

## **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

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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 ~ Min..Temp + Ave..Temp + Max.Temp + Rainfall + Humidity, data = ENV[1:5])
```

Partitioning of scaled Chi-square:

	Inertia	Proportion
Total	4.971	1.0000
Constrained	2.838	0.5709
Unconstrained	2.133	0.4291

Eigenvalues, and their contribution to the scaled Chi-square

Importance of components:

	CCA1	CCA2	CCA3	CCA4	CCA5	CA1	CA2
Eigenvalue	0.7220	0.6850	0.5808	0.5462	0.30404	0.6216	0.42919
Proportion Explained	0.1453	0.1378	0.1168	0.1099	0.06116	0.1251	0.08634
Cumulative Proportion	0.1453	0.2830	0.3999	0.5098	0.57093	0.6960	0.78232

  

	CA3	CA4	CA5	CA6
Eigenvalue	0.42462	0.35225	0.21119	0.09398
Proportion Explained	0.08542	0.07086	0.04248	0.01891
Cumulative Proportion	0.86775	0.93861	0.98109	1.00000

Accumulated constrained eigenvalues

Importance of components:

	CCA1	CCA2	CCA3	CCA4	CCA5
Eigenvalue	0.7220	0.6850	0.5808	0.5462	0.3040
Proportion Explained	0.2544	0.2414	0.2047	0.1924	0.1071
Cumulative Proportion	0.2544	0.4958	0.7004	0.8929	1.0000

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Site scores (weighted averages of species scores)

	CCA1	CCA2	CCA3	CCA4	CCA5	CA1
NBFM12Af	-1.0195	-0.9608	-0.16230	-0.202570	0.08845	-5.736e-02
NBFM12Bf	-1.1995	-1.4250	-0.21917	-0.060147	-0.68792	3.152e-02
OBYR16f	-0.2688	1.6246	0.02271	0.661004	-1.98737	1.033e-14
OBYR17f	0.8144	0.5824	-1.24113	-3.084599	-0.17103	-4.122e-15
OBYR19f	1.1774	-0.5551	2.62465	-0.511947	-0.25011	-1.217e-14
OBYR20Af	1.5214	-0.3523	-1.07686	1.202286	0.38923	1.706e+00
OBYR20Bf	1.1582	-0.8293	-0.80264	0.881330	-0.02422	-3.677e+00
OBYR20Cf	1.7270	-0.5153	-1.24390	1.253224	0.07558	2.138e+00
OBYR20Df	1.5804	-0.4521	-0.71139	0.626753	0.26311	1.837e-01
OBYR21Af	-0.4186	1.3232	0.24934	0.327702	0.68275	8.472e-02
OBYR21Bf	-0.9950	-0.1367	0.15901	0.018537	1.73730	-1.214e-01

OBYR21Cf -0.4476 0.3646 0.08049 -0.009226 2.37421 -9.890e-02

Site constraints (linear combinations of constraining variables)

	CCA1	CCA2	CCA3	CCA4	CCA5	CA1
NBFM12Af	-1.1357	-1.2604	-0.19900	-0.1107	-0.4126	-5.736e-02
NBFM12Bf	-1.1357	-1.2604	-0.19900	-0.1107	-0.4126	3.152e-02
OBYR16f	-0.2688	1.6246	0.02271	0.6610	-1.9874	1.033e-14
OBYR17f	0.8144	0.5824	-1.24113	-3.0846	-0.1710	-4.122e-15
OBYR19f	1.1774	-0.5551	2.62465	-0.5119	-0.2501	-1.217e-14
OBYR20Af	1.4852	-0.5397	-0.95178	0.9875	0.1786	1.706e+00
OBYR20Bf	1.4852	-0.5397	-0.95178	0.9875	0.1786	-3.677e+00
OBYR20Cf	1.4852	-0.5397	-0.95178	0.9875	0.1786	2.138e+00
OBYR20Df	1.4852	-0.5397	-0.95178	0.9875	0.1786	1.837e-01
OBYR21Af	-0.5377	0.8063	0.19073	0.1857	1.2990	8.472e-02
OBYR21Bf	-0.5377	0.8063	0.19073	0.1857	1.2990	-1.214e-01
OBYR21Cf	-0.5377	0.8063	0.19073	0.1857	1.2990	-9.890e-02

Biplot scores for constraining variables

	CCA1	CCA2	CCA3	CCA4	CCA5	CA1
Min..Temp	-0.001308	-0.8973	0.15617	-0.0641	-0.40796	0
Ave..Temp	-0.166977	0.3332	0.66504	0.6463	0.03343	0
Max..Temp	0.778389	-0.2462	-0.07693	0.3645	-0.44128	0
Rainfall	-0.585652	-0.4628	0.17071	-0.6156	-0.18622	0
Humidity	-0.314079	0.8091	0.04866	-0.4781	0.12534	0