



IAVS-LAC

This Session

Data Shapes

From the field to the desk

[Session 3]

Miguel Alvarez

5th May 2023



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Data Shapes

- ▶ Data Shapes
- ▶ Introduction to vegetable
- ▶ Assessing taxonomic information in plots



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Vegetation-plot observation

Phytosociological relevés

- ▶ Abundance/presence of species in plot
- ▶ Environmental variables
- ▶ Species attributes
 - ▶ Life forms
 - ▶ Chorology
 - ▶ Functional traits
 - ▶ Taxonomy



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... served to the readers

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Table 2. *Tessario absinthioidis*-*Baccharidetum marginalis* Oberd. 1960

Riverbank composition: R/r = rocks (> 50 cm Ø); G/g = gravel (< 50 cm Ø); indicate abundant, lowercase scarce; (x) = xenophytic plant

Altitude (m asl)	160	225	1110	1055	505
Area (m ²)	80	180	100	250	200
Slope (°)	0	0	0	10	0
Cover E _i (%)	100	85	100	60	70
High shrub layer (m)	5-8	3-8	1-3	1-2	1-2.5
Riverbank composition	gsL	gS	rGS	RGS	rGS
Latitude	34° 03'	34° 22'	35° 02'	35° 02'	35° 42'
N. species	11	10	14	9	13
N. relevé	1	2	3	4	5
<i>Baccharidetea</i> / <i>Salicetea</i> species					
<i>Baccharis salicifolia</i>	1	3	3	3	4
<i>Otholobium glandulosum</i>	2	1	.	.	3
<i>Cortaderia</i> gr. <i>selloana</i>	.	r	1	+	1
<i>Salix humboldtiana</i>	4	4	.	.	.
<i>Tessaria absinthioides</i>	.	3	4	3	+
<i>Equisetum bogotense</i>	.	.	2	.	1
<i>Discaria trinervis</i>	.	.	3	.	.
<i>Buddleja globosa</i>	.	.	+	.	.
<i>Escallonia myrtoidea</i>	.	.	+	.	.
<i>Myrceugenia lanceolata</i>

... served to the statistical software

##	Adesparv	Bromtris	Cardramo
## 6216	1	1	1
## 6217	0	1	0
## 6218	0	0	0
## 6219	0	0	0
## 6220	0	0	0
## 6221	0	0	0
## 6222	0	0	0
## 6359	0	0	0
## 6360	0	1	1
## 6361	0	1	0
## 6362	0	1	0
## 6523	0	1	0
## 6524	0	1	0
## 6574	0	0	0
## 6575	0	0	0
## 6576	0	1	1
## 6577	0	0	0
## 6578	0	0	0
## 6579	0	0	0
## 6580	0	0	0
##	Crasdecu	Dichseri	
## 6216	1	1	
## 6217	0	0	

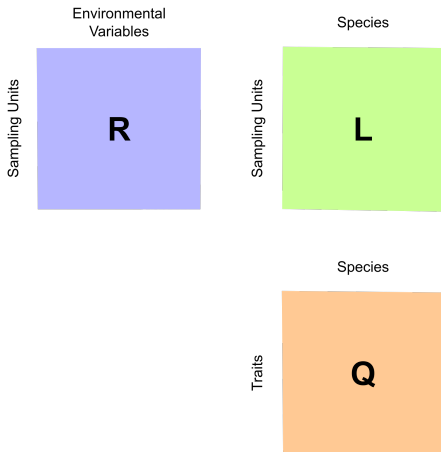


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- ▶ **R** environmental table (header)
- ▶ **Q** species-trait table (vegetation matrix)
- ▶ **L** species composition table (species attributes)

Dolédec et al. (1996) Environmental and Ecological Statistics

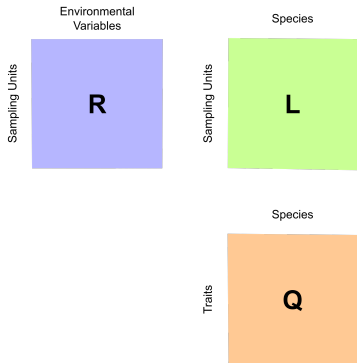


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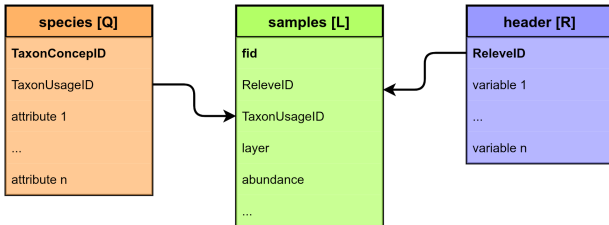
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Relational database schema



- ▶ Efficient storage
 - ▶ Efficient data assessment?
- ▶ Little redundancy
- ▶ Consistency



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Vegetation matrix cross table

##	Adesparv	Bromtris	Cardramo
## 6216	1	1	1
## 6217	0	1	0
## 6218	0	0	0
## 6219	0	0	0
## 6220	0	0	0
## 6221	0	0	0
## 6222	0	0	0
## 6359	0	0	0
## 6360	0	1	1
## 6361	0	1	0
## 6362	0	1	0
## 6523	0	1	0
## 6524	0	1	0
## 6574	0	0	0
## 6575	0	0	0
## 6576	0	1	1
## 6577	0	0	0
## 6578	0	0	0
##	Crasdecu	Dichseri	
## 6216	1	1	
## 6217	0	0	

Database list column-oriented table

##	record_id	ReleveID	codename	cover
## 9329	137451	7993	Hypoglab	1
## 9330	137452	7993	Lythhyss	1
## 9331	137453	7993	Micrnana	1
## 9332	137454	7993	Piluamer	1
## 9333	137455	7993	Psilbrev	1
## 9335	137457	7993	Isolcern	2
## 9337	137459	7993	Plagsess	1
## 9338	137460	7994	Lythhyss	1
## 9339	137461	7994	Piluamer	1
## 9340	137462	7994	Psilbrev	1
## 9343	137465	7994	Plagsess	1
## 9344	137466	7994	Isoëhier	1
## 9345	137467	7258	Agrocapi	1
## 9346	137468	7258	Bromtris	1
## 9347	137469	7258	Erodmala	1
## 9348	137470	7258	Hypoglab	1
## 9349	137471	7258	Juncbufo	1
## 9350	137472	7258	Lepuspat	1





Thank You!

Jesse Fleri, mangrove, Gilligan's Island, Puerto Rico