Computational calculation and visualization of the Biological Value Index

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Abstract

Abstract goes here

Contents

#Introduction

Todo esto es mierda, tengo que modificarlo

- Indices in ecology

Usually people describe a site by the species that inhabit it, but do not pay much attention to how some species are incharged of the simmilarities.

- History of the index - When it was proposed - How it worked - Modifications by Loya Salinas - How it works now
- Usage of the index - Works that have used it
- Stating the problem
  - Lack of comparison
  - computability

1 Materials and Methods

- How the index works, step by step (possibly citing Loya-Salinas)
- Flow diagram depfun(ivb)
- Adding the %BVI

$$\%BVI_i = \frac{(100 \times BVI_i)}{\sum_{i=1}^{n} BVI_i} \tag{1}$$

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- Compare N and Ni vs rBVI to test its usefulness
- Propose ways to visualize rBVI
- Recreating Loya-Salinas

Spp	S1	S2	S3	S4	S5	S6
Synchelidium spp.	2398	1626	811	1275	1343	7079
Tridentella spp.	2048	1125	528	1990	1098	1274
Nerine cirratulus	37	165	1141	1540	118	53
Nephtys californiensis	544	875	404	170	58	90
Glycera tenuis	265	566	106	646	133	118
Donax gouldii	914	75	42	5	5	15
Orchestoidea benedicti	11	251	133	79	162	245
Archaeomysis spp.	958	90	160	37	522	111
Armadillium spp.	59	155	91	16	208	283
Megalopus spp.	149	266	48	30	0	0
Emerita analoga	101	16	96	27	0	10
Pontharpinia spp.	69	96	11	16	0	0
Euzonus mucronata	0	0	37	341	0	0
Lepidopa californica	5	69	16	0	16	0
Magelona californica	0	5	5	0	42	10
Hanstorina spp.	0	16	5	0	0	0
Glycera dibranchiata	0	0	0	0	5	0
Archaeomysis maculata	0	0	0	5	0	0

- Mention using SIMPER as a comparative
- Propose a graph to visualize data

2 Results

- Results from Loya-Salinas
- Graph
- Comparing %BVI with SIMPER
- Table with abundances, BVI, %BVI and SIMPER

	Species	S1	S2	S3	S4	S5	S6	BVI	%BVI
Synchelidium spp.	Synchelidium spp.	10	10	9	8	10	10	57	17.22
Tridentella spp.	Tridentella spp.	9	9	8	10	9	9	54	16.31
Glycera tenuis	Glycera tenuis	5	7	4	7	5	6	34	10.27
Nephtys californiensis	Nephtys californiensis	6	8	7	5	3	4	33	9.97
Archaeomysis spp.	Archaeomysis spp.	8	1	6	3	8	5	31	9.37
Nerine cirratulus	Nerine cirratulus	0	4	10	9	4	3	30	9.06
Orchestoidea benedicti	Orchestoidea benedicti	0	5	5	4	6	7	27	8.16
Armadillium spp.	Armadillium spp.	1	3	2	0	7	8	21	6.34
Megalopus spp.	Megalopus spp.	4	6	1	2	0	0	13	3.93
Donax gouldii	Donax gouldii	7	0	0	0	0	2	9	2.72
11	Others	5	2	3	7	3	2	22	0.07
1	Total								100.00

Table 1:

	Dependent variable:	
	(1)	(2)
rBVI	0.016^{***} (0.002)	0.118^{***} (0.010)
Constant	-0.040^{**} (0.016)	1.189^{***} (0.090)
Observations	81	81
R^2	0.489	0.636
Residual Std. Error (df = 79)	0.088	0.482
F Statistic (df = 1; 79)	75.486^{***}	138.264^{***}
Note:		*p<0.1; **p<0.05; ***p<0.01

```
## `geom_smooth()` using formula 'y ~ x'
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```

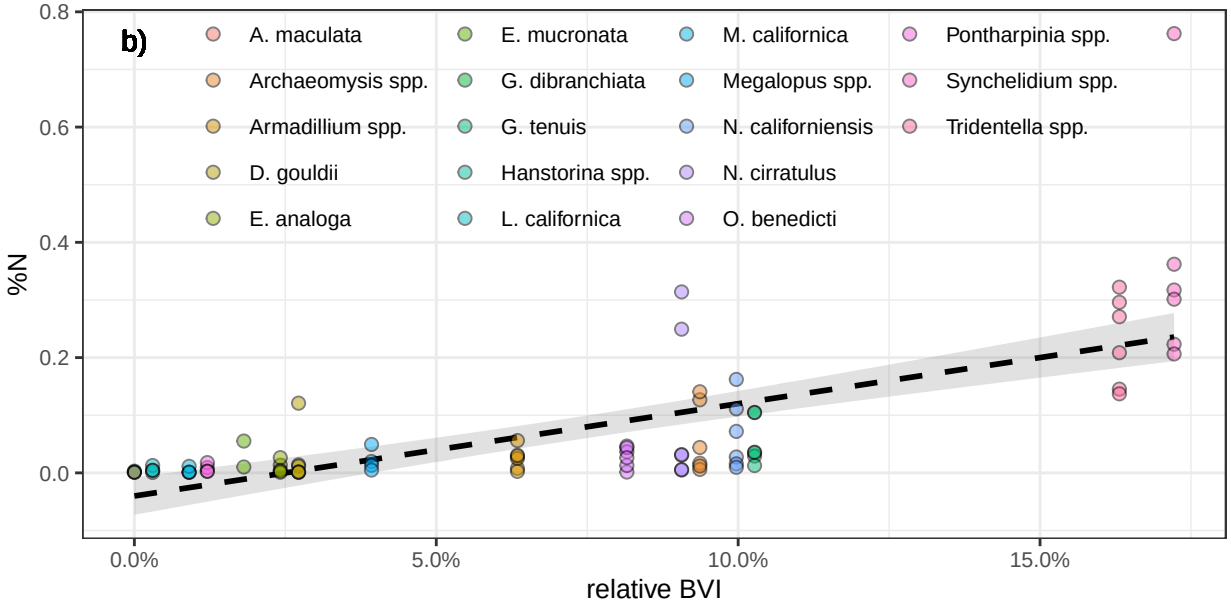

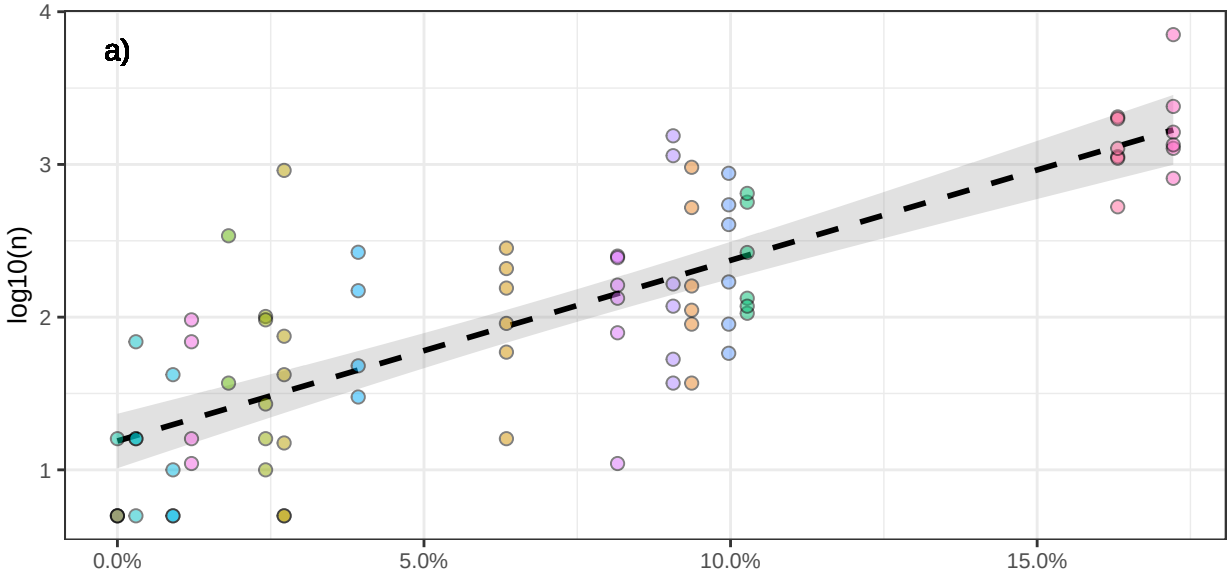

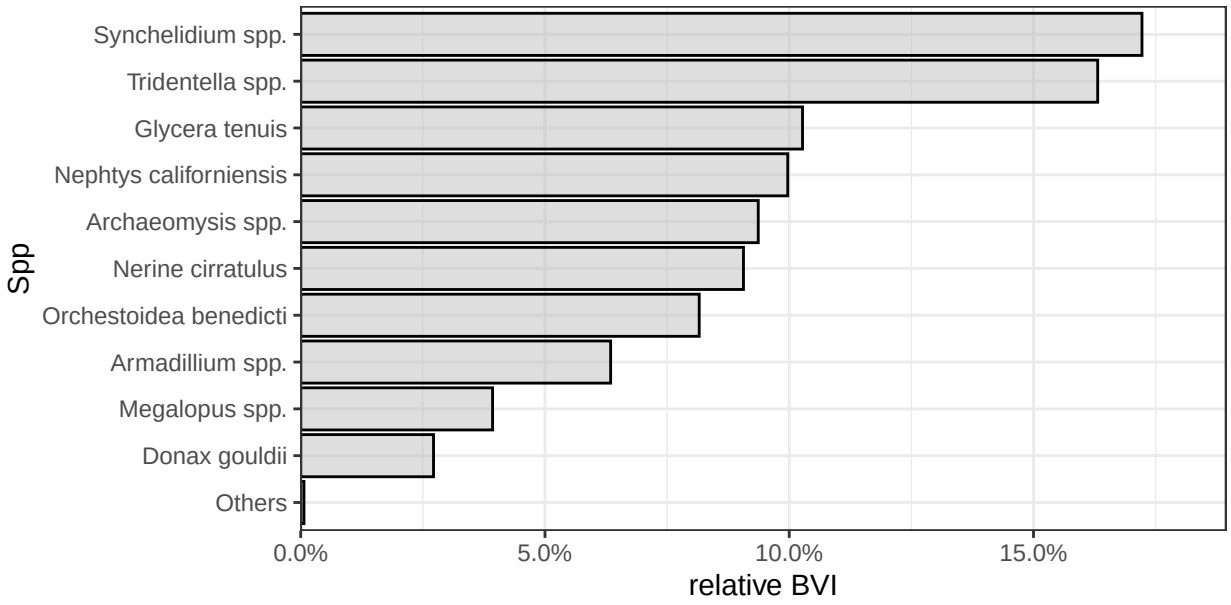

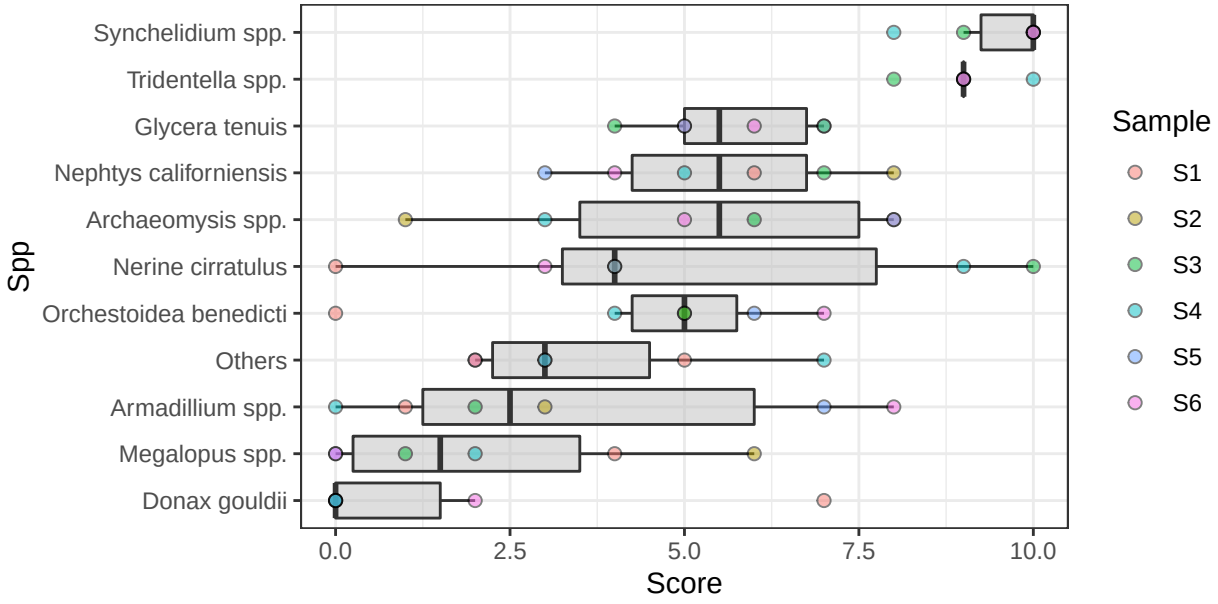

3 Discussion and Conclusions

4 References

5 Figures and Tables