

Redundancy Analysis (RDA) – Bacterial Data

Call:

```
rda(formula = data ~ Ave..Temp + Max.Temp + Rainfall, data = ENV[1:5])
```

Partitioning of variance:

	Inertia	Proportion
Total	0.8967	1.0000
Constrained	0.3621	0.4038
Unconstrained	0.5347	0.5962

Eigenvalues, and their contribution to the variance

Importance of components:

	RDA1	RDA2	RDA3	PC1	PC2	PC3	PC4
Eigenvalue	0.1676	0.1154	0.07915	0.09232	0.09091	0.09037	0.08809
Proportion Explained	0.1869	0.1286	0.08827	0.10295	0.10138	0.10078	0.09824
Cumulative Proportion	0.1869	0.3155	0.40377	0.50672	0.60809	0.70888	0.80711

	PC5	PC6	PC7	PC8
Eigenvalue	0.07015	0.04574	0.03299	0.02408
Proportion Explained	0.07823	0.05101	0.03679	0.02686
Cumulative Proportion	0.88534	0.93635	0.97314	1.00000

Accumulated constrained eigenvalues

Importance of components:

	RDA1	RDA2	RDA3
Eigenvalue	0.1676	0.1154	0.07915
Proportion Explained	0.4628	0.3186	0.21861
Cumulative Proportion	0.4628	0.7814	1.00000

.....
Site scores (weighted sums of species scores)

	RDA1	RDA2	RDA3	PC1	PC2	PC3
NBFM12Ab	-0.7062	0.32114	-0.37414	0.0164997	3.163e-17	-0.433032
NBFM12Bb	-0.6921	0.38982	-0.40983	0.0139388	2.279e-16	-0.271565
OBYR16b	-0.6349	0.12107	0.27221	-0.0005625	-6.602e-16	-0.514829
OBYR17b	0.5364	-0.03643	-1.52136	-0.0163483	-2.113e-16	0.298014
OBYR19b	-0.7032	0.35045	0.30592	-0.0235446	7.267e-17	0.765156
OBYR20Ab	0.5317	0.36510	0.32267	-0.8826587	-1.253e+00	-0.048050
OBYR20Bb	0.5404	0.37381	0.33270	0.8889596	4.221e-14	-0.007672
OBYR20Cb	0.5404	0.37381	0.33270	0.8889596	8.769e-15	-0.007672
OBYR20Db	0.5317	0.36510	0.32267	-0.8826587	1.253e+00	-0.048050
OBYR21Ab	0.2026	-0.99304	-0.04201	-0.0187653	4.305e-16	0.803628
OBYR21Bb	-0.3586	-0.59925	0.19173	0.0201381	-5.533e-16	-1.024926
OBYR21Cb	0.2116	-1.03159	0.26675	-0.0039575	3.658e-16	0.488996

Site constraints (linear combinations of constraining variables)

	RDA1	RDA2	RDA3	PC1	PC2	PC3
NBFM12Ab	-0.6487	0.24851	-0.5156	0.0164997	3.163e-17	-0.433032
NBFM12Bb	-0.6487	0.24851	-0.5156	0.0139388	2.279e-16	-0.271565
OBYR16b	-0.3001	0.01137	0.5137	-0.0005625	-6.602e-16	-0.514829
OBYR17b	0.5336	0.06116	-1.3524	-0.0163483	-2.113e-16	0.298014
OBYR19b	-0.9217	0.56334	0.3984	-0.0235446	7.267e-17	0.765156
OBYR20Ab	0.5178	0.35702	0.2819	-0.8826587	-1.253e+00	-0.048050
OBYR20Bb	0.5178	0.35702	0.2819	0.8889596	4.221e-14	-0.007672
OBYR20Cb	0.5178	0.35702	0.2819	0.8889596	8.769e-15	-0.007672
OBYR20Db	0.5178	0.35702	0.2819	-0.8826587	1.253e+00	-0.048050

OBYR21Ab	-0.0285	-0.85365	0.1147	-0.0187653	4.305e-16	0.803628
OBYR21Bb	-0.0285	-0.85365	0.1147	0.0201381	-5.533e-16	-1.024926
OBYR21Cb	-0.0285	-0.85365	0.1147	-0.0039575	3.658e-16	0.488996

Biplot scores for constraining variables

	RDA1	RDA2	RDA3	PC1	PC2	PC3
Ave..Temp	-0.4999	-0.33801	0.7974	0	0	0
Max.Temp	0.4227	0.78915	0.4456	0	0	0
Rainfall	-0.6824	-0.01811	-0.7307	0	0	0

Constrained correspondence analysis (CCA) – Fungal Data

Call:

```
cca(formula = data ~ Ave..Temp + Max.Temp + Rainfall + Humidity, data
= ENV[2:5])
```

Partitioning of scaled Chi-square:

	Inertia	Proportion
Total	4.971	1.0000
Constrained	2.309	0.4645
Unconstrained	2.662	0.5355

Eigenvalues, and their contribution to the scaled Chi-square

Importance of components:

	CCA1	CCA2	CCA3	CCA4	CA1	CA2	CA3
Eigenvalue	0.6912	0.6654	0.5573	0.39529	0.6222	0.5848	0.42763
Proportion Explained	0.1390	0.1339	0.1121	0.07952	0.1252	0.1176	0.08603
Cumulative Proportion	0.1390	0.2729	0.3850	0.46453	0.5897	0.7073	0.79336

	CA4	CA5	CA6	CA7
Eigenvalue	0.38958	0.34178	0.20390	0.09193
Proportion Explained	0.07837	0.06876	0.04102	0.01849
Cumulative Proportion	0.87173	0.94049	0.98151	1.00000

Accumulated constrained eigenvalues

Importance of components:

	CCA1	CCA2	CCA3	CCA4
Eigenvalue	0.6912	0.6654	0.5573	0.3953
Proportion Explained	0.2993	0.2881	0.2414	0.1712
Cumulative Proportion	0.2993	0.5875	0.8288	1.0000

Site scores (weighted averages of species scores)

	CCA1	CCA2	CCA3	CCA4	CA1	CA2
NBFM12Af	-1.35067	-0.13711	-0.32398	0.32375	0.02292	-0.24757
NBFM12Bf	-1.79405	0.09253	-0.22039	-0.05644	-0.11975	-0.75883
OBYR16f	1.24536	-0.89576	0.52276	-0.66304	-0.17666	-1.47523
OBYR17f	0.89542	0.15999	-3.15201	-1.07899	0.07444	0.62163
OBYR19f	-0.17370	-0.01689	1.25016	-2.43742	0.22069	1.84288
OBYR20Af	0.80730	1.90441	0.49130	0.82189	-1.70975	0.04058
OBYR20Bf	0.16313	1.77283	0.38538	0.32854	3.62400	-0.71633
OBYR20Cf	0.82614	2.23393	0.46969	0.64664	-2.15227	-0.03893
OBYR20Df	0.67191	1.75081	0.25135	0.22372	-0.09631	0.87374
OBYR21Af	0.80478	-1.11960	0.30409	0.76096	-0.11485	-0.38414
OBYR21Bf	-0.73501	-0.76296	-0.03269	1.37720	0.21466	0.92781

OBYR21Cf -0.02259 -0.67467 -0.08466 1.66741 0.24835 1.43530

Site constraints (linear combinations of constraining variables)

	CCA1	CCA2	CCA3	CCA4	CA1	CA2
NBFM12Af	-1.6040	0.08463	-0.2279	-0.1523	0.02292	-0.24757
NBFM12Bf	-1.6040	0.08463	-0.2279	-0.1523	-0.11975	-0.75883
OBYR16f	1.3293	-0.70794	0.5974	-1.2523	-0.17666	-1.47523
OBYR17f	0.8601	0.08085	-3.1835	-0.8307	0.07444	0.62163
OBYR19f	-0.2785	-0.25151	1.1569	-1.7013	0.22069	1.84288
OBYR20Af	0.6058	1.90202	0.3983	0.5157	-1.70975	0.04058
OBYR20Bf	0.6058	1.90202	0.3983	0.5157	3.62400	-0.71633
OBYR20Cf	0.6058	1.90202	0.3983	0.5157	-2.15227	-0.03893
OBYR20Df	0.6058	1.90202	0.3983	0.5157	-0.09631	0.87374
OBYR21Af	0.2864	-0.98198	0.1282	1.2262	-0.11485	-0.38414
OBYR21Bf	0.2864	-0.98198	0.1282	1.2262	0.21466	0.92781
OBYR21Cf	0.2864	-0.98198	0.1282	1.2262	0.24835	1.43530

Biplot scores for constraining variables

	CCA1	CCA2	CCA3	CCA4	CA1	CA2
Ave..Temp	0.1261	-0.4552	0.8804	0.04297	0	0
Max.Temp	0.2899	0.8043	0.3452	-0.38715	0	0
Rainfall	-0.7705	-0.3198	-0.4324	-0.34231	0	0
Humidity	0.4323	-0.7970	-0.4198	0.04242	0	0