

Por biótopo

Canal principal

▼ File:

E:\canagranubentos.syz

Number of Variables : 15

Number of Cases : 54

SYSTAT Rectangular file E:\canagranubentos.syz,
Created data file Thu Jul 17 12:35:35 2014 containing variables:

\$PONTOS_DE_COL E- TA\$	FAMÍLIA_CHAOBO R- IDAE	FAMÍLIA_CHIRON O- MIDAE	FAMÍLIA_LEPTOC E- RIDAE	FAMÍLIA_NAIDID A- E	FAMÍLIA_POLYMI T- ARCYIDAE
AREIA_MUITO_GR O- SSA	AREIA_GROSSA	AREIA_Média	AREIA_FINA	AREIA_MUITO_FI N- A	SILTE
ARGILA	BIOTOPO	COLETA			

▼ OLS

Regression

26 case(s) are deleted due to missing data.

ERROR There is no variation in your dependent variable(s).

▼ OLS

Regression

26 case(s) are deleted due to missing data.

Dependent Variable	FAMÍLIA_CHIRONO- MIDAE
N	28
Multiple R	0,494
Squared Multiple R	0,244
Adjusted Squared Multiple R	0,028
Standard Error of Estimate	543,414

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
CONSTANT	704,169	10.676,112	0,000	.	0,066	0,948
AREIA_MUITO_GROSSA	-0,909	10,820	-0,166	0,009	-0,084	0,934
AREIA_GROSSA	-0,305	10,783	-0,098	0,003	-0,028	0,978
AREIA_Média	-0,935	10,730	-0,313	0,003	-0,087	0,931
AREIA_FINA	-0,418	10,736	-0,125	0,003	-0,039	0,969
AREIA_MUITO_FINA	-0,685	10,673	-0,180	0,005	-0,064	0,949
SILTE	0,352	10,962	0,170	0,001	0,032	0,975

Analysis of Variance

Source	SS	df	Mean Squares	F-Ratio	p-Value
Regression	1.998.802,8606	333.133,810	1,128	0,380	
Residual	6.201.269,24721	295.298,536			

WARNING

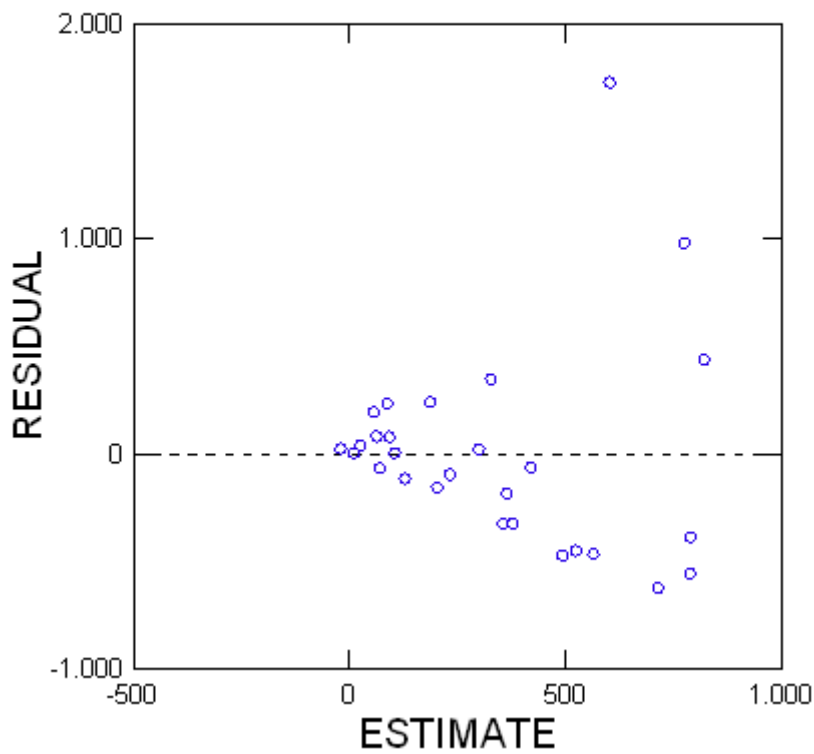
Case 2 has large Leverage (Leverage : 0,591)
Case 13 is an Outlier (Studentized Residual : 4,842)
Case 20 has large Leverage (Leverage : 0,607)

Durbin-Watson D-Statistic	1,564
First Order Autocorrelation	0,215

Information Criteria	
AIC	440,086
AIC (Corrected)	447,665
Schwarz's BIC	450,744

Residuals have been saved.

Plot of Residuals vs. Predicted Values



26 case(s) are deleted due to missing data.

Dependent Variable	FAMILIA_LEPTOCE- RIDAE
N	28
Multiple R	0,542
Squared Multiple R	0,294
Adjusted Squared Multiple R	0,092
Standard Error of Estimate	6,303

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
CONSTANT	1,085	123,829	0,000	.	0,009	0,993
AREIA_MUITO_GROSSA	-0,047	0,125	-0,715	0,009	-0,373	0,713
AREIA_GROSSA	0,042	0,125	1,123	0,003	0,335	0,741
AREIA_MéDIA	-0,016	0,124	-0,442	0,003	-0,127	0,900
AREIA_FINA	0,006	0,125	0,155	0,003	0,050	0,961
AREIA_MUITO_FINA	-0,006	0,124	-0,127	0,005	-0,047	0,963
SILTE	-0,001	0,127	-0,021	0,001	-0,004	0,997

Analysis of Variance					
Source	SS	df	Mean Squares	F-Ratio	p-Value
Regression	346,9886	57,831	1,456	0,241	
Residual	834,2622	139,727			

WARNING

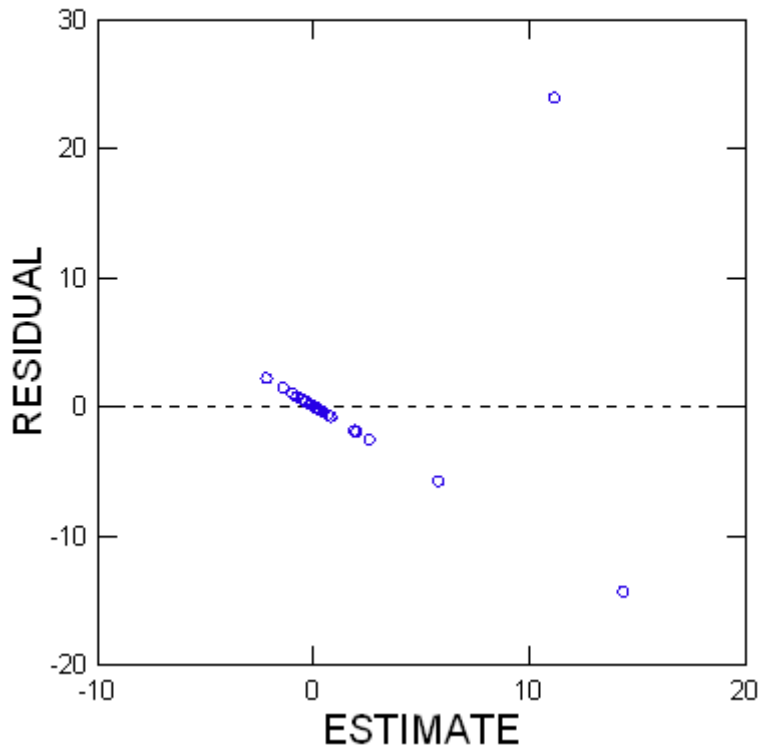
Case 2 has large Leverage (Leverage : 0,591)
Case 2 is an Outlier (Studentized Residual : -5,533)
Case 18 is an Outlier (Studentized Residual : 2,709E+008)
Case 20 has large Leverage (Leverage : 0,607)

Durbin-Watson D-Statistic	1,880
First Order Autocorrelation	0,057

Information Criteria	
AIC	190,502
AIC (Corrected)	198,081
Schwarz's BIC	201,160

Residuals have been saved.

Plot of Residuals vs. Predicted Values



▼ OLS

[Regression](#)

26 case(s) are deleted due to missing data.

Dependent Variable	FAMÍLIA_NAIDIDA-E
N	28
Multiple R	0,426
Squared Multiple R	0,181
Adjusted Squared Multiple R	0,000
Standard Error of Estimate	2.715,219

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
CONSTANT	-76,724,213	53,344,216	0,000	.	-1,438	0,165
AREIA_MUITO_GROSSA	77,551	54,063	2,957	0,009	1,434	0,166
AREIA_GROSSA	76,023	53,880	5,091	0,003	1,411	0,173
AREIA_MÉDIA	76,798	53,612	5,353	0,003	1,432	0,167
AREIA_FINA	79,449	53,644	4,945	0,003	1,481	0,153
AREIA_MUITO_FINA	73,667	53,329	4,037	0,005	1,381	0,182
SILTE	82,302	54,773	8,280	0,001	1,503	0,148

Analysis of Variance					
Source	SS	df	Mean Squares	F-Ratio	p-Value
Regression	34.258.931,9666	5	5.709.821,994	0,774	0,599
Residual	1,548E+008	21	7.372.413,571		

WARNING

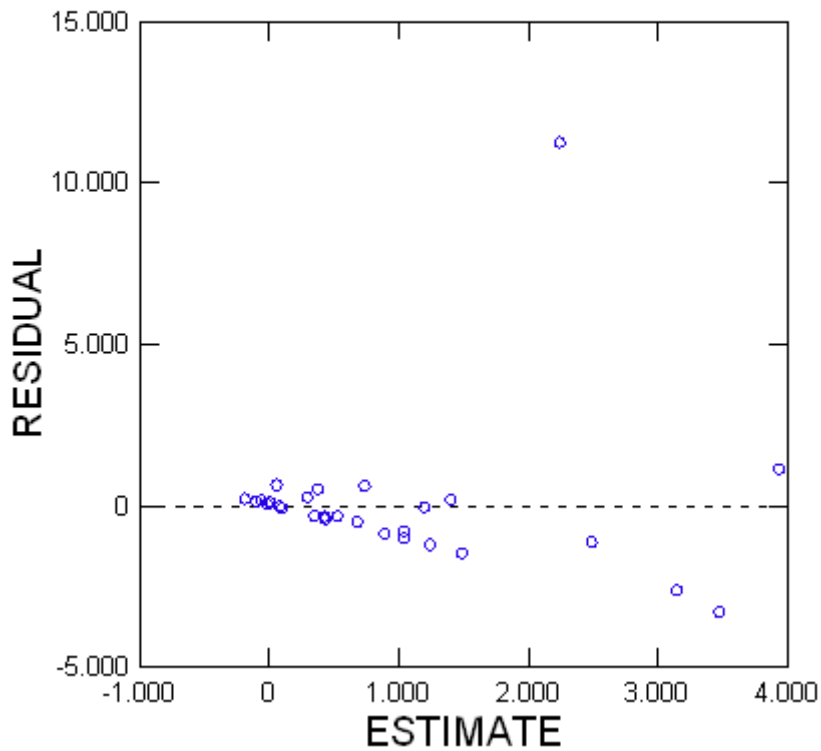
Case 2 has large Leverage (Leverage : 0,591)
 Case 10 is an Outlier (Studentized Residual : 12,530)
 Case 20 has large Leverage (Leverage : 0,607)

Durbin-Watson D-Statistic	1,692
First Order Autocorrelation	0,152

Information Criteria	
AIC	530,177
AIC (Corrected)	537,756
Schwarz's BIC	540,834

Residuals have been saved.

Plot of Residuals vs. Predicted Values



26 case(s) are deleted due to missing data.

Dependent Variable	FAMILIA_POLYMIT- ARCYIDAE
N	28
Multiple R	0,257
Squared Multiple R	0,066
Adjusted Squared Multiple R	0,000
Standard Error of Estimate	95,521

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
CONSTANT	-733,604	1.876,648	0,000	.	-0,391	0,700
AREIA_MUITO_GROSSA	0,691	1,902	0,800	0,009	0,363	0,720
AREIA_GROSSA	0,771	1,896	1,568	0,003	0,407	0,688
AREIA_Média	0,708	1,886	1,498	0,003	0,375	0,711
AREIA_FINA	0,766	1,887	1,447	0,003	0,406	0,689
AREIA_MUITO_FINA	0,737	1,876	1,226	0,005	0,393	0,699
SILTE	0,830	1,927	2,534	0,001	0,431	0,671

Analysis of Variance					
Source	SS	df	Mean Squares	F-Ratio	p-Value
Regression	13.535,036	6	2.255,839	0,247	0,955
Residual	191.610,821	21	9.124,325		

WARNING

Case 2 has large Leverage (Leverage : 0,591)

Case 13 is an Outlier (Studentized Residual : 24,694)

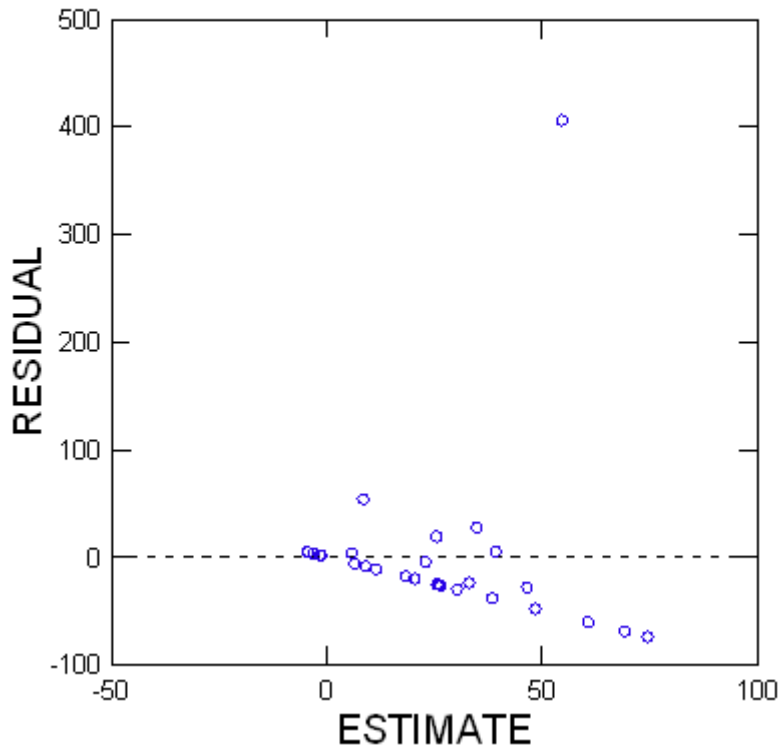
Case 20 has large Leverage (Leverage : 0,607)

Durbin-Watson D-Statistic	1,768
First Order Autocorrelation	0,116

Information Criteria	
AIC	342,729
AIC (Corrected)	350,308
Schwarz's BIC	353,387

Residuals have been saved.

Plot of Residuals vs. Predicted Values



Tributários

▼ File:

[Untitled1.syz](#)

IMPORT successfully completed. Processed 15 variables and 75 cases.
 Successfully saved file C:\Users\FernandaT\SYSTAT\SYSTAT_13\Data\granubentoslagoa.syz
 Processed 15 Variables and 75 Cases.
 Successfully saved file E:\granubentoslagoa.syz
 Processed 15 Variables and 75 Cases.

▼ OLS

[Regression](#)

26 case(s) are deleted due to missing data.
 Unable to enter effect 7.
 This effect may fail tolerance checks.
 The following effects have lost degrees of freedom.

Effect	Initial df	Lost df	Final df
SILTE1	1	1	0

Dependent Variable	FAMÍLIA_CHAOBOR- IDAE
N	49
Multiple R	0,374

Dependent Variable	FAMÍLIA_CHAOBOR- IDAE
Squared Multiple R	0,140
Adjusted Squared Multiple R	0,017
Standard Error of Estimate	1,784

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
CONSTANT	0,184	3,677	0,000	.	0,050	0,960
AREIA_MUITO_GROSSA	0,000	0,004	-0,048	0,094	-0,102	0,919
AREIA_GROSSA	0,000	0,004	0,022	0,097	0,049	0,961
AREIA_MÉDIA	-0,001	0,004	-0,062	0,116	-0,148	0,883
AREIA_FINA	0,005	0,004	0,520	0,130	1,310	0,197
AREIA_MUITO_FINA	-0,009	0,010	-0,423	0,103	-0,950	0,348
SILTE	.	.	.	.	.	.
ARGILA	0,040	0,118	0,101	0,231	0,339	0,737

Analysis of Variance					
Source	SS	df	Mean Squares	F-Ratio	p-Value
Regression	21,791	6	3,632	1,142	0,355
Residual	133,597	423	3,181		

WARNING

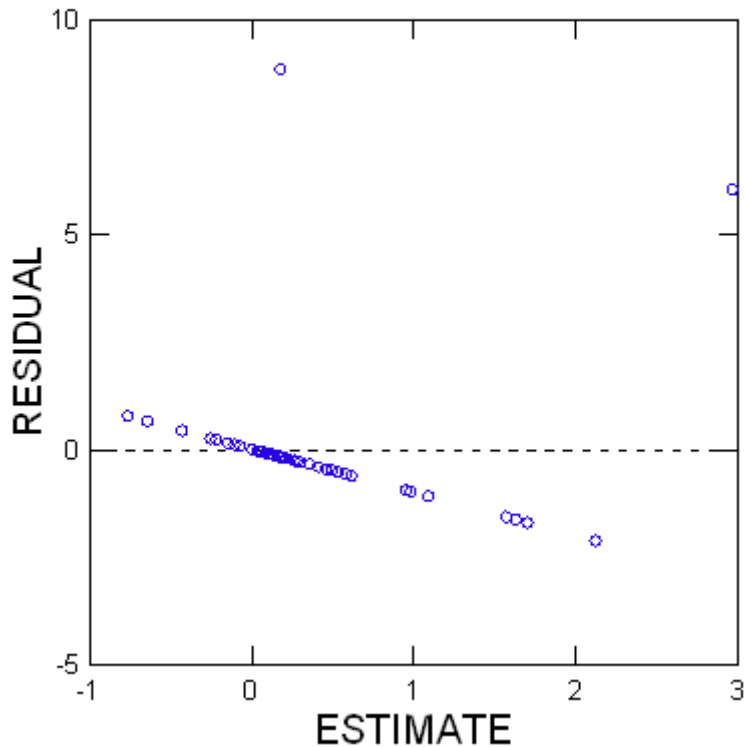
Case 19 has large Leverage (Leverage : 0,751)
Case 25 has large Leverage (Leverage : 0,420)
Case 25 is an Outlier (Studentized Residual : 6,010)
Case 40 is an Outlier (Studentized Residual : 8,795)
Case 49 has large Leverage (Leverage : 0,443)

Durbin-Watson D-Statistic	2,100
First Order Autocorrelation	-0,059

Information Criteria	
AIC	204,203
AIC (Corrected)	207,803
Schwarz's BIC	219,338

Residuals have been saved.

Plot of Residuals vs. Predicted Values



▼ OLS

[Regression](#)

26 case(s) are deleted due to missing data.
 Unable to enter effect 7.
 This effect may fail tolerance checks.
 The following effects have lost degrees of freedom.

Effect	Initial df	Lost df	Final df
SILTE1	1	1	0

Dependent Variable	FAMÍLIA_CHIRONOMIDAE
N	49
Multiple R	0,520
Squared Multiple R	0,270
Adjusted Squared Multiple R	0,166
Standard Error of Estimate	452,735

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
CONSTANT	613,125	933,311	0,000	.	0,657	0,515
AREIA_MUITO_GROSSA	0,825	0,988	0,360	0,094	0,835	0,408
AREIA_GROSSA	-1,186	0,983	-0,511	0,097	-1,206	0,235

Regression Coefficients $B = (X'X)^{-1}X'Y$

Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
AREIA_MÉDIA	0,417	1,095	0,147	0,116	0,381	0,705
AREIA_FINA	-0,044	0,986	-0,016	0,130	-0,044	0,965
AREIA_MUITO_FINA	-1,181	2,427	-0,200	0,103	-0,487	0,629
SILTE	.	.	.	.	.	.
ARGILA	-15,115	29,980	-0,138	0,231	-0,504	0,617

Analysis of Variance

Source	SS	df	Mean Squares	F-Ratio	p-Value
Regression	3.182.495,9386	530	415,990	2,588	0,032
Residual	8.608.700,06242	204	969,049		

WARNING

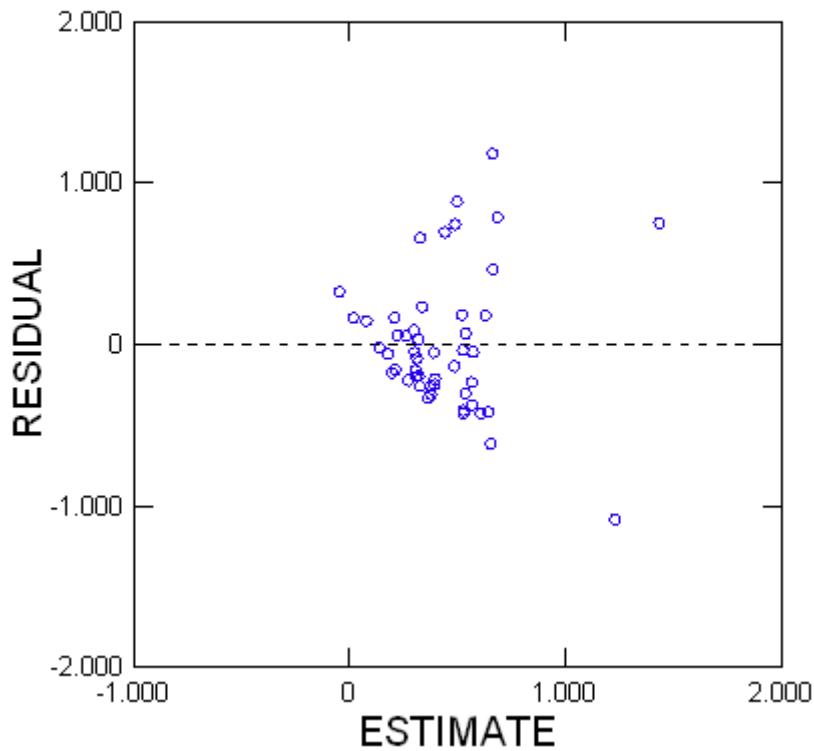
Case 19 has large Leverage (Leverage : 0,751)
Case 25 has large Leverage (Leverage : 0,420)
Case 36 is an Outlier (Studentized Residual : -3,215)
Case 49 has large Leverage (Leverage : 0,443)

Durbin-Watson D-Statistic	1,510
First Order Autocorrelation	0,202

Information Criteria

AIC	746,803
AIC (Corrected)	750,403
Schwarz's BIC	761,937

Plot of Residuals vs. Predicted Values



▼ OLS

[Regression](#)

26 case(s) are deleted due to missing data.
 Unable to enter effect 7.
 This effect may fail tolerance checks.
 The following effects have lost degrees of freedom.

Effect	Initial df	Lost df	Final df
SILTE1	1	1	0

Dependent Variable	FAMÍLIA_CHIRONOMIDAE
N	49
Multiple R	0,520
Squared Multiple R	0,270
Adjusted Squared Multiple R	0,166
Standard Error of Estimate	452,735

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
CONSTANT	613,125	933,311	0,000	.	0,657	0,515
AREIA_MUITO_GROSSA	0,825	0,988	0,360	0,094	0,835	0,408
AREIA_GROSSA	-1,186	0,983	-0,511	0,097	-1,206	0,235

Regression Coefficients $B = (X'X)^{-1}X'Y$

Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
AREIA_MéDIA	0,417	1,095	0,147	0,116	0,381	0,705
AREIA_FINA	-0,044	0,986	-0,016	0,130	-0,044	0,965
AREIA_MUITO_FINA	-1,181	2,427	-0,200	0,103	-0,487	0,629
SILTE	.	.	.	.	.	.
ARGILA	-15,115	29,980	-0,138	0,231	-0,504	0,617

Analysis of Variance

Source	SS	df	Mean Squares	F-Ratio	p-Value
Regression	3.182.495,9386	530	415,990	2,588	0,032
Residual	8.608.700,06242	204	969,049		

WARNING

- Case 19 has large Leverage (Leverage : 0,751)
- Case 25 has large Leverage (Leverage : 0,420)
- Case 36 is an Outlier (Studentized Residual : -3,215)
- Case 49 has large Leverage (Leverage : 0,443)

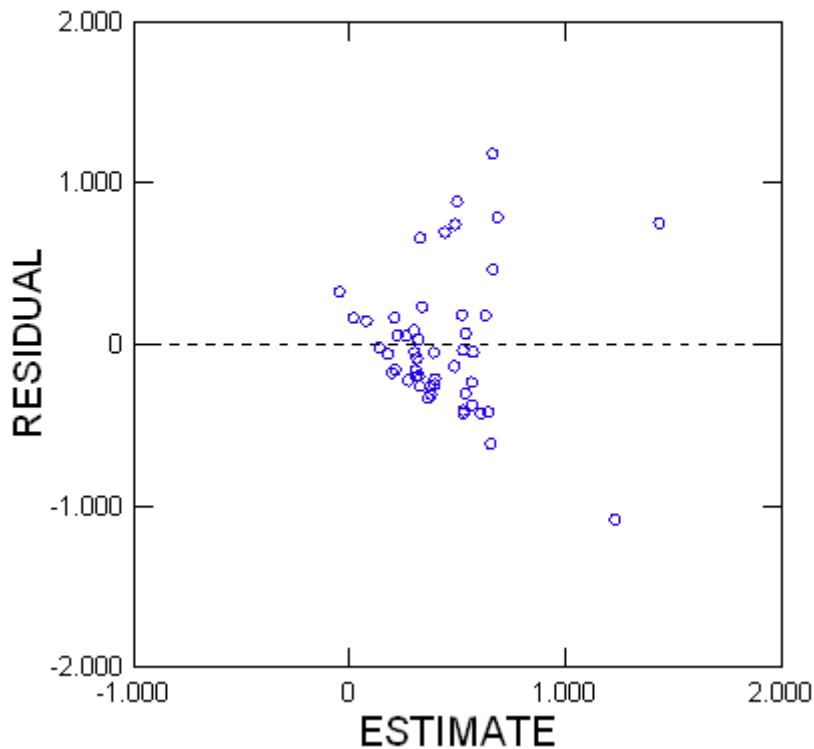
Durbin-Watson D-Statistic	1,510
First Order Autocorrelation	0,202

Information Criteria

AIC	746,803
AIC (Corrected)	750,403
Schwarz's BIC	761,937

Residuals have been saved.

Plot of Residuals vs. Predicted Values



▼ OLS

[Regression](#)

26 case(s) are deleted due to missing data.
 Unable to enter effect 8.
 This effect may fail tolerance checks.
 The following effects have lost degrees of freedom.

Effect	Initial df	Lost df	Final df
ARGILA1	1	1	0

Dependent Variable	FAMILIA_LEPTOCE- RIDAE
N	49
Multiple R	0,310
Squared Multiple R	0,096
Adjusted Squared Multiple R	0,000
Standard Error of Estimate	122,046

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
CONSTANT	-787,306	7.872,416	0,000	.	-0,100	0,921
AREIA_MUITO_GROSSA	0,748	7,871	1,346	0,000	0,095	0,925
AREIA_GROSSA	0,924	7,878	1,644	0,000	0,117	0,907

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
AREIA_MéDIA	0,851	7,866	1,240	0,000	0,108	0,914
AREIA_FINA	0,723	7,874	1,108	0,000	0,092	0,927
AREIA_MUITO_FINA	0,930	7,716	0,649	0,001	0,121	0,905
SILTE	0,785	8,082	1,208	0,000	0,097	0,923
ARGILA	.	.	.	.	.	.

Analysis of Variance					
Source	SS	df	Mean Squares	F-Ratio	p-Value
Regression	66.727,539	6	11.121,256	0,747	0,615
Residual	625.599,441	42	14.895,225		

WARNING

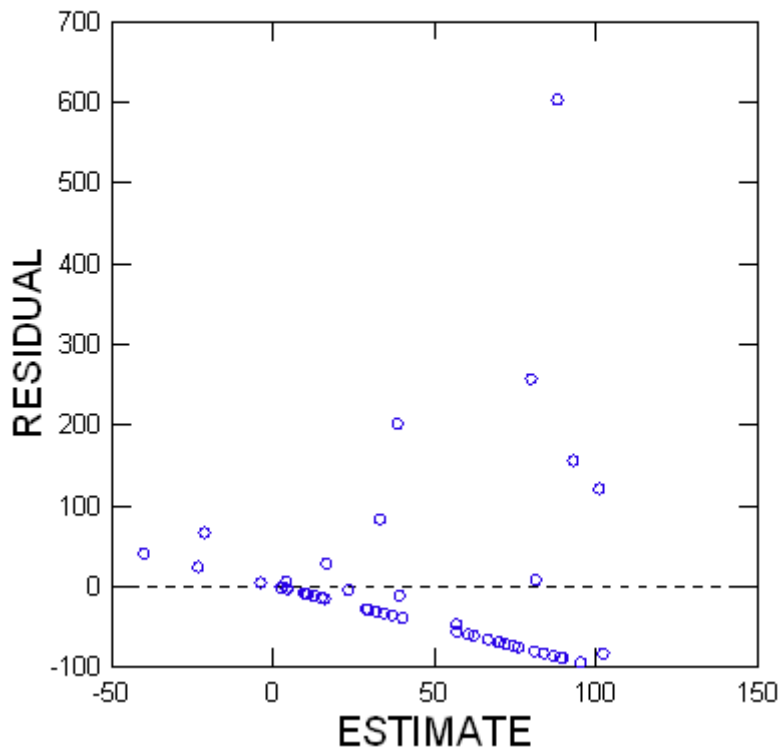
Case 19 has large Leverage (Leverage : 0,751)
 Case 25 has large Leverage (Leverage : 0,420)
 Case 37 is an Outlier (Studentized Residual : 8,023)
 Case 49 has large Leverage (Leverage : 0,443)

Durbin-Watson D-Statistic	1,492
First Order Autocorrelation	0,253

Information Criteria	
AIC	618,334
AIC (Corrected)	621,934
Schwarz's BIC	633,468

Residuals have been saved.

Plot of Residuals vs. Predicted Values



▼ OLS

[Regression](#)

27 case(s) are deleted due to missing data.
 Unable to enter effect 7.
 This effect may fail tolerance checks.
 The following effects have lost degrees of freedom.

Effect	Initial df	Lost df	Final df
SILTE1	1	1	0

Dependent Variable	FAMÍLIA_NAIDIDA-E
N	48
Multiple R	0,426
Squared Multiple R	0,182
Adjusted Squared Multiple R	0,062
Standard Error of Estimate	140,844

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
CONSTANT	293,282	290,351	0,000	.	1,010	0,318
AREIA_MUITO_GROSSA	0,060	0,307	0,090	0,094	0,195	0,846
AREIA_GROSSA	-0,305	0,307	-0,444	0,100	-0,994	0,326

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
AREIA_MÉDIA	-0,146	0,341	-0,177	0,117	-0,429	0,670
AREIA_FINA	-0,063	0,307	-0,080	0,132	-0,206	0,838
AREIA_MUITO_FINA	-0,824	0,755	-0,477	0,104	-1,091	0,282
SILTE	.	.	.	.	.	.
ARGILA	-4,847	9,327	-0,153	0,231	-0,520	0,606

Analysis of Variance					
Source	SS	df	Mean Squares	F-Ratio	p-Value
Regression	180.608,3316	30	6.020,2777	1,517	0,197
Residual	813.312,66941	41	19.836,894		

WARNING

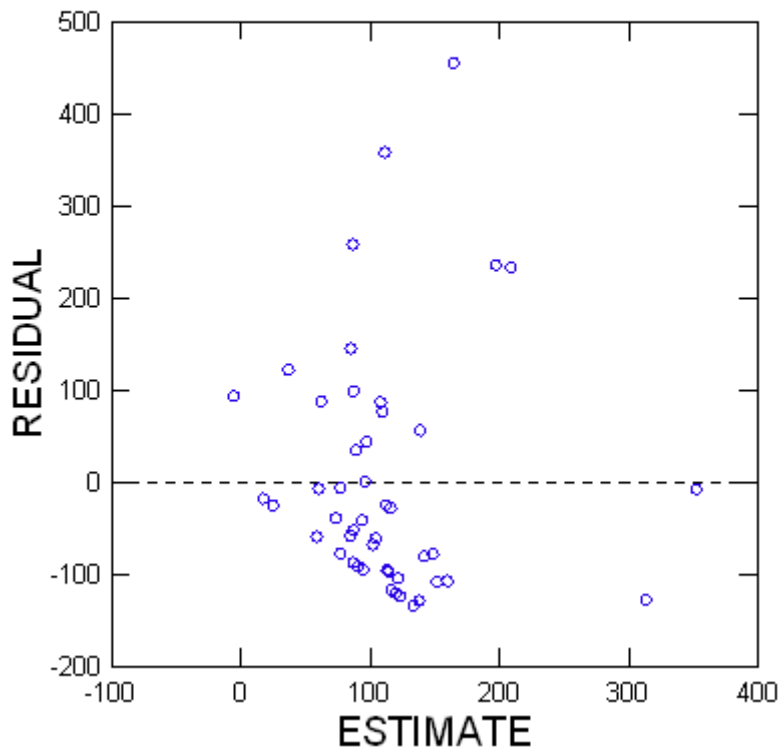
- Case 19 has large Leverage (Leverage : 0,751)
- Case 23 is an Outlier (Studentized Residual : 4,202)
- Case 25 has large Leverage (Leverage : 0,420)
- Case 49 has large Leverage (Leverage : 0,444)

Durbin-Watson D-Statistic	1,551
First Order Autocorrelation	0,214

Information Criteria	
AIC	619,626
AIC (Corrected)	623,319
Schwarz's BIC	634,596

Residuals have been saved.

Plot of Residuals vs. Predicted Values



▼ OLS

[Regression](#)

30 case(s) are deleted due to missing data.
 Unable to enter effect 2.
 This effect may fail tolerance checks.
 The following effects have lost degrees of freedom.

Effect	Initial df	Lost df	Final df
AREIA_MUITO_GROSSA	1	1	0

Dependent Variable	FAMÍLIA_POLYMIT- ARCYIDAE
N	45
Multiple R	0,077
Squared Multiple R	0,006
Adjusted Squared Multiple R	0,000
Standard Error of Estimate	23,004

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
CONSTANT	15,666	15,911	0,000	.	0,985	0,331
AREIA_MUITO_GROSSA	.	.	.	.	.	.
AREIA_GROSSA	0,001	0,031	0,006	0,275	0,019	0,985

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	p-Value	
AREIA_MÉDIA	-0,007	0,026	-0,061	0,567	-0,285	0,777
AREIA_FINA	0,000	0,037	0,002	0,289	0,006	0,995
AREIA_MUITO_FINA	-0,016	0,087	-0,061	0,223	-0,179	0,859
SILTE	-0,005	0,051	-0,048	0,129	-0,106	0,916
ARGILA	0,041	1,494	0,009	0,242	0,027	0,978

Analysis of Variance					
Source	SS	df	Mean Squares	F-Ratio	p-Value
Regression	121,193	6	20,199	0,038	1,000
Residual	20.109,60738	529	200		

WARNING

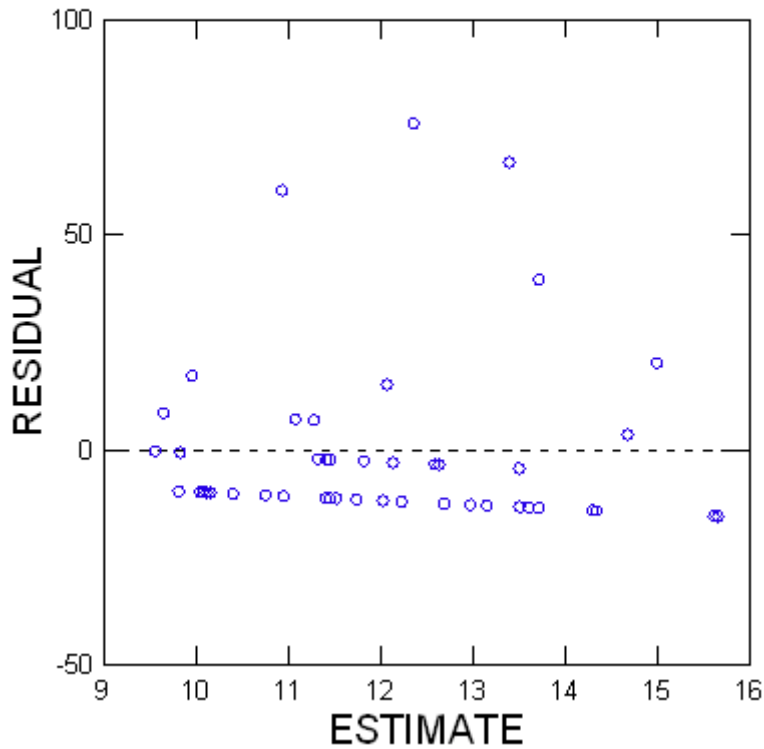
Case 14 is an Outlier (Studentized Residual : 3,992)
 Case 17 is an Outlier (Studentized Residual : 3,030)
 Case 19 has large Leverage (Leverage : 0,753)
 Case 25 has large Leverage (Leverage : 0,491)
 Case 43 is an Outlier (Studentized Residual : 3,386)
 Case 49 has large Leverage (Leverage : 0,478)

Durbin-Watson D-Statistic	1,676
First Order Autocorrelation	0,153

Information Criteria	
AIC	418,308
AIC (Corrected)	422,308
Schwarz's BIC	432,761

Residuals have been saved.

Plot of Residuals vs. Predicted Values



Lagoas

▼ File:

[Untitled1.syz](#)

IMPORT successfully completed. Processed 15 variables and 54 cases.
 Successfully saved file E:\granubentoslagoa2.syz
 Processed 15 Variables and 54 Cases.

▼ OLS

[Regression](#)

26 case(s) are deleted due to missing data.

Dependent Variable	FAMILIA_CHAOBOR- IDAE
N	28
Multiple R	0,514
Squared Multiple R	0,264
Adjusted Squared Multiple R	0,007
Standard Error of Estimate	147,699

Regression Coefficients $B = (X'X)^{-1}X'Y$

Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	p-Value
CONSTANT	-174,412	876,135	0,000	.	-0,1990,844
AREIA_MUITO_GROSSA	0,393	0,882	0,633	0,018	0,446 0,661
AREIA_GROSSA	-0,035	0,891	-0,033	0,053	-0,0390,969
AREIA_Média	0,759	1,256	0,446	0,068	0,605 0,552
AREIA_FINA	-0,077	1,231	-0,039	0,095	-0,0630,951
AREIA_MUITO_FINA	-0,568	0,749	-0,301	0,234	-0,7580,457
SILTE	0,436	0,927	0,844	0,011	0,470 0,643
ARGILA	0,491	0,862	0,416	0,069	0,569 0,576

Analysis of Variance					
Source	SS	df	Mean Squares	F-Ratio	p-Value
Regression	156.719,1787	22	22.388,454	1,026	0,444
Residual	436.299,78620	21	21.814,989		

WARNING

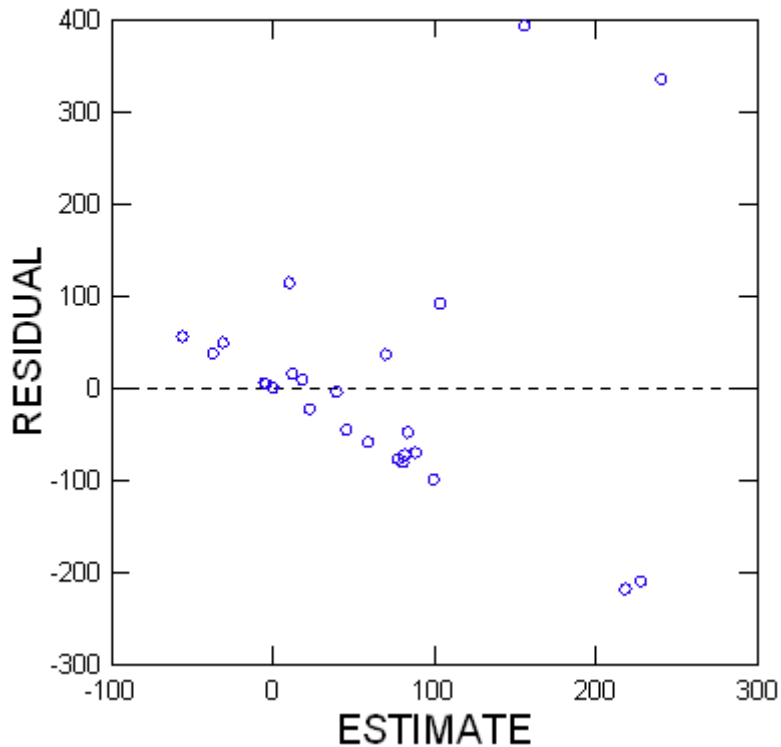
Case 2 is an Outlier (Studentized Residual : 3,953)
Case 11 is an Outlier (Studentized Residual : 3,716)
Case 23 has large Leverage (Leverage : 1,000)
Case 26 has large Leverage (Leverage : 0,680)
Case 26 is an Outlier (Studentized Residual : -3,143)

Durbin-Watson D-Statistic	2,210
First Order Autocorrelation	-0,118

Information Criteria	
AIC	367,769
AIC (Corrected)	377,769
Schwarz's BIC	379,759

Residuals have been saved.

Plot of Residuals vs. Predicted Values



▼ OLS

Regression

26 case(s) are deleted due to missing data.

Dependent Variable	FAMÍLIA_CHIRONOMIDAE
N	28
Multiple R	0,609
Squared Multiple R	0,371
Adjusted Squared Multiple R	0,151
Standard Error of Estimate	340,486

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
CONSTANT	2,697,907	2,019,729	0,000	.	1,336	0,197
AREIA_MUITO_GROSSA	-1,908	2,033	-1,233	0,018	-0,939	0,359
AREIA_GROSSA	-0,988	2,053	-0,372	0,053	-0,481	0,635
AREIA_MÉDIA	-5,194	2,895	-1,223	0,068	-1,794	0,088
AREIA_FINA	-2,382	2,838	-0,482	0,095	-0,839	0,411
AREIA_MUITO_FINA	-2,009	1,728	-0,427	0,234	-1,163	0,258
SILTE	-2,583	2,137	-2,004	0,011	-1,209	0,241
ARGILA	-2,774	1,988	-0,943	0,069	-1,395	0,178

Analysis of Variance					
Source	SS	df	Mean Squares	F-Ratio	p-Value
Regression	1.368.567,746	7	195.509,678	1,686	0,169
Residual	2.318.617,968	201	115.930,898		

WARNING

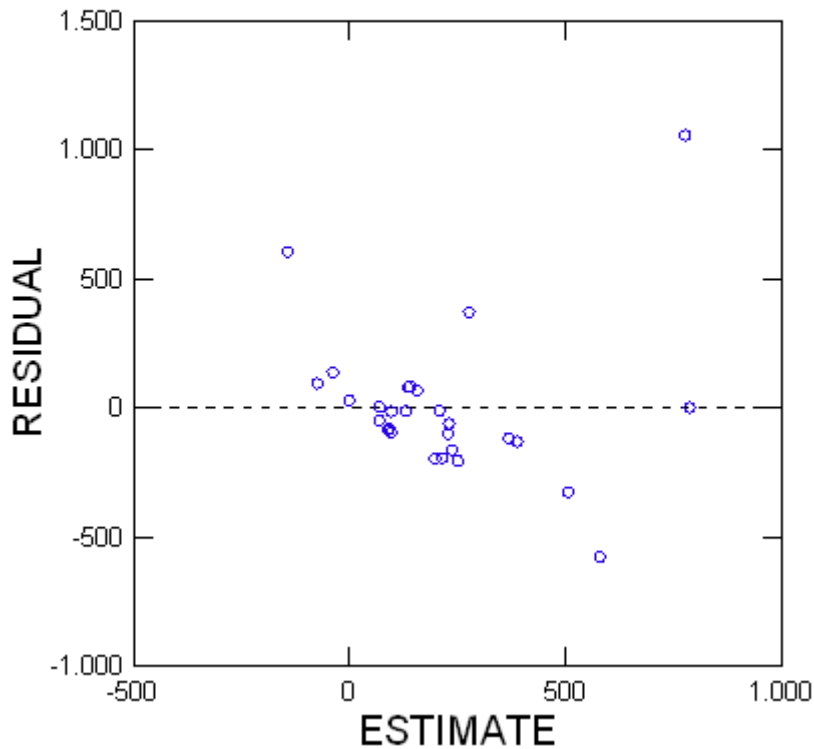
Case 9 is an Outlier (Studentized Residual : 6,871)
 Case 23 has large Leverage (Leverage : 1,000)
 Case 26 has large Leverage (Leverage : 0,680)

Durbin-Watson D-Statistic	1,094
First Order Autocorrelation	0,447

Information Criteria	
AIC	414,540
AIC (Corrected)	424,540
Schwarz's BIC	426,530

Residuals have been saved.

Plot of Residuals vs. Predicted Values



27 case(s) are deleted due to missing data.

Dependent Variable	FAMILIA_LEPTOCE- RIDAE
N	27
Multiple R	0,817
Squared Multiple R	0,668
Adjusted Squared Multiple R	0,545
Standard Error of Estimate	1,168

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
CONSTANT	0,888	6,932	0,000	.	0,128	0,899
AREIA_MUITO_GROSSA	0,005	0,007	0,732	0,018	0,750	0,463
AREIA_GROSSA	-0,010	0,007	-0,802	0,053	-1,390	0,180
AREIA_Média	0,009	0,010	0,475	0,068	0,934	0,362
AREIA_FINA	-0,005	0,010	-0,227	0,099	-0,540	0,596
AREIA_MUITO_FINA	0,000	0,006	0,014	0,233	0,052	0,959
SILTE	-0,001	0,007	-0,161	0,011	-0,130	0,898
ARGILA	0,000	0,007	0,008	0,069	0,016	0,988

Analysis of Variance					
Source	SS	df	Mean Squares	F-Ratio	p-Value
Regression	52,0817	7,440		5,454	0,001
Residual	25,91919	1,364			

WARNING

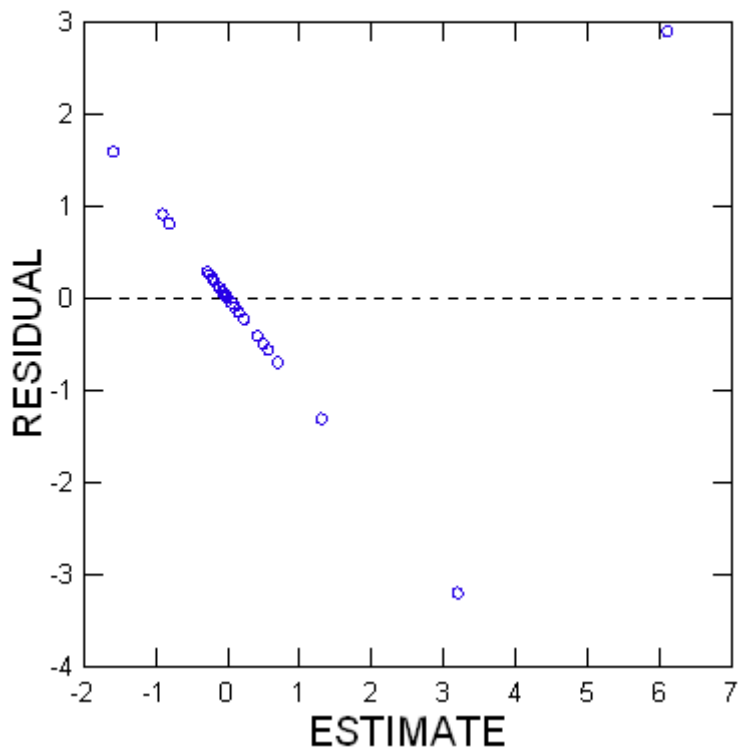
Case 2 is an Outlier (Studentized Residual : -4,318)
 Case 23 has large Leverage (Leverage : 1,000)
 Case 26 has large Leverage (Leverage : 0,680)
 Case 26 has large Influence (Studentized Residual : 5,047)

Durbin-Watson D-Statistic	1,713
First Order Autocorrelation	0,139

Information Criteria	
AIC	93,520
AIC (Corrected)	104,108
Schwarz's BIC	105,182

Residuals have been saved.

Plot of Residuals vs. Predicted Values



▼ OLS

Regression

26 case(s) are deleted due to missing data.

Dependent Variable	FAMÍLIA_NAIDIDA-E
N	28
Multiple R	0,538
Squared Multiple R	0,290
Adjusted Squared Multiple R	0,041
Standard Error of Estimate	382,665

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
CONSTANT	5,267,779	2,269,928	0,000	.	2,321	0,031
AREIA_MUITO_GROSSA	-5,199	2,285	-3,177	0,018	-2,275	0,034
AREIA_GROSSA	-3,989	2,308	-1,419	0,053	-1,729	0,099
AREIA_MÉDIA	-5,844	3,253	-1,301	0,068	-1,796	0,088
AREIA_FINA	-7,153	3,190	-1,368	0,095	-2,243	0,036
AREIA_MUITO_FINA	-2,124	1,942	-0,427	0,234	-1,094	0,287
SILTE	-5,532	2,402	-4,058	0,011	-2,303	0,032
ARGILA	-4,357	2,235	-1,400	0,069	-1,950	0,065

Analysis of Variance					
Source	SS	df	Mean Squares	F-Ratio	p-Value
Regression	1.194.056,395	7	170.579,485	1,165	0,365
Residual	2.928.646,855	20	146.432,343		

WARNING

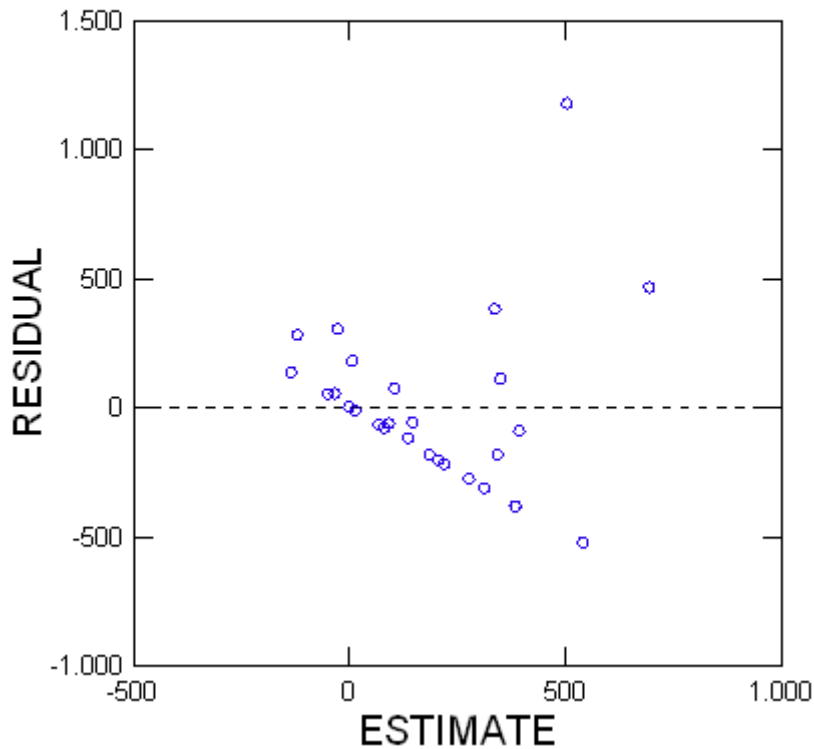
Case 8 is an Outlier (Studentized Residual : 5,887)
 Case 23 has large Leverage (Leverage : 1,000)
 Case 26 has large Leverage (Leverage : 0,680)

Durbin-Watson D-Statistic	1,623
First Order Autocorrelation	0,183

Information Criteria	
AIC	421,080
AIC (Corrected)	431,080
Schwarz's BIC	433,070

Residuals have been saved.

Plot of Residuals vs. Predicted Values



28 case(s) are deleted due to missing data.
 Unable to enter effect 7.
 This effect may fail tolerance checks.
 The following effects have lost degrees of freedom.

Effect	Initial df	Lost df	Final df
SILTE	1	1	0

Dependent Variable	FAMÍLIA_POLYMIT- ARCYIDAE
N	26
Multiple R	0,293
Squared Multiple R	0,086
Adjusted Squared Multiple R	0,000
Standard Error of Estimate	160,685

Regression Coefficients $B = (X'X)^{-1}X'Y$						
Effect	Coefficient	Standard Error	Std. Coefficient	Tolerance	t	p-Value
CONSTANT	108,772	121,882	0,000	.	0,892	0,383
AREIA_MUITO_GROSSA	-0,066	0,185	-0,110	0,504	-0,356	0,726
AREIA_GROSSA	0,167	0,528	0,147	0,223	0,317	0,755
AREIA_MéDIA	-0,772	0,929	-0,429	0,181	-0,832	0,416
AREIA_FINA	0,383	0,744	0,189	0,359	0,515	0,613
AREIA_MUITO_FINA	-0,072	0,746	-0,038	0,316	-0,097	0,924
SILTE	.	.	.	.	.	.
ARGILA	-0,139	0,284	-0,117	0,844	-0,489	0,630

Analysis of Variance					
Source	SS	df	Mean Squares	F-Ratio	p-Value
Regression	46.046,486	6	7.674,414	0,297	0,931
Residual	490.573,860	19	25.819,677		

WARNING

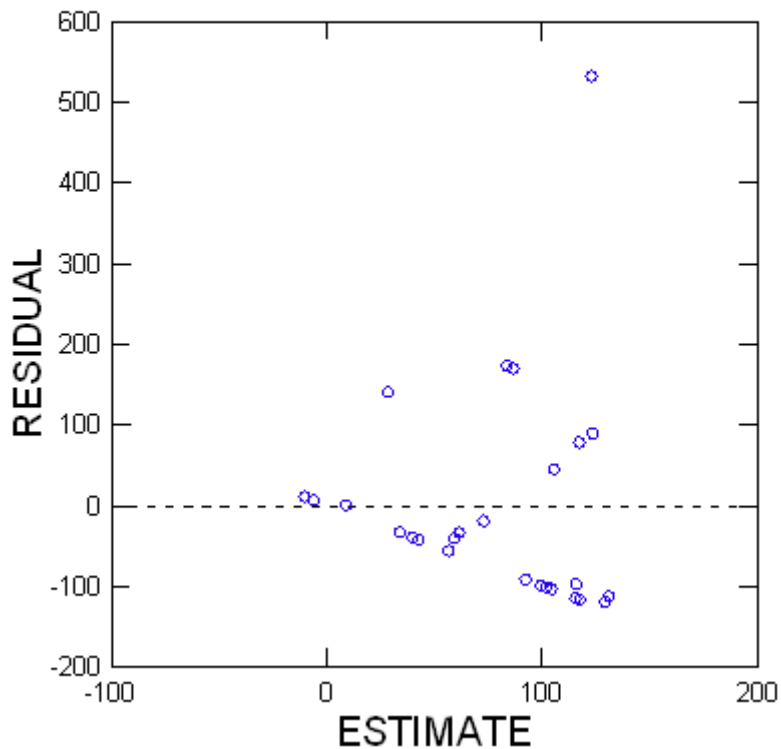
Case 17 is an Outlier (Studentized Residual : 5,743)
 Case 26 has large Leverage (Leverage : 0,728)

Durbin-Watson D-Statistic	1,557
First Order Autocorrelation	0,220

Information Criteria	
AIC	345,761
AIC (Corrected)	354,231
Schwarz's BIC	355,826

Residuals have been saved.

Plot of Residuals vs. Predicted Values



▼ File:

<E:\granubentosлагоa2.syz>

Number of Variables : 15

Number of Cases : 54

SYSTAT Rectangular file E:\granubentosлагоa2.syz,
Created data file Thu Jul 17 14:03:58 2014 containing variables:

\$PONTOS_DE_COL E- TA\$	FAMÍLIA_CHAOBO R- IDAE	FAMÍLIA_CHIRON O- MIDAE	FAMÍLIA_LEPTOC E- RIDAE	FAMÍLIA_NAIDID A- E	FAMÍLIA_POLYMI T- ARCYIDAE
AREIA_MUITO_GR O- SSA	AREIA_GROSSA	AREIA_MÉDIA	AREIA_FINA	AREIA_MUITO_FI N- A	SILTE
ARGILA	BIOTOPO	COLETA			

▼ Correlation:

Pearson

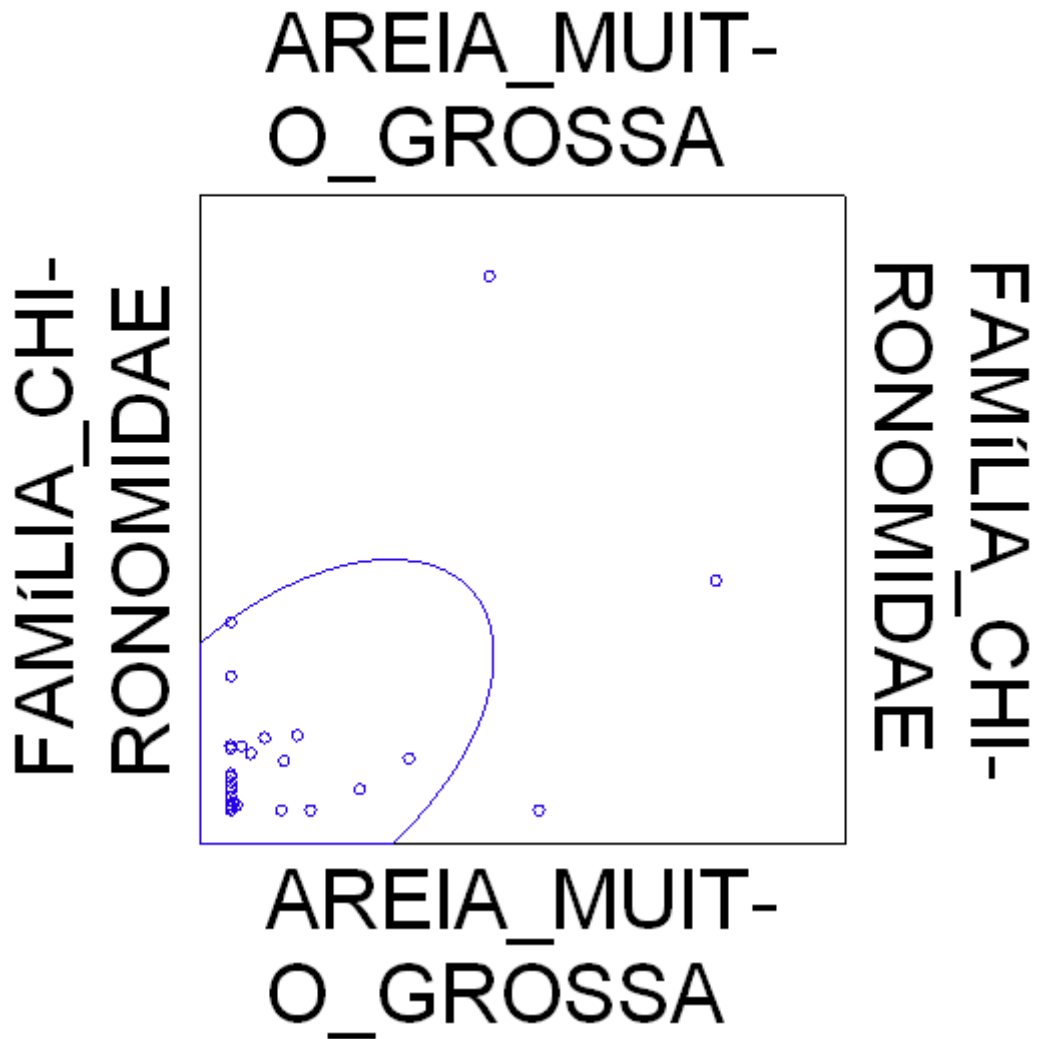
nos tributários

Number of Non-Missing Cases: 28

Pearson Correlation Matrix

	AREIA_MUITO_GROSSA
FAMÍLIA_CHIRONOMIDAE	0,493

Scatterplot Matrix



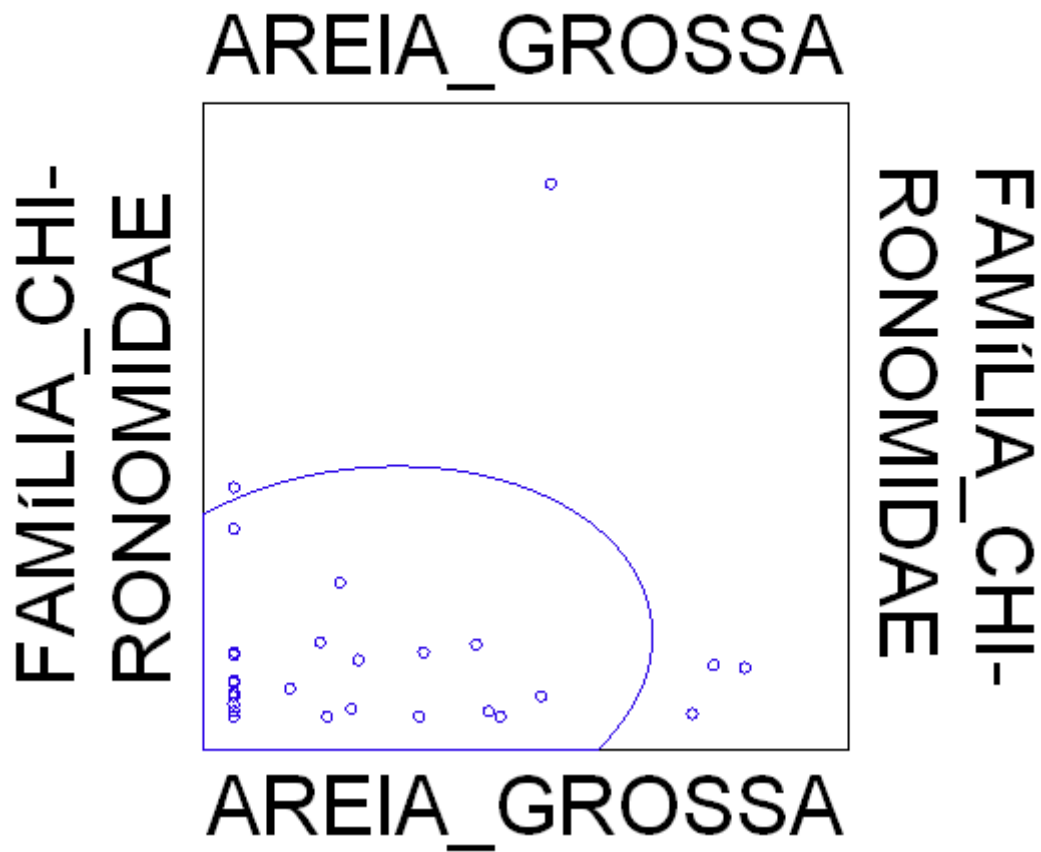
▼ Correlation:

Pearson

Number of Non-Missing Cases: 28

Pearson Correlation Matrix	
	AREIA_GROSSA
FAMÍLIA_CHIRONOMIDAE	0,098

Scatterplot Matrix



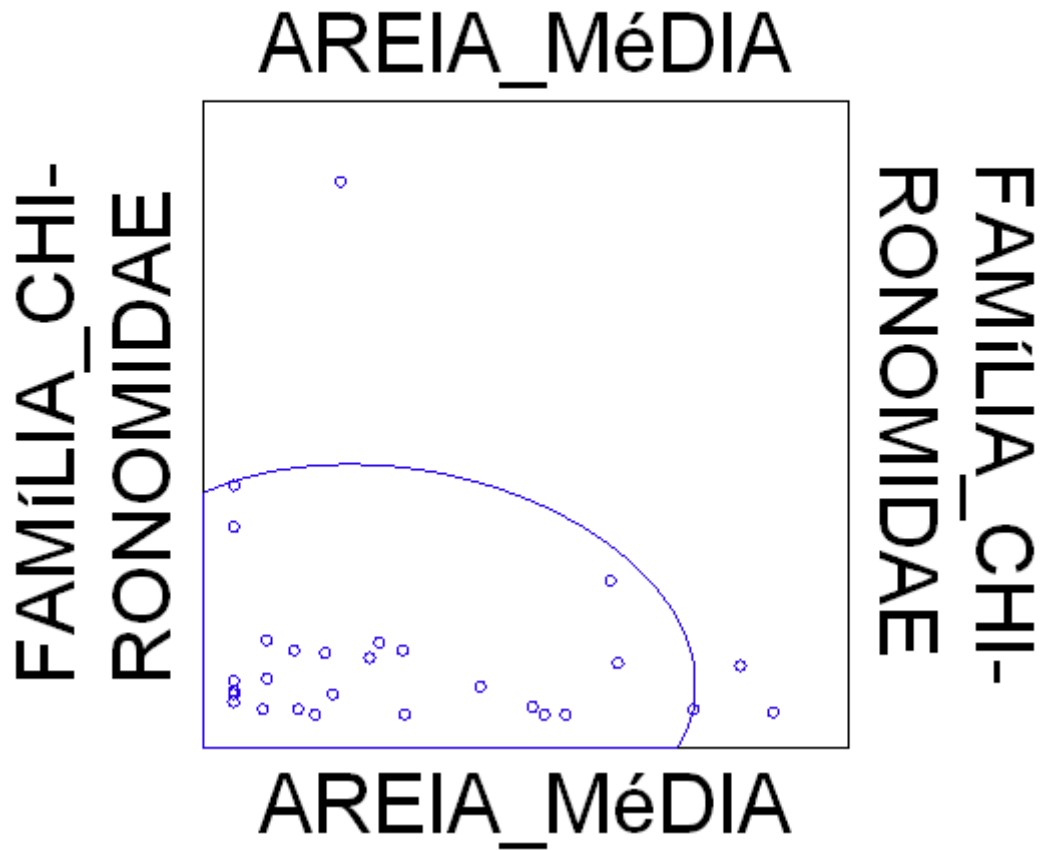
▼ Correlation:

Pearson

Number of Non-Missing Cases: 28

Pearson Correlation Matrix	
	AREA_MÉDIA
FAMILIA_CHIRONOMIDAE	-0,178

Scatterplot Matrix

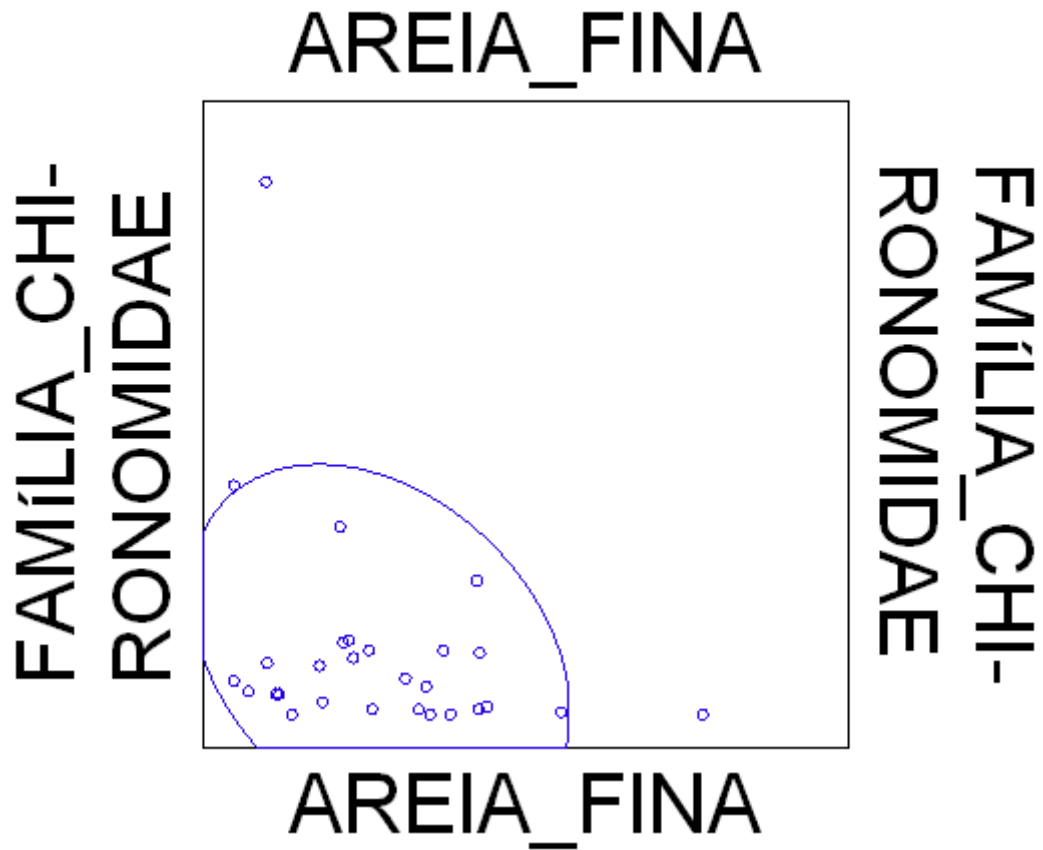


▼ Correlation: Pearson

Number of Non-Missing Cases: 28

Pearson Correlation Matrix	
	AREAIA_FINA
FAMÍLIA_CHIRONOMIDAE	-0,324

Scatterplot Matrix

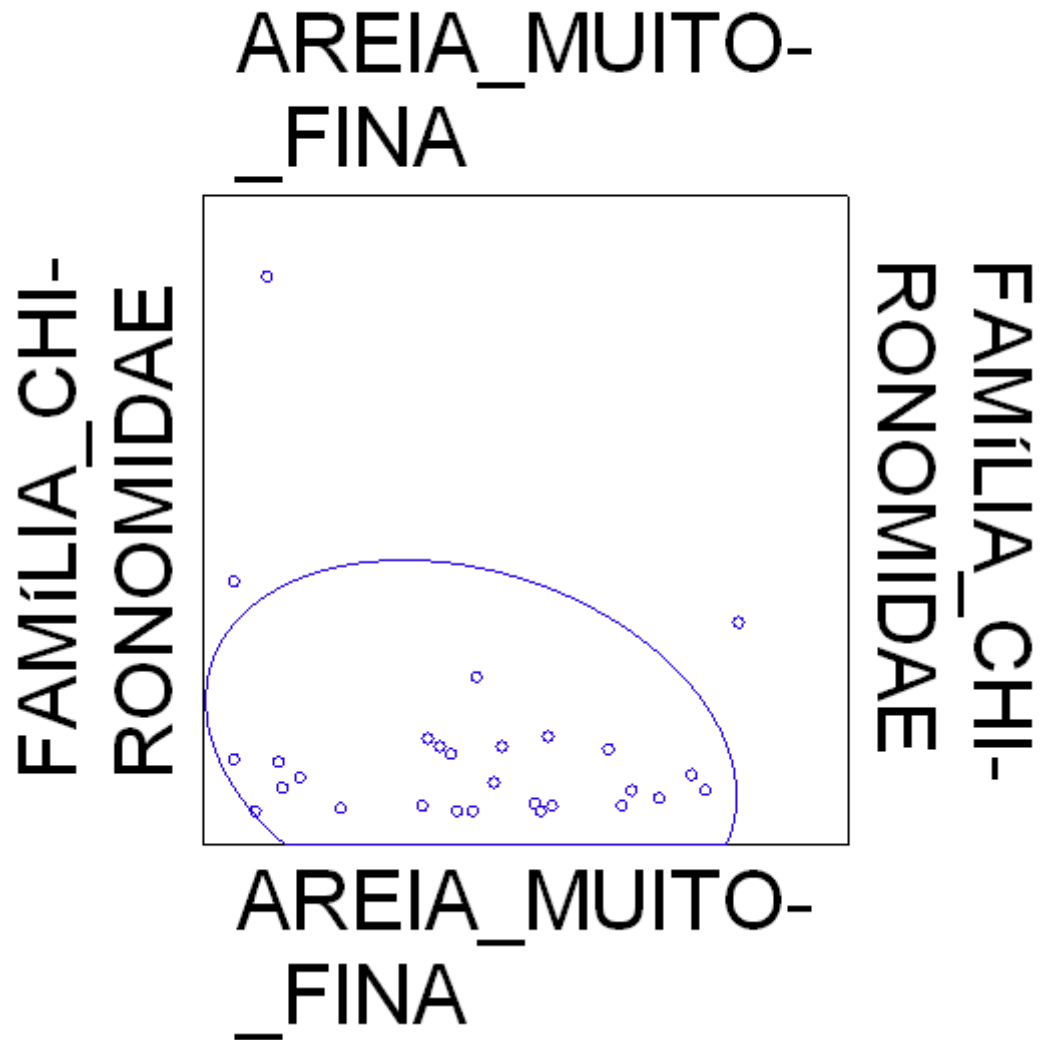


▼ Correlation: Pearson

Number of Non-Missing Cases: 28

Pearson Correlation Matrix	
	AREA_MUITO_FIN- A
FAMILIA_CHIRONOMIDAE	-0,254

Scatterplot Matrix



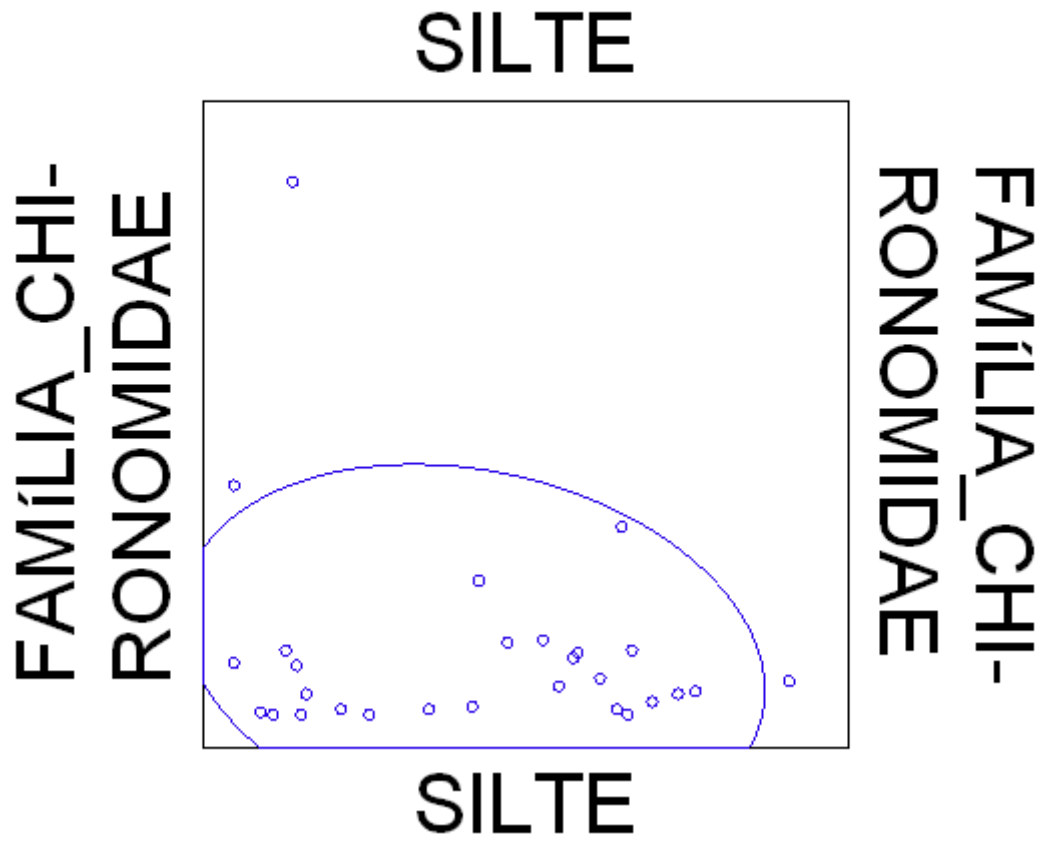
▼ Correlation:

[Pearson](#)

Number of Non-Missing Cases: 28

Pearson Correlation Matrix	
	SILTE
FAMÍLIA_CHIRONOMIDAE	-0,207

Scatterplot Matrix



▼ Correlation: Pearson

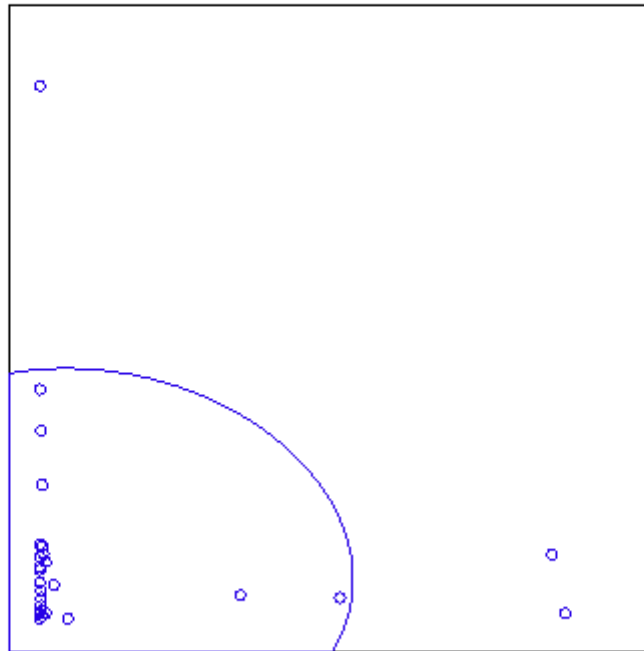
Number of Non-Missing Cases: 28

Pearson Correlation Matrix	
	ARGILA
FAMILIA_CHIRONOMIDAE	-0,127

Scatterplot Matrix

ARGILA

FAMÍLIA_CHI-
RONOMIDAE



FAMÍLIA_CHI-
RONOMIDAE

ARGILA

Nas lagoas

▼ File: <E:\granubentoslagoa2.syz>

Number of Variables : 15

Number of Cases : 54

SYSTAT Rectangular file E:\granubentoslagoa2.syz,
Created data file Thu Jul 17 14:03:58 2014 containing variables:

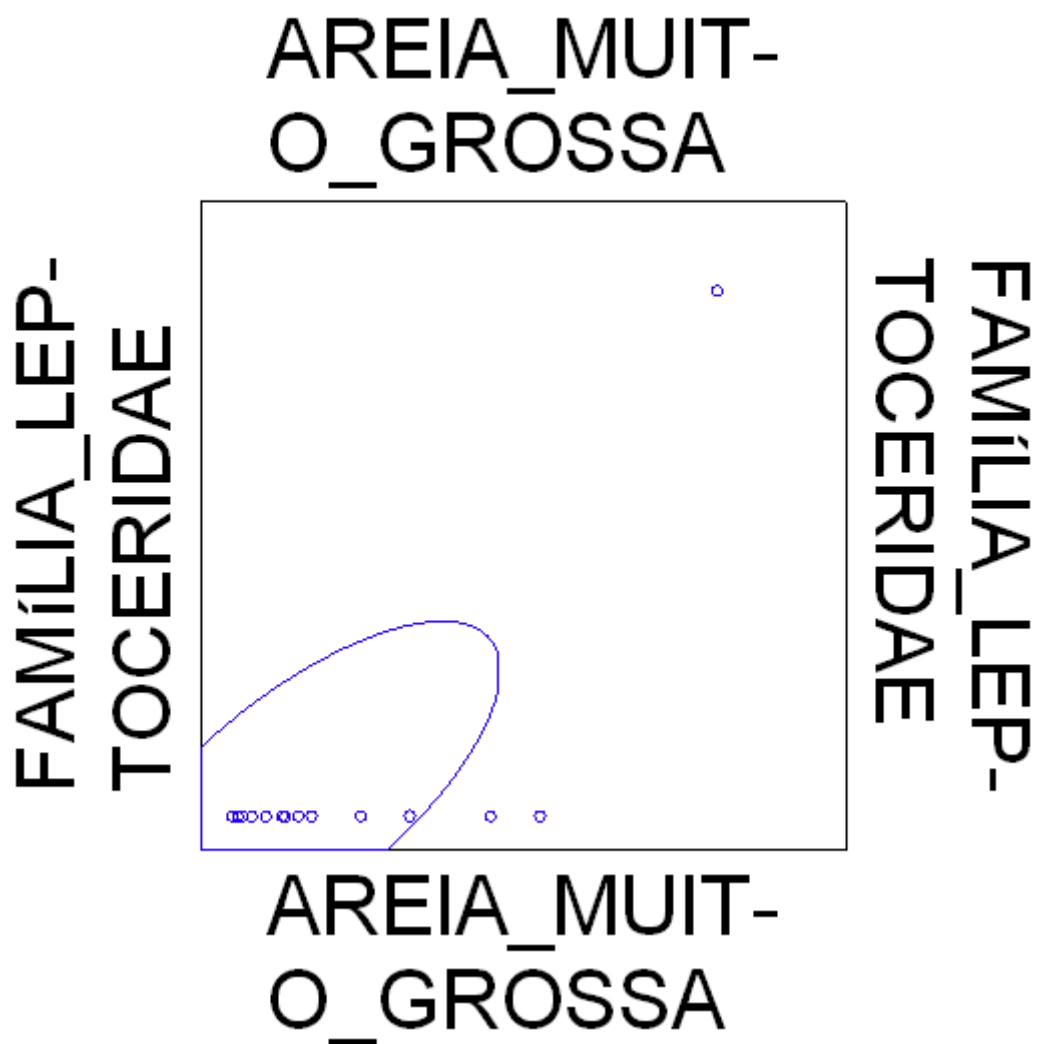
\$PONTOS_DE_COL E- TA\$	FAMÍLIA_CHAOBO R- IDAE	FAMÍLIA_CHIRON O- MIDAE	FAMÍLIA_LEPTOC E- RIDAE	FAMÍLIA_NAIDID A- E	FAMÍLIA_POLYMI T- ARCYIDAE
AREIA_MUITO_GR O- SSA	AREIA_GROSSA	AREIA_MÉDIA	AREIA_FINA	AREIA_MUITO_FI N- A	SILTE
ARGILA	BIOTOPO	COLETA			

▼ Correlation: [Pearson](#)

Number of Non-Missing Cases: 27

Pearson Correlation Matrix	
	AREIA_MUITO_GROSSA
FAMÍLIA_LEPTOCERIDAE	0,719

Scatterplot Matrix



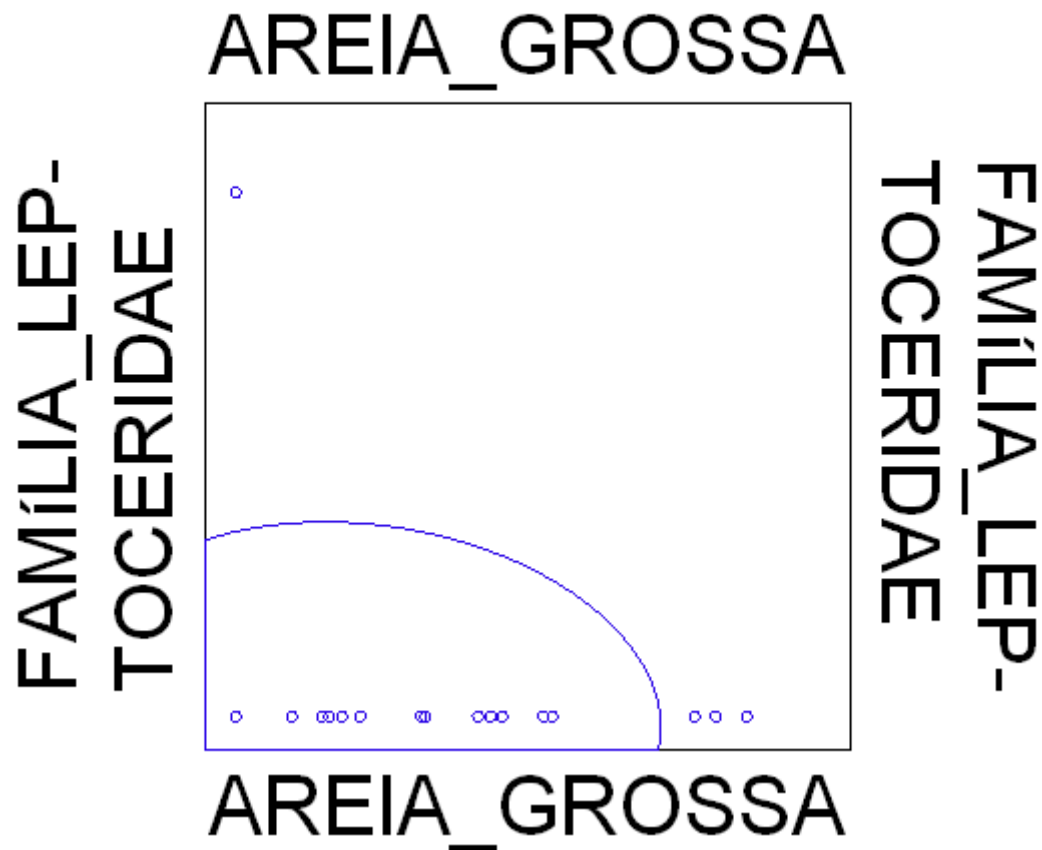
▼ Correlation:

[Pearson](#)

Number of Non-Missing Cases: 27

Pearson Correlation Matrix	
	AREIA_GROSSA
FAMÍLIA_LEPTOCERIDAE	-0,165

Scatterplot Matrix

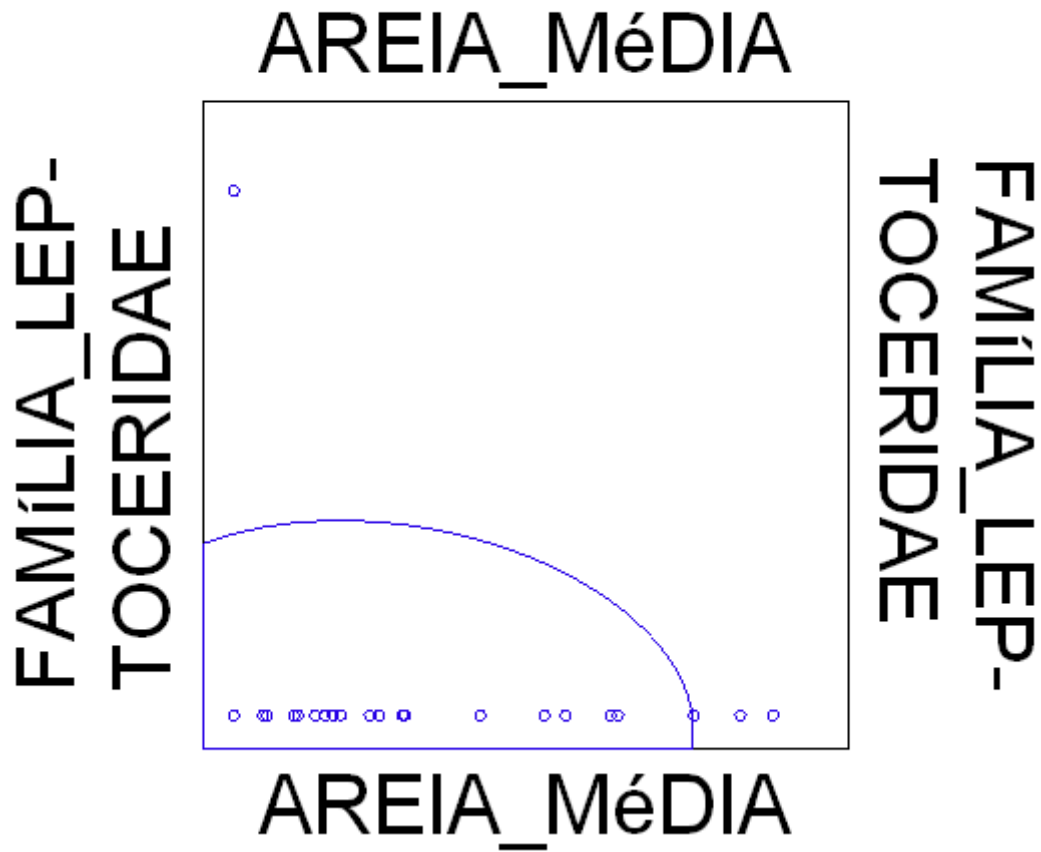


▼ Correlation: Pearson

Number of Non-Missing Cases: 27

Pearson Correlation Matrix	
	AREIA_MÉDIA
FAMÍLIA_LEPTOCERIDAE	-0,190

Scatterplot Matrix

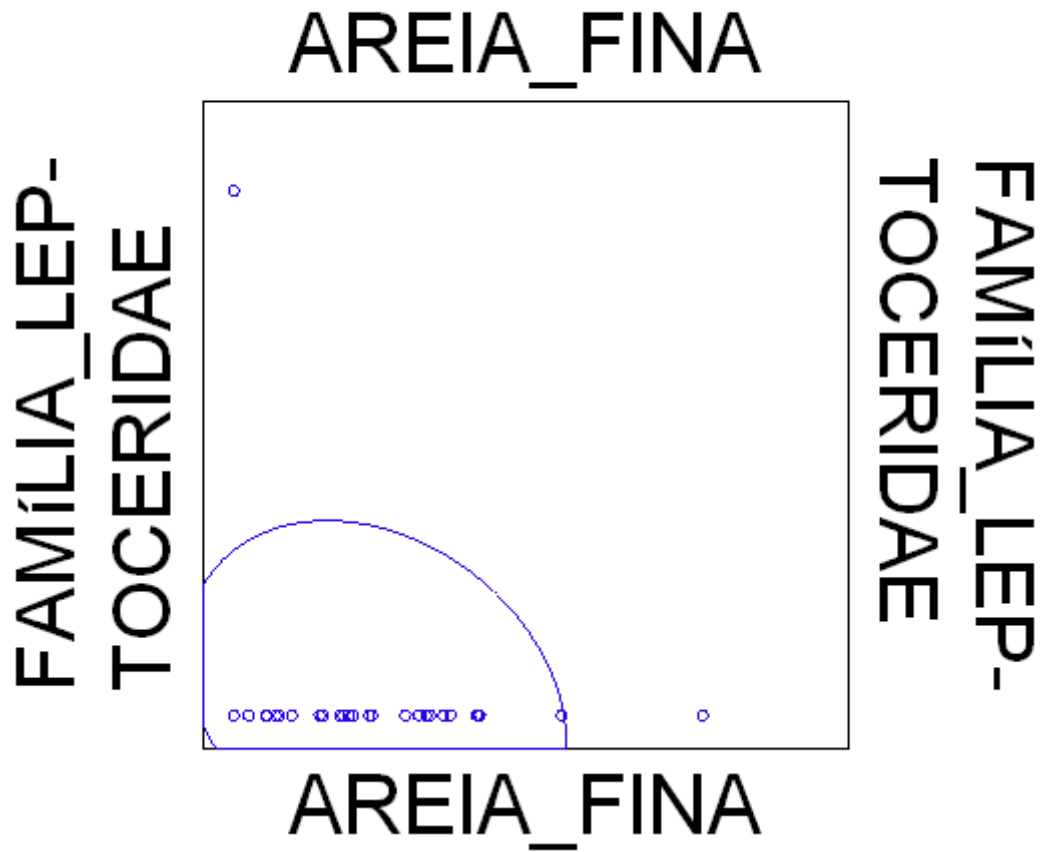


▼ Correlation: Pearson

Number of Non-Missing Cases: 27

Pearson Correlation Matrix	
	AREIA_FINAL
FAMÍLIA_LEPTOCERIDAE	-0,260

Scatterplot Matrix

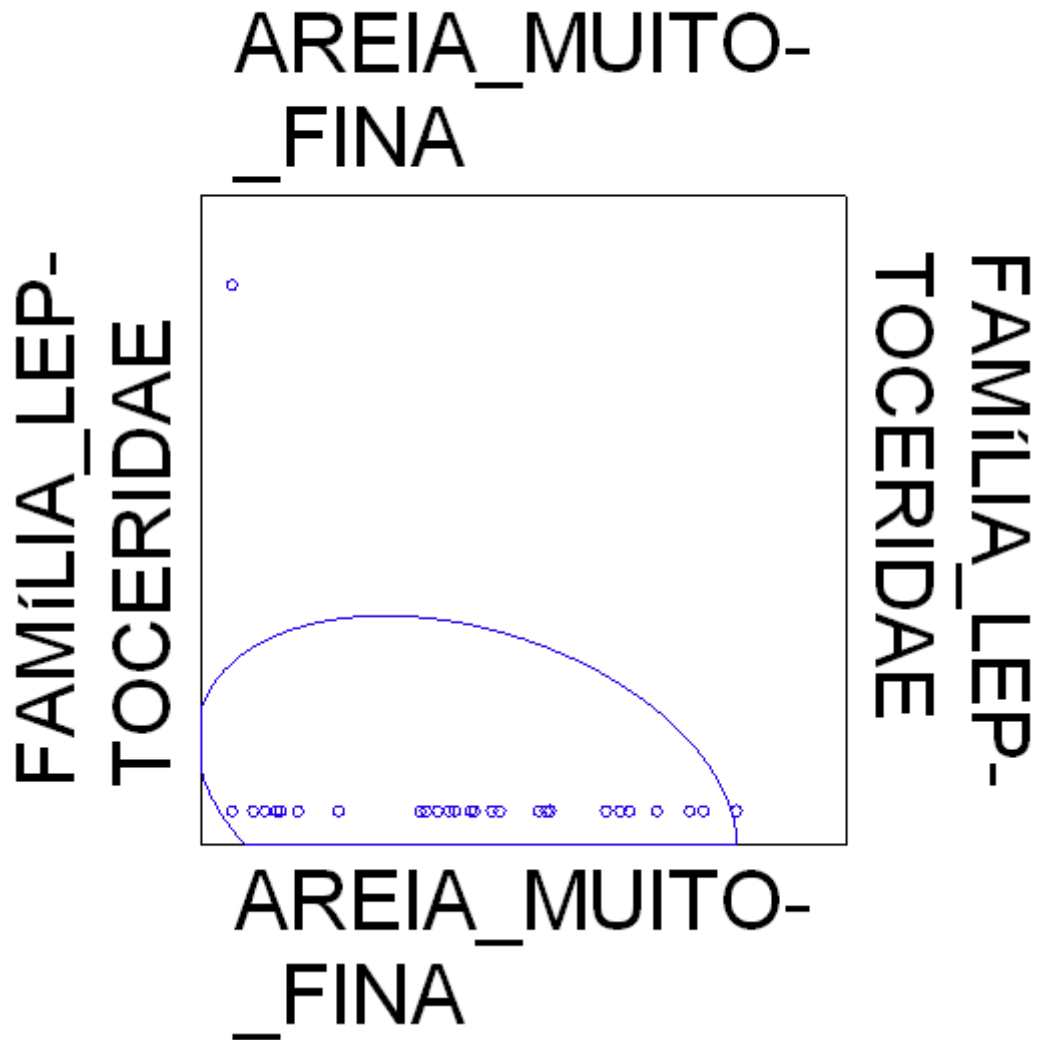


▼ Correlation: Pearson

Number of Non-Missing Cases: 27

Pearson Correlation Matrix	
	AREIA_MUITO_FIN- A
FAMÍLIA_LEPTOCERIDAE	-0,302

Scatterplot Matrix



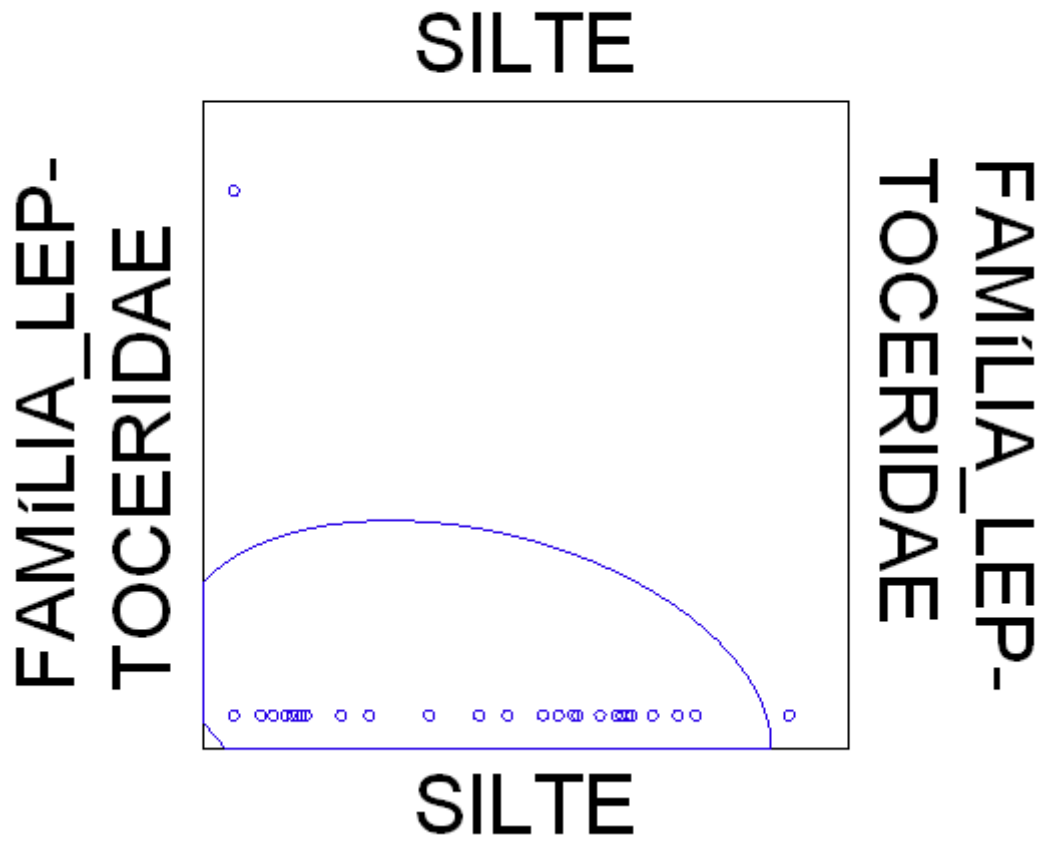
▼ Correlation:

Pearson

Number of Non-Missing Cases: 27

Pearson Correlation Matrix	
	SILTE
FAMÍLIA_LEPTOCERIDAE	-0,281

Scatterplot Matrix



▼ Correlation: Pearson

Number of Non-Missing Cases: 27

Pearson Correlation Matrix	
	ARGILA
FAMÍLIA_LEPTOCERIDAE	-0,080

