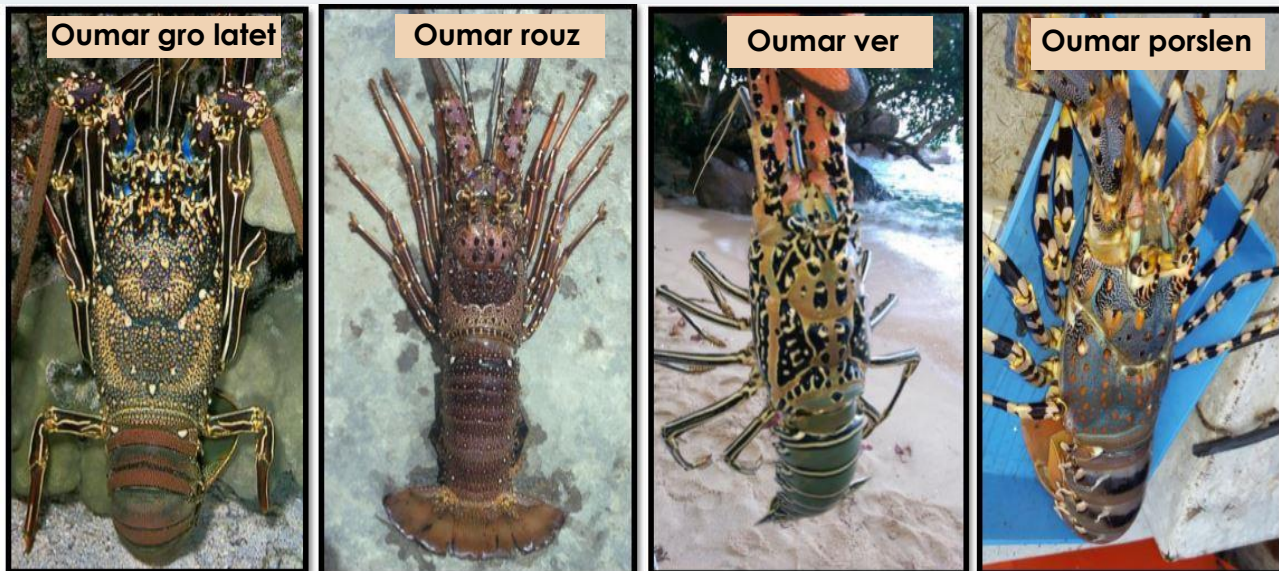
## Our New Office



Early February we established ourselves in the Training room due to fungus outbreak in the main building (Saffrance, H. 2020).



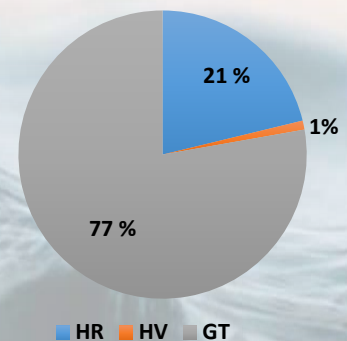
# Lobster Fishing Season 2019 -2020



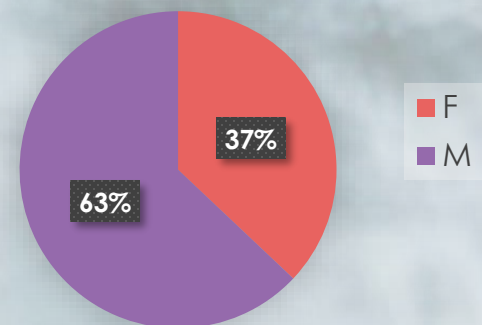
- Open fishing season for the 3 months -10<sup>th</sup> December 2019-10<sup>th</sup> March 2020
- Sixteen licenses available-only 12 licensees allocated (10 on Mahé and 2 on Praslin)
- Sampling for biological information undertaken by the Research section.
- Both Mahé and Praslin islands was sampled, with the greatest on Mahé

## Summary of lobster sampling programme

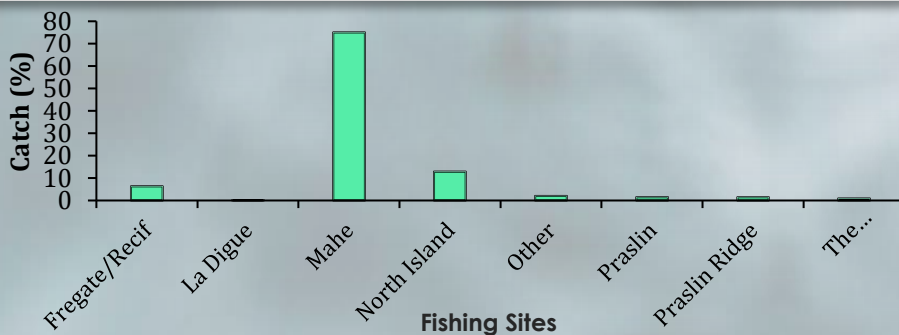
- 77% Oumar gro Latet (GT or *Panulirus penicillatus*)
- 21% Oumar Rouz (HR or *Panulirus longipes*)
- 1% Oumar Ver (HV or *Panulirus versicolor*) (**Figure 1**)
- More males (63%) than females (37%) (**Figure 2**)
- Fishing activities mostly concentrated around Mahé Island (**Figure 3**)



**Figure 1:** Species composition of total catch sampled



**Figure 2:** Sex ratio of total sampled catch



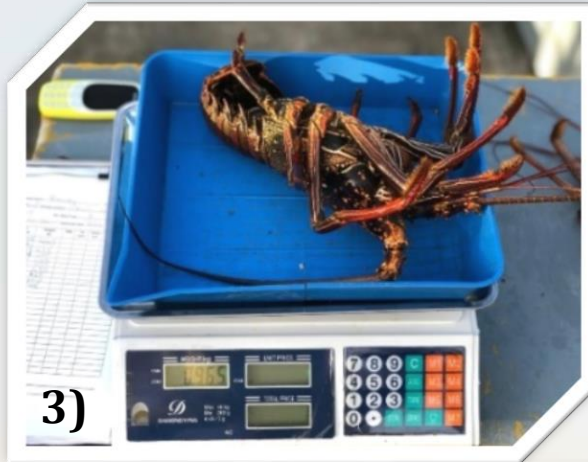
**Figure 3:** Total catch reported by major fishing locations.



# Lobster sampling in progress



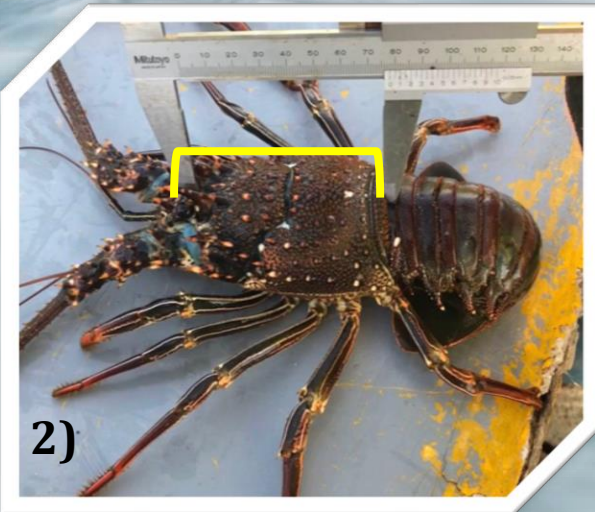
1) Fisheries Technician - Rahim collecting biological data during the lobster fishing season 2019-2020 (Gabriel, K. 2020)



3) Weighing of Lobster (Gabriel, K. 2020)

4) Tar spots for identifying females (Gabriel, K. 2020)


 Tar spots are black patch on a female lobster that indicates that mating has taken place.



2) Carapace length measurement using a vernier caliper (Gabriel, K. 2020)



5) Berried female identification (Gabriel, K. 2020)

 A berried lobster is a female lobster carrying eggs.

# Lobster Habitat Survey 2020



Figure 4: Under water transect (Woodcock, R, 2020)



Figure 5: Heading out for survey (Vidot, L, 2020)

## Out at sea!

- Diving within 5 to 8 meter depth range
- Underwater transects
- 13 sites surveyed in March 2020 (Figure 6) ★
- Photo quadrat (Figure 7) and link chain was used to collect structural complexity and benthic cover composition data

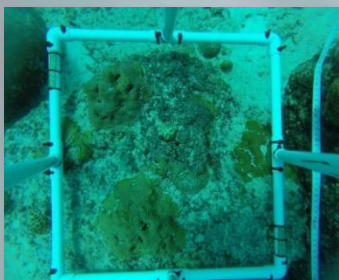


Figure 7: Benthic picture using the photo-quadrat (Marie, S. 2020).



Figure 8: Group photo on the first survey (Marie, S. 2020).

- Aim at improving our understanding on lobster's habitat
- Complementary to the Participatory Lobster Monitoring Programme (PLMP)
- A total of 20 sites have been surveyed around western coast of Mahé between 2019 and 2020.

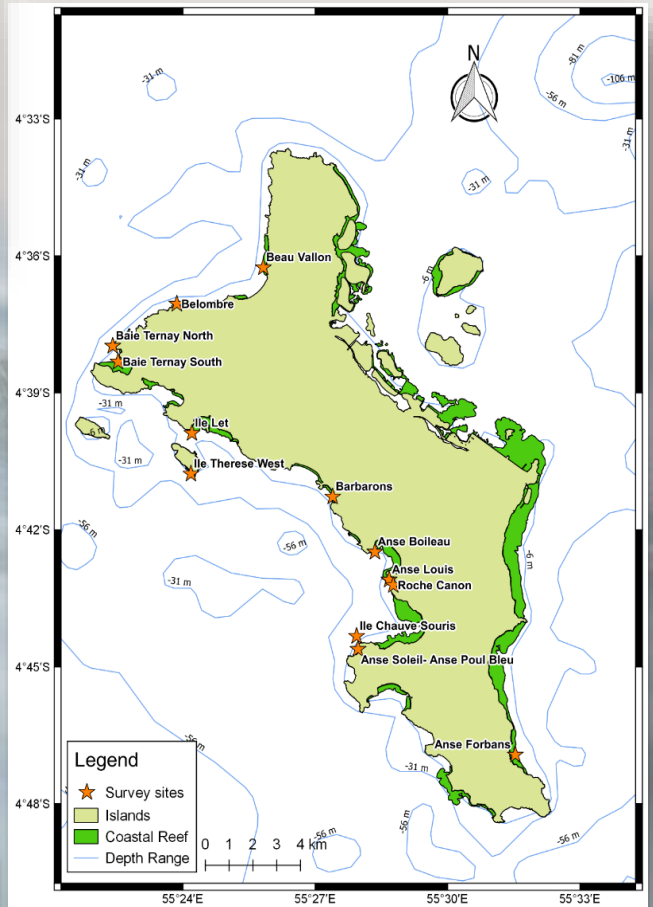


Figure 6: Survey sites along the western coast of Mahé.



# Tuna Biological Sampling 2020



- Sampling conducted at the Indian Ocean Tuna (I.O.T) processing plant in partnership with Statistic Section
- Data collected: Total weight and length, weight and stomach content, weight of liver and gonad, maturity stages of the three major commercial tuna species
  - Skipjack (SKJ) (*Katsuwonuc pelamis*)
  - Patudo (BET) (*Thunnus obesus*)
  - Yellowfin (YFT) (*Thunnus albacares*)
- Sampling target per month- 100 fish per species
- Additional environmental data of the sampled tuna are gathered from the fishing vessel:
  - Name/Code of tuna vessel
  - Gear and fishing mode
  - Fishing and landing date
  - Sea surface temperature and fishing hours

## Summary

- Sampling disrupted with COVID-19 pandemic.



Figure 9: Number of tunas sampled during the first quarter - below target.



Figure10: Weighing of organs (SFA, 2013)

# Fish sampling programme 2020

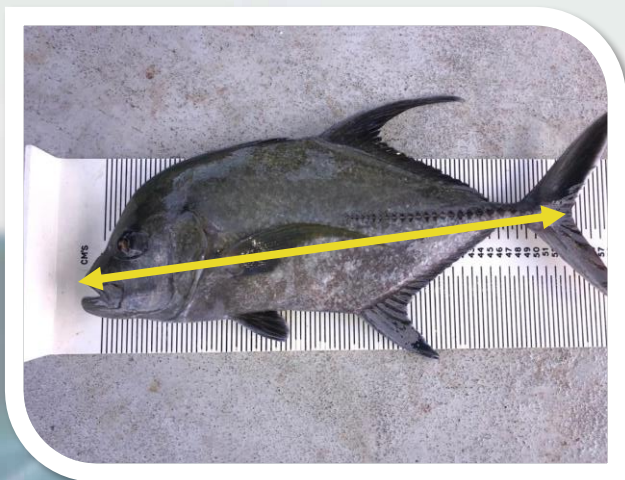


Figure 11: Measuring fork length (Gabriel, K. 2020)

- Demersal and Semi-industrial fish sampling
- Data collected: Fork length of the following fish species:

## Demersal Species (Artisanal)

- Zob gri (*Aprion virescens*)
- Bourzwa (*Lutjans sebae*)
- Vyey Makonde (*Epinephelus chlorostigma*)

## Pelagic Species (Semi-industrial and Sports fishing competition)

- Yellowfin tuna (*Thunnus albacares*)
- Bigeye tuna (*Thunnus obesus*)
- Skipjack tuna (*Katsuwonus pelamis*)
- Albacore (*Thunnus alalunga*)
- Black Marlin (*Makaira indica*)
- Blue Marlin (*Makaira nigricans*)
- Striped Marlin (*Tetrapturus audax*)
- Indo-Pacific sailfish (*Istiophorus platypterus*).

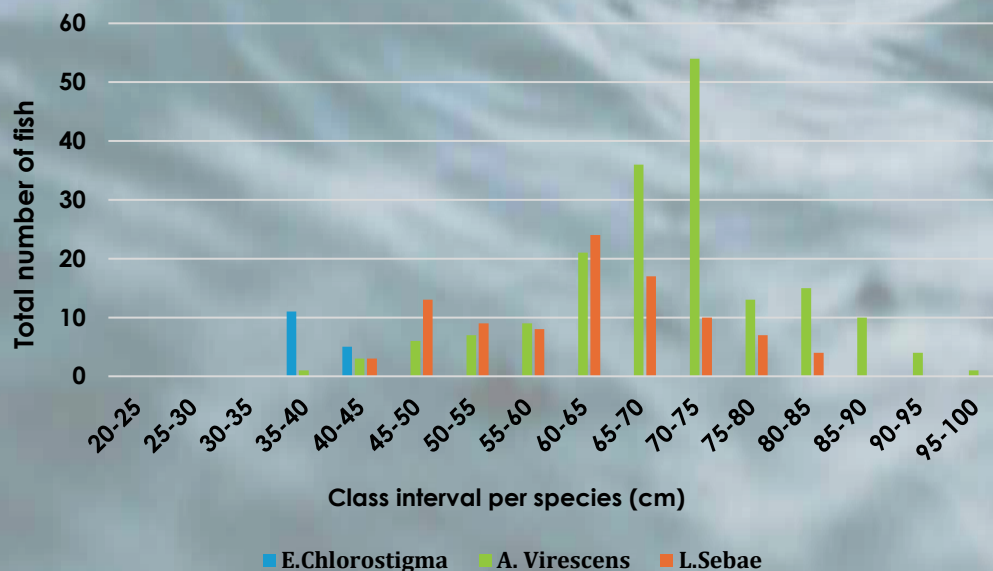


Figure 12: Total number of fishes sampled per size class for the three species, Zob gri (*Aprion virescens*), Bourzwa (*Lutjans sebae*) and Vyey Makonde (*Epinephelus chlorostigma*) for January – March 2020.

# Drop line Survey 2020

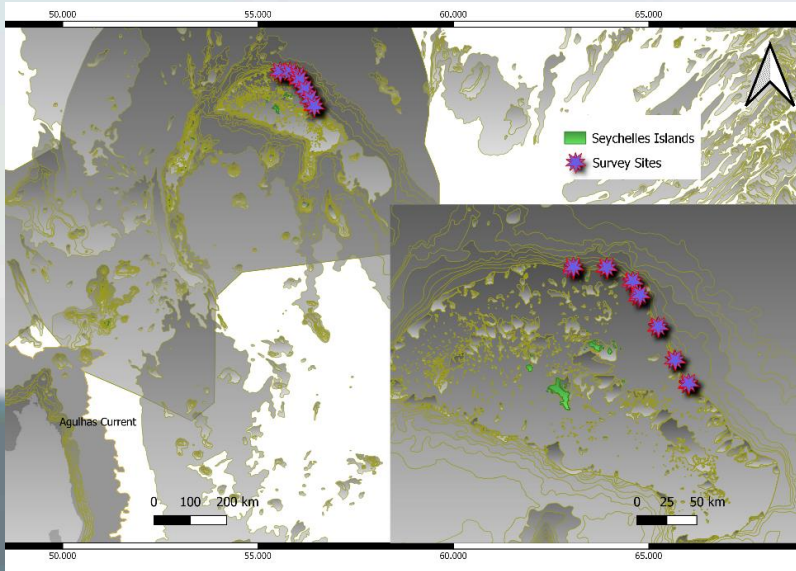


Figure 15: The surveyed area along the North-Eastern drop-off of the Mahé plateau (Souffre, A. 2020)

- Aim to determine the potential for dropline fisheries on the drop-off (photic zones) of the Mahé plateau.

### Out at sea!

- Fishing on deep slope habitats between 50 and 250 m depth on the drop-off of the Mahé Plateau.
- First cruise in February 2020 along the Northern and Eastern slopes of the Mahé plateau (Figure 15)
- 9 sampling stations, each consisting of 3 transects which were set at 3 depth intervals (50 – 125, 126 – 201, 202 – 277 m).

- A total of 169 individuals were caught, which consisted of 21 species (Figure 13)
- Total biomass caught was 1275.26kg and amberjack accounted for ~75% of the total biomass (Figure 14)
- Differences in the number of fishes caught per depth range was observed, and the shallower depth range 50-125m recorded a highest abundance (118 individuals - 17 species).

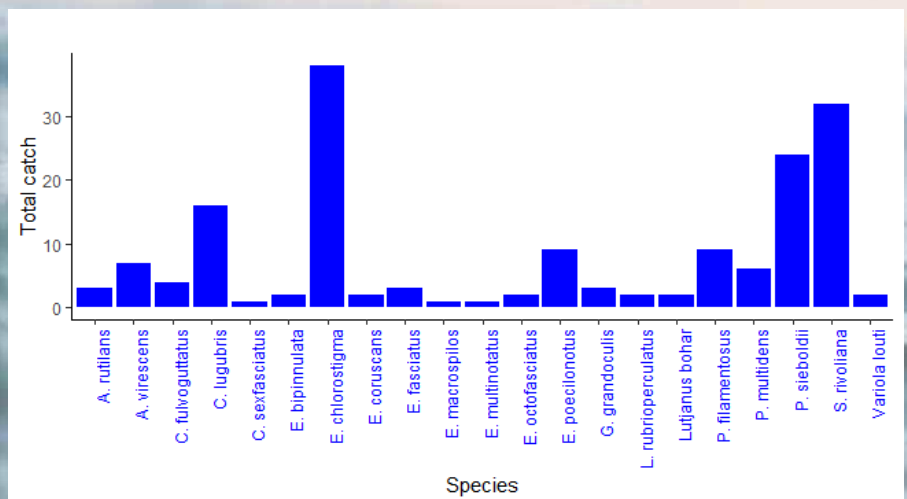


Figure 13: Total number of species caught (Souffre, A. 2020)

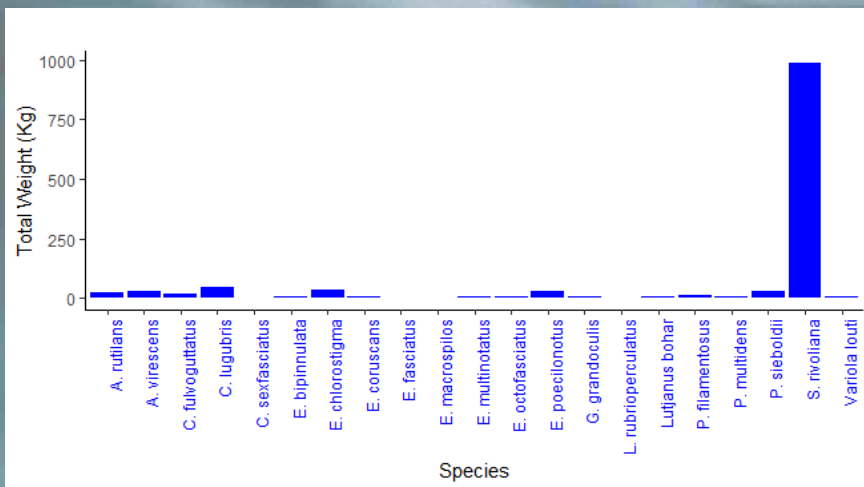
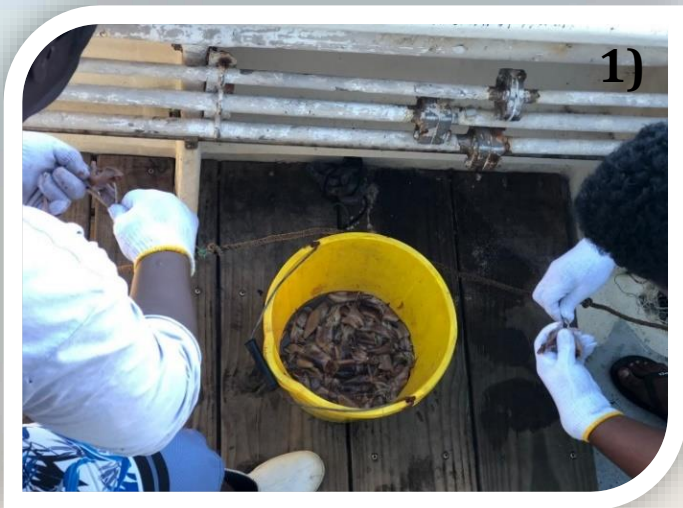


Figure 14: Total biomass per species caught (Souffre, A. 2020)





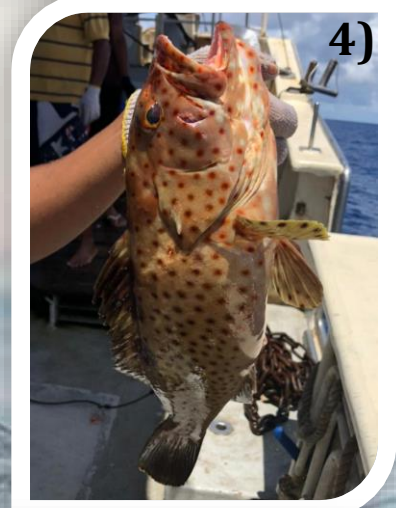
1) Getting the baits hooked up for dropline (Gabriel, K. 2020).



2) Setting up the dropline in the water (Gabriel, K. 2020).



3) Dropline fishing in the process (Gabriel, K. 2020).



4) Grouper caught in the dropline (Gabriel, K. 2020).



5) L'Amitie crew - Yashim, removing otolith (Gabriel, K. 2020).



6) L'Amitie crew - Gerard, taking the length frequency (Gabriel, K. 2020).

## Upcoming Research 2020

- Pilot study to investigate demersal and targeted fish assemblages, using stereo baited remote underwater video (BRUV) stations, on Mahé plateau, Seychelles.
- Drop line Survey 2<sup>nd</sup> phase.

“In the end we will conserve only what we love; we will love only what we understand; and we will understand only what we are taught”  
Baba Dioum (1968).