Name of site	Location	Region	Number of points?[1]	Temperature	Salin
Men Er Roue	47°32'5" N / 3°5'37" W	Brittany	503	3.8-22.2 (14.4 +/- 3.7)	20.1-38 (33.
Loscolo	47°27'27" N / 2°32'18" W	Brittany	463	5.7-22.4 (14.9 +/- 4.0)	14.0-36.8 (32
Croisic	47°18'0" N / 2°30'51" W	Brittany	500	4.8-28.9 (14.7 +/- 3.9)	14.7-37.6 (31
L'Eperon	46°16'13" N / 1°14'16" W	Oléron	460	3.0-26.0 (15.3 +/- 4.8)	13.0-36.6 (32
Cornard	46°3'19" N / 1°7'50" W	Oléron	491	3.1-29.2 (15.6 +/- 4.8)	19.0-38.1 (32
Auger	45°47'59" N / 1°12"19" W	Oléron	524	3.0-24.5 (15.4 +/- 4.4)	23.9-36.0 (32
Buoy7	44°32'32" N / 1°15'49" W	Arcachon	311	7.2-23.9 (15.2 +/- 3.8)	31.8-36.1 (34
Teychan	44°40'25" N / 1°9'31" W	Arcachon	494	5.5-25.2 (15.5 +/- 4.6)	20.6-35.8 (32
Antoine	43°22'41" N / 4°50'45" E	Mediterranean Sea	539	4.6-30.0 (16.8 +/- 5.1)	26.8-38.9 (32
Lazaret	43°5'14" N / 5°54'23" E	Mediterranean Sea	512	8.7-29.2 (17.4 +/- 4.2)	21.6-39.6 (35

Table 1: Attempt of summary for our locations ; should we add the species for each region ?

Code on the plot	Ref	Dimension	Type of organisms	System	
1a	[7], conditional least square estimates	9	Zooplankton	Lake	107 points
1b	[7], total least square estimates	9	Zooplankton	Lake	
2a	[9]	2	Phytoplankton	Lake	108
2b	[9]	3	Zooplankton	Lake	
3a	[8]	4	Functional groups of plankton	Lake	18
3b	[8]	5	Taxonomic groups of plankton	Lake	
4a	[6]	4	Plankton	Lake	
4b	[6]	4	Plankton	Lake with high planktivory	
4c	[6]	4	Plankton	Lake with low planktivory	
5a	[4]	14	Plankton	Lake	
5b	[4]	14	Plankton, growing season	Lake	
6a	[3]	13	Plankton	Lake	
6b	[3]	7	Simpler web, plankton	Lake	
7a	[5]	10	Ciliates	Lake	
7b	[5]	10	Phytoplankton	Lake	
8a	[12]	3	Insects	Terrestrial	
9a	[11]	2	Lynx/Hare	Terrestrial	
10a	[10]	3	Fish	Baltic Sea	
11a	[2]	7	Phytoplankton	Coastal site	
11b	[2]	7	Phytoplankton	Offshore site	
12a	[1]	12	Phytoplankton	Outside a bay	
12b	[1]	12	Phytoplankton	Inside a bay	

Table 2: References used [TO COMPLETE]

[1] From 1996, without linear interpolation

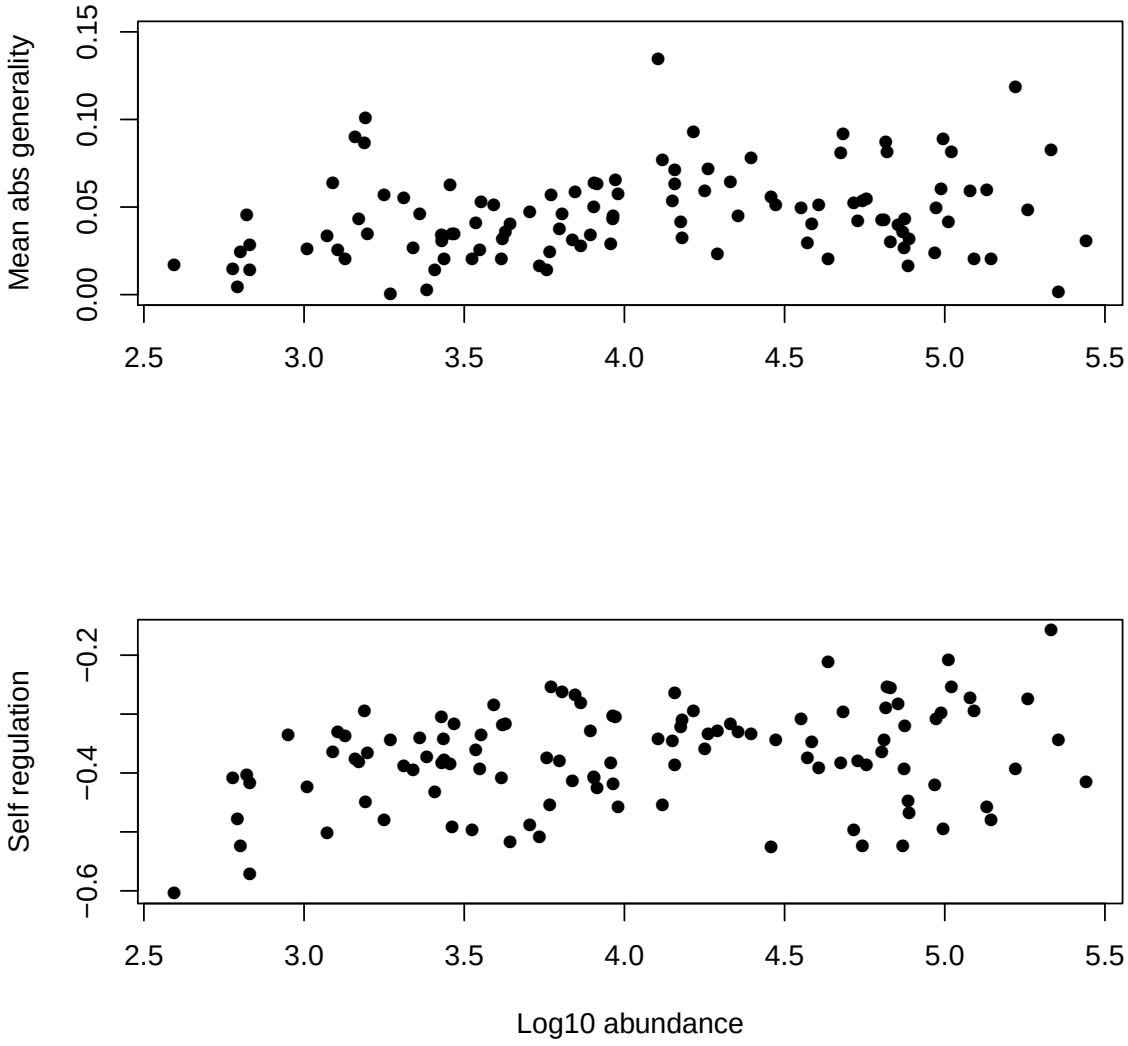

Figure 1: Relation between mean abundance and intra/inter - interactions

Species identity

We were wondering if species generality was the same in all sites, in all regions. First had a look at plots, looking for patterns (didn't find any).

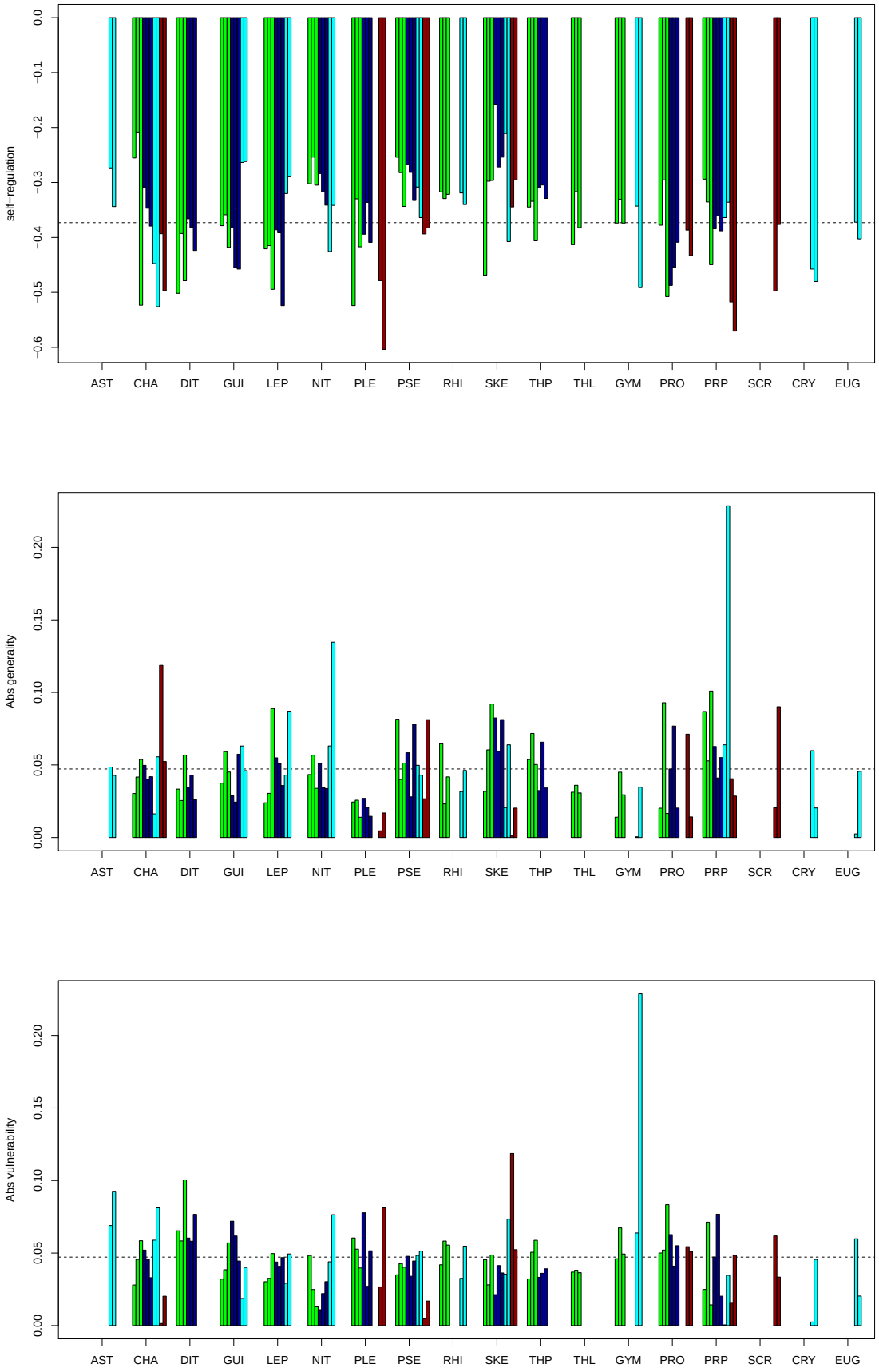

Figure 2: Self regulation, vulnerability and generality of each species in 10 different sites. The dotted line indicates the average parameter value.

I then ranked each species according to its self-regulation, average absolute vulnerability and absolute generality, in each site, and focused and the first and last 3 groups in each least (i.e., the 3 most and least regulated species; the 3 least and most vulnerable/general species) to find patterns within a given region (we only have 4 species in common in the 4 regions : CHA, PSE, and PRP, making it difficult to conclude anything for all regions).

The lists are similar within a region, except for Brittany which shows the most variability in the rank of the species.

SKE almost always belongs to the least regulated groups, in all sites. However, I saw no other pattern in vulnerability nor generality.

[**TBC**]

Comparing Barraquand 2018 and this study

	Teychan	B7
Mean Intra	0.352/0.342	0.404/0.382
Sd Intra	0.077/0.076	0.082/0.082
Mean Inter[2]	0.075/0.073	0.126/0.128
Sd Inter	0.015/0.015	0.039/0.052
Sparsity	0.87/0.87	0.86/0.85
%Pos	22/23	23/21

Table 3: Comparison of main metrics on the interaction matrix in Teychan and B7 in Barraquand 2018/this study

References

[1] F. Barraquand, C. Picoche, D. Maurer, L. Carassou, and I. Auby. Coastal phytoplankton community dynamics and coexistence driven by intragroup density-dependence, light and hydrodynamics. *Oikos*, 127(12):1834–1852, 2018.

[2] J.R. Griffiths, S. Hajdu, A.S. Downing, O. Hjerne, U. Larsson, and M. Winder. Phytoplankton community interactions and environmental sensitivity in coastal and offshore habitats. *Oikos*, 125(8):1134–1143, 2015.

[3] S.E. Hampton, M.D. Scheuerell, and D.E. Schindler. Coalescence in the lake washington story: Interaction strengths in a planktonic food web. *Limnology and Oceanography*, 51(5):2042–2051, 2006.

[4] Stephanie E. Hampton and Daniel E. Schindler. Empirical evaluation of observation scale effects in community time series. *Oikos*, 113(3):424–439, 2006.

[5] V. Huber and U. Gaedke. The role of predation for seasonal variability patterns among phytoplankton and ciliates. *Oikos*, 114(2):265–276, 2006.

[6] A. R. Ives, B. Dennis, K. L. Cottingham, and S. R. Carpenter. Estimating community stability and ecological interactions from time-series data. *Ecological monographs*, 73(2):301–330, 2003.

[7] A.R. Ives, S.R. Carpenter, and B. Dennis. Community interaction webs and zooplankton responses to planktivory manipulations. *Ecology*, 80(4):1405–1421, 1999.

[8] J.L. Klug and K.L. Cottingham. Interactions among environmental drivers: Community responses to changing nutrients and dissolved organic carbon. *Ecology*, 82(12):3390–3403, 2001.

[9] J.L. Klug, J.M. Fischer, A.R. Ives, and B. Dennis. Compensatory dynamics in planktonic community responses to pH perturbations. *Ecology*, 81(2):387–398, 2000.

[10] M. Lindegren, C. Möllmann, A. Nielsen, and N.C. Stenseth. Preventing the collapse of the Baltic cod stock through an ecosystem-based management approach. *Proceedings of the National Academy of Sciences*, 106(34):14722–14727, 2009.

[2] taking all coeff into account, not only significant ones

[11] J.O. Vik, C.N. Brinch, S. Boutin, and N.C. Stenseth. Interlinking hare and lynx dynamics using a century's worth of annual data. *Population Ecology*, 50(3):267–274, 2008.

[12] K. Yamamura, M. Yokozawa, M. Nishimori, Y. Ueda, and T. Yokosuka. How to analyze long-term insect population dynamics under climate change: 50-year data of three insect pests in paddy fields. *Population Ecology*, 48(1):31–48, 2006.