DEMERSTEM : WP1 – STOCK IDENTIFICATION
Penaeus notialis– GENETICS – FROM MAURITANIA TO GUINEA-BISSAU

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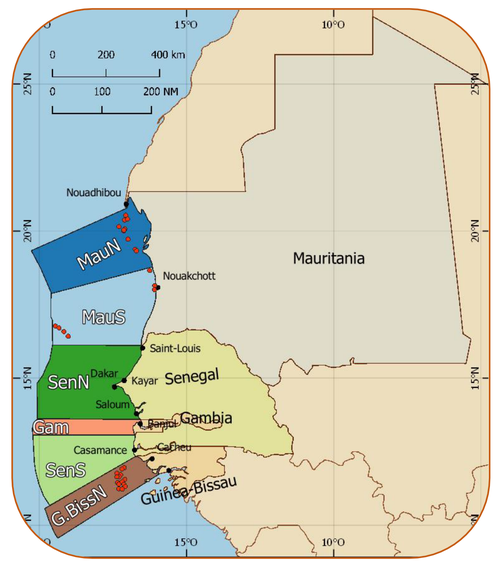
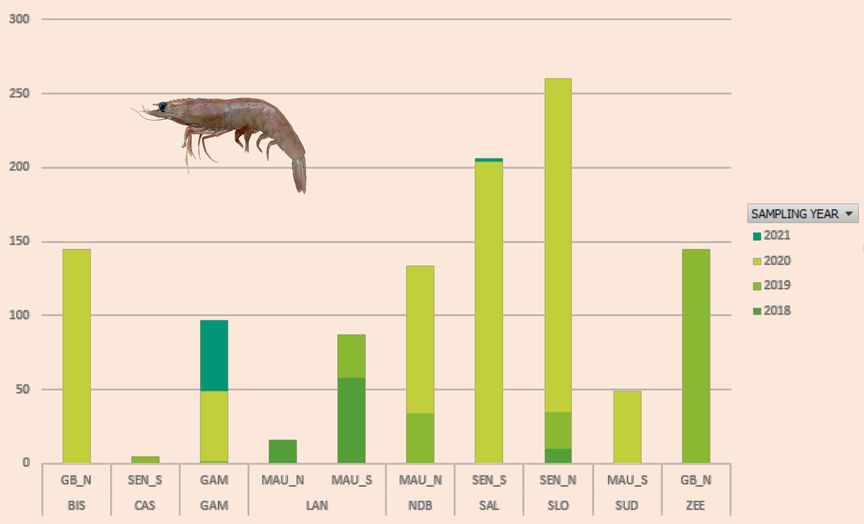
1 Introduction

Different units of *P. notialis* are known to occur from Mauritania to Guinea-Bissau: one in the Banc d'Arguin (Mauritania) and another at the mouth of the Senegal River, this last composed of four sub-units associated with the Senegal, Saloum, Gambia and Casamance rivers. However, for practical reasons, CECAF considers only two stock-units in the North WG (Mauritania and Senegal-Gambia) and one single stock for Guinea-Bissau, in the South WG, for assessment purposes.



2 Methods

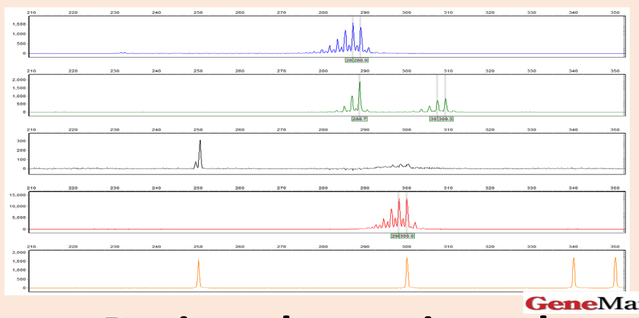
Samples (Country-Sampling year)



Genomic DNA purification

DNA extraction from ethanol preserved tissues was performed with a very specific DNA kit due to the high fat content of the shrimp. NZY Food gDNA Isolation Kit (NZYTech)

Microsatelites



Designed genetic tool

Procedure

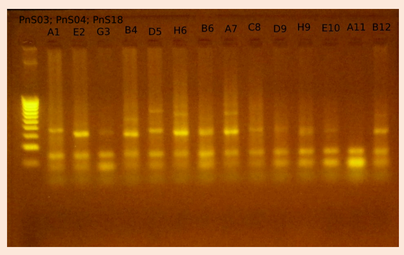
- ✓ PCR tests with individual primers (with different conditions (T, t, reagent concentrations)
- ✓ Genotyping with the ABI3130 capillary sequencer
- ✓ Analysis of the results of the process to verify that the amplification is correct and that a correct signal has been obtained after genotyping
- ✓ Multiplex PCR tests
- ✓ Multiplex PCR with all samples
- ✓ Genotyping and analysis of results

3 Results

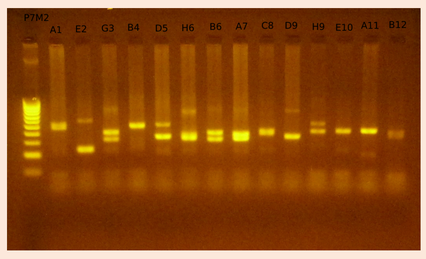
Selected microsatellite markers

The final design allowed amplification of five microsatellite loci in one multiplex PCR (M1) and two single PCRs (PnS01 and PnS20).

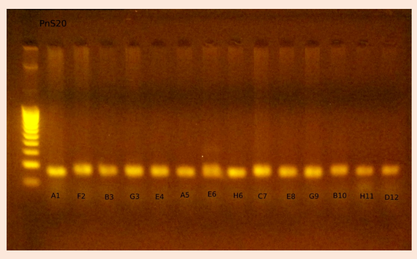
	Locus	F	R	Reference
M1	**PnS03**	F-5' TGCTAA ATAAAAGTTTCTCGGTGAG	R-5' AAGCTTGTATTTGCGTGTCG	Robainas-Barcia et al., 2002
M1	**PnS04**	F-5' CGATTTGCAGAACCCGTTTA	R-5' GGGGGAGGGGTTAGAAAGAG	Robainas-Barcia et al., 2002
M1	**PnS18**	F-5' GTCTTATCAAAACCCAAAGG	R-5' GAACCAGTCCCGGCCCTCTGC	Robainas-Barcia et al., 2008
	PnS01	F-5' TGCTGTTTGTGAGTCTT	R-5' TGGCATGTTGCAGACAGTCC	Robainas-Barcia et al., 2002
	PnS20	F-5' CTTCCATATTCGCATGATGG	R-5' ACCCGGGATCAAGCCCTTGC	Robainas-Barcia et al., 2008



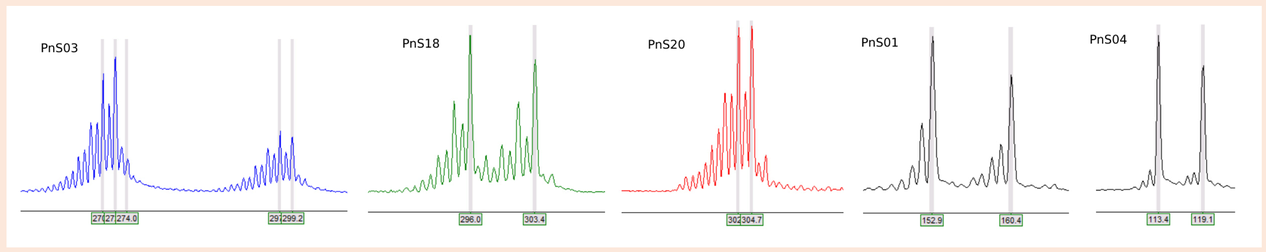
M1



PnS20



PnS01



4 Conclusions (preliminary)

The selected microsatellite markers have a high variability. The designed genetic tool (3 PCR reactions, 5 loci) is suitable for the assessment of connectivity in the species. A more in-depth analysis of this information is being carried out and these results may be useful for fisheries assessment and management of the species.

If you want to know more, don't miss our presentation on Tuesday 4 April in Room 1!!

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European Union