Annelids of the TDSB program

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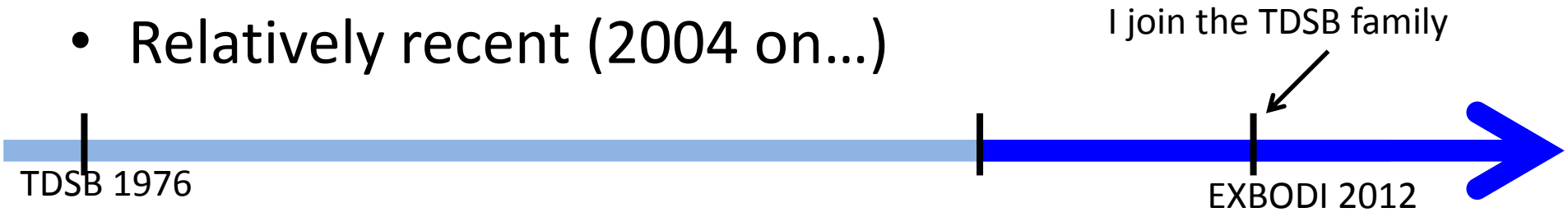
TDSB annelid samples

- Relatively recent (2004 on…)



but thousands of samples have been collected

Papua New Guinea, Vanuatu, French Guyana, New Caledonia, Fiji, Tonga, Madagascar

- Samples now preserved in ethanol

- Worked on an appropriate protocol to follow to get good morphology in ethanol

(Small) Taxonomic workshops

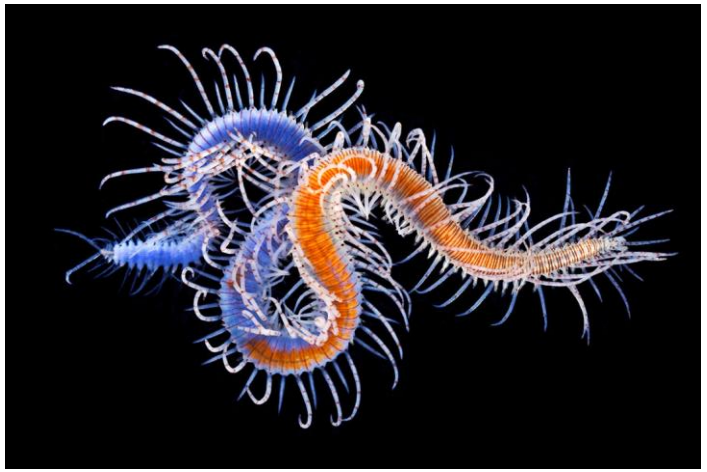
- Sunken wood samples Jan. 2012 (3 days)

  K. Fauchald, S. Gaudron, S. Hourdez, (R. Wilson)

- Papua New Guinea cruises. Oct. 2016 (3 days)

  R. Barnich, L. Borda, F. Olivier, C. Houbin, P. Mandon, S. Hourdez

This is only starting…



TDSB for my research

Origin and evolution of hydrothermal vent scaleworms (Polynoidae)

- Good vent samples collected throughout the years
- Need for usual deep-sea (i.e. non-vent) specimens

Approach

- Genes (16S, 18S, COI, 28S, H3)

- Taxa sampling effort:

  Cruises : **BIOPAPUA** (2010 PNG)

  EXBODI (2011 NC)

  KANACONO (2015 NC)

  MADANG (2012 PNG)

  PANGLAO (2005 Philippines)

  TARASOC (2009 french Polynesia)

  ACOUPA (French Guyana)

  MESCAL 1 and 2 (2010-2012 East Pacific Rise)

  Lau2009 (2009)

  Sampling in Roscoff (W. France)

  GenBank (but identification problems concerns)

Bold : Tropical Deep Sea Benthos program

Taxonomic sampling effort

190 genera, over 900 currently recognized species

Sub family containing genera living in HV ecosystem	nb sp (WoRMS)	nb genra (WoRMS)	nb sp (our study)	nb genra (our study)
Branchinotogluminae	8	1	8	2
Branchiplicatinae	-	-	1	1
Branchipolynoinae	3	1	3	1
Iphioninae	13	5	5	4
Lepidonotopodinae	-	-	6	1
Macellicephalinae	38	13	4	2
Vampiropolynoinae	1	1	0	0
total	**63**	**21**	**28**	**12**

Sub family containing no genera living in HV ecosystem	nb sp (WoRMS)	nb genra (WoRMS)	nb sp (our study)	nb genra (our study)
Admetellinae	4	2	0	0
Arctonoinae	12	5	4	2
Bathymacellinae	1	1	0	0
Eulagiscinae	6	2	3	1
Gesiellinae	1	1	0	0
Lepidastheniinae	48	3	1	1
Lepidonotinae	146	16	9	7
Polaruschakovinae	3	2	0	0
Polynoinae	319	45	28	19
NA	378	90	4	4
Uncopolynoinae	1	1	0	0
total	**541**	**78**	**49**	**34**

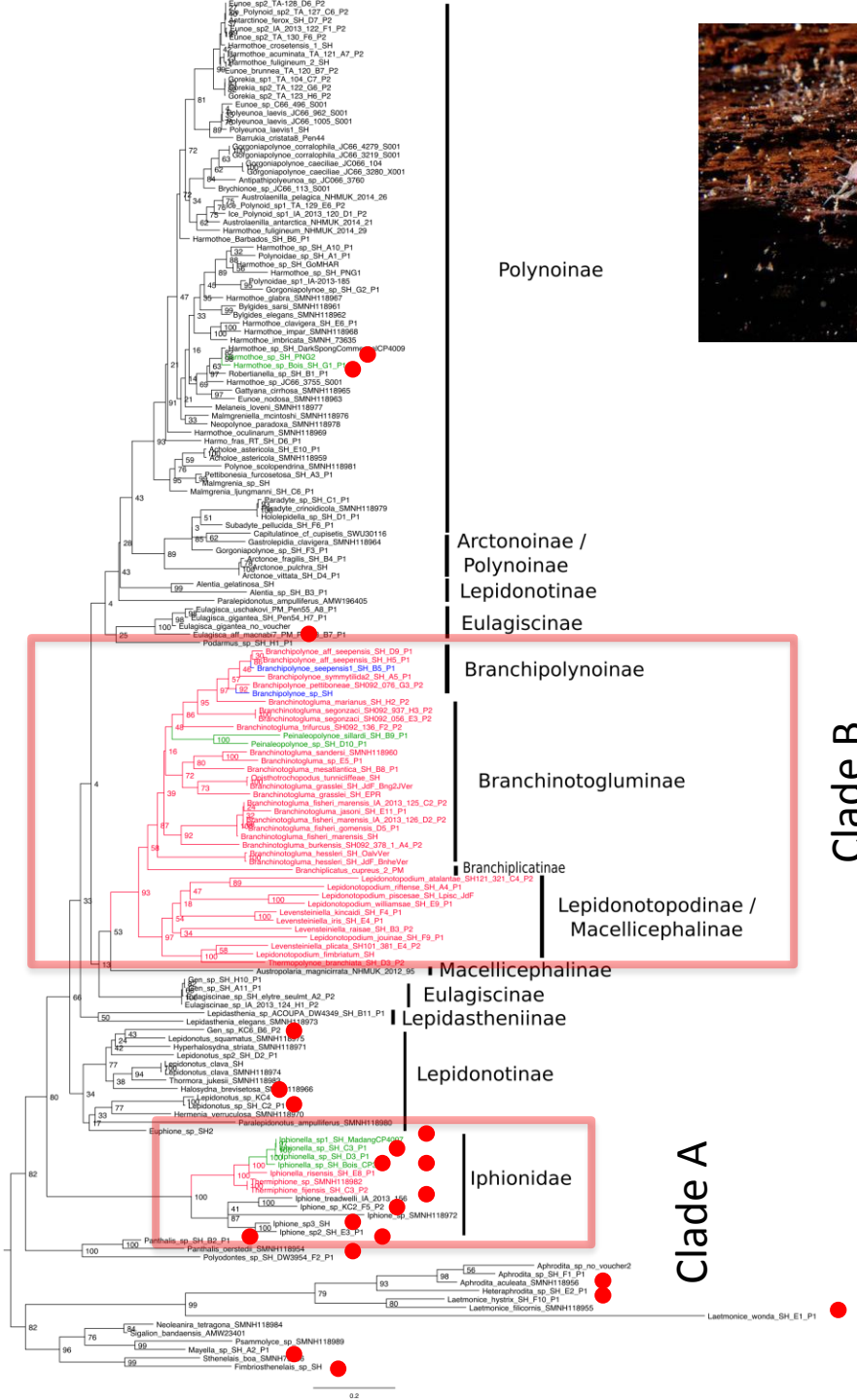
At least ½ nb of gerena/sp of the sub family represented in our study

Less than ½ nb of gerena/sp of the sub family represented in our study

No reprenstative specimen of the sub-family

Hydrothermal vent
Cold seep
Organic matter

TDSB samples

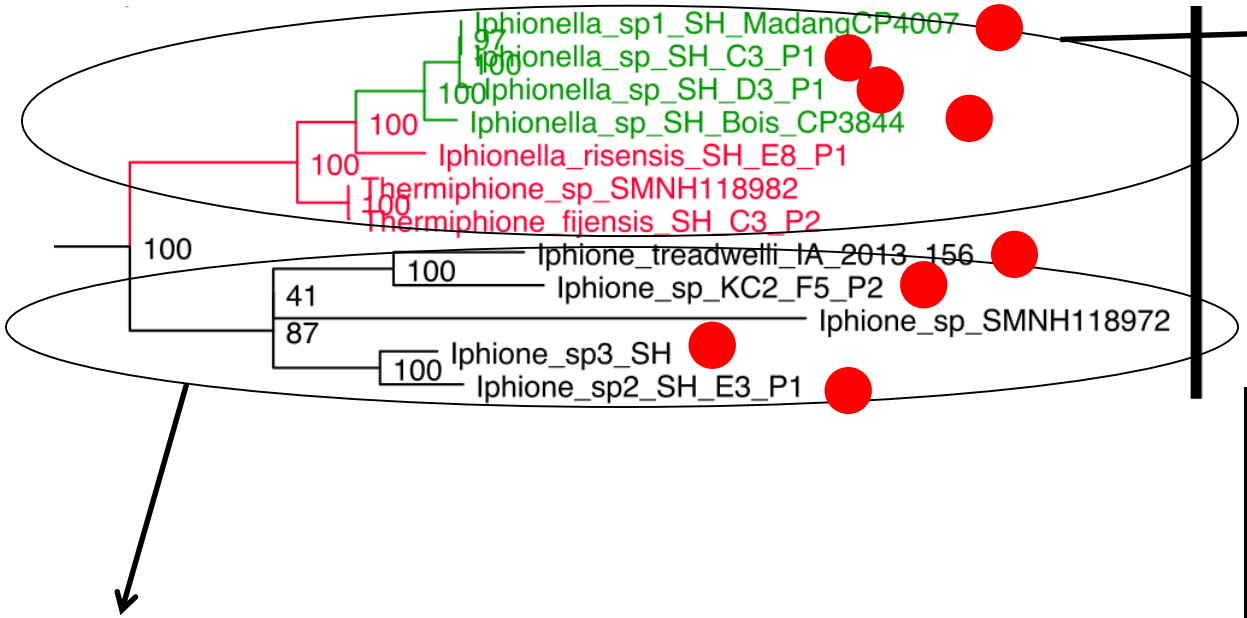


At least 2 colonisation events of hydrothermal vents

Work of Perrine Mandon (PhD student)

Iphioninae

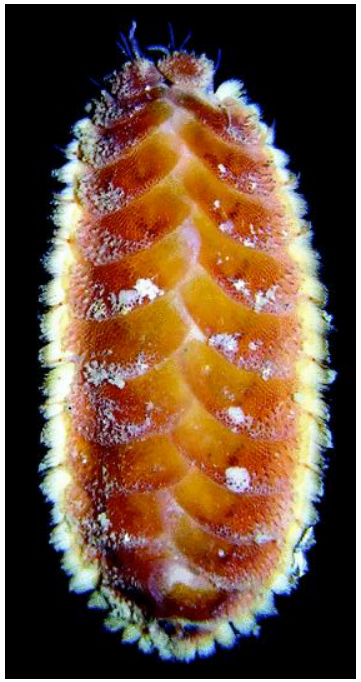
Clade A



Deep

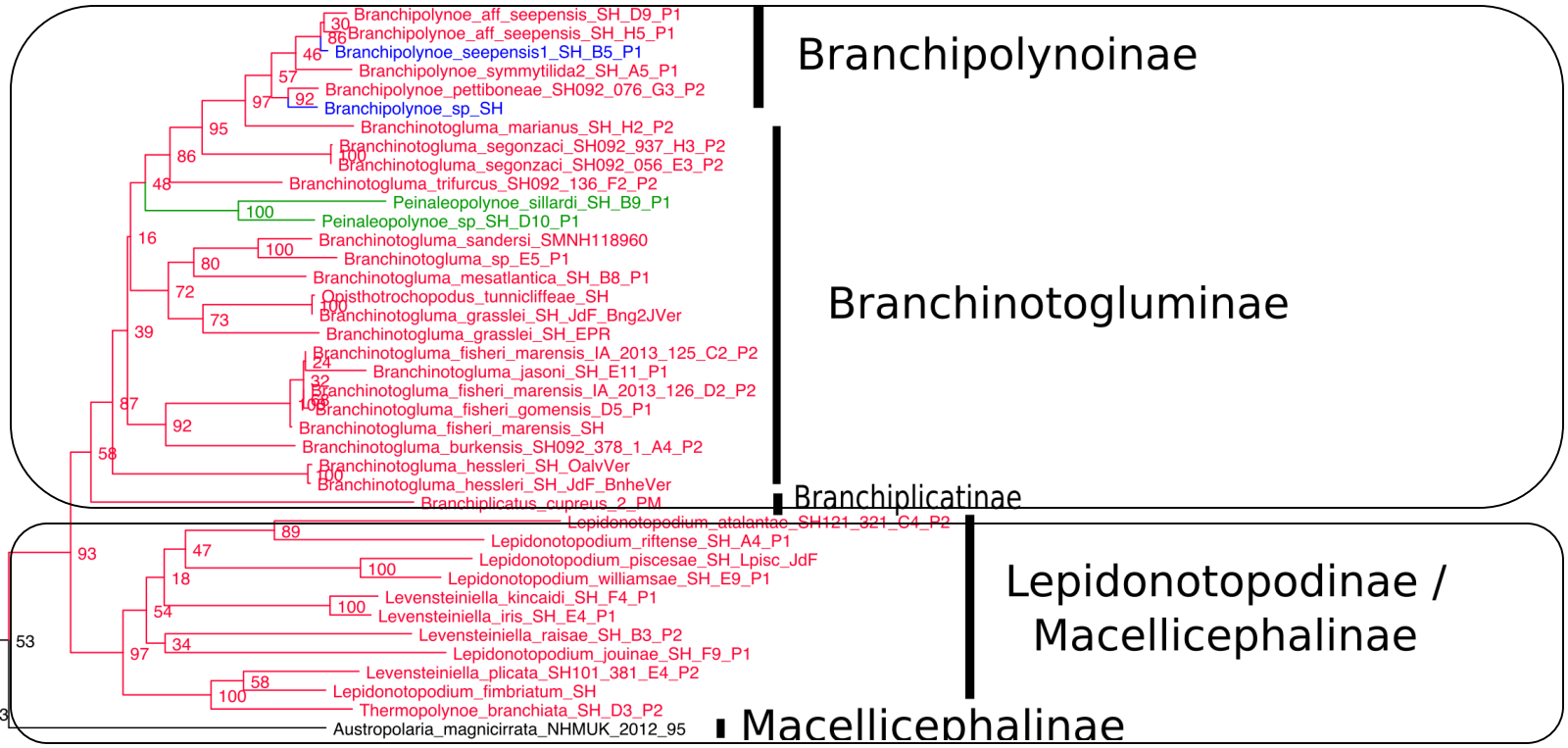
Iphioninae

Shallow and deep



Results and discussion

Clade B



2 groups

B.1 : species with gills

B.2 : *Thermopolynoe branchiata* has gills

B.1 Species from cold seeps : terminal nodes, no basal position

Thanks to all people putting a lot of effort into sampling, organizing cruises, sample management in the museum, … !!

THANK YOU FOR YOUR ATTENTION!