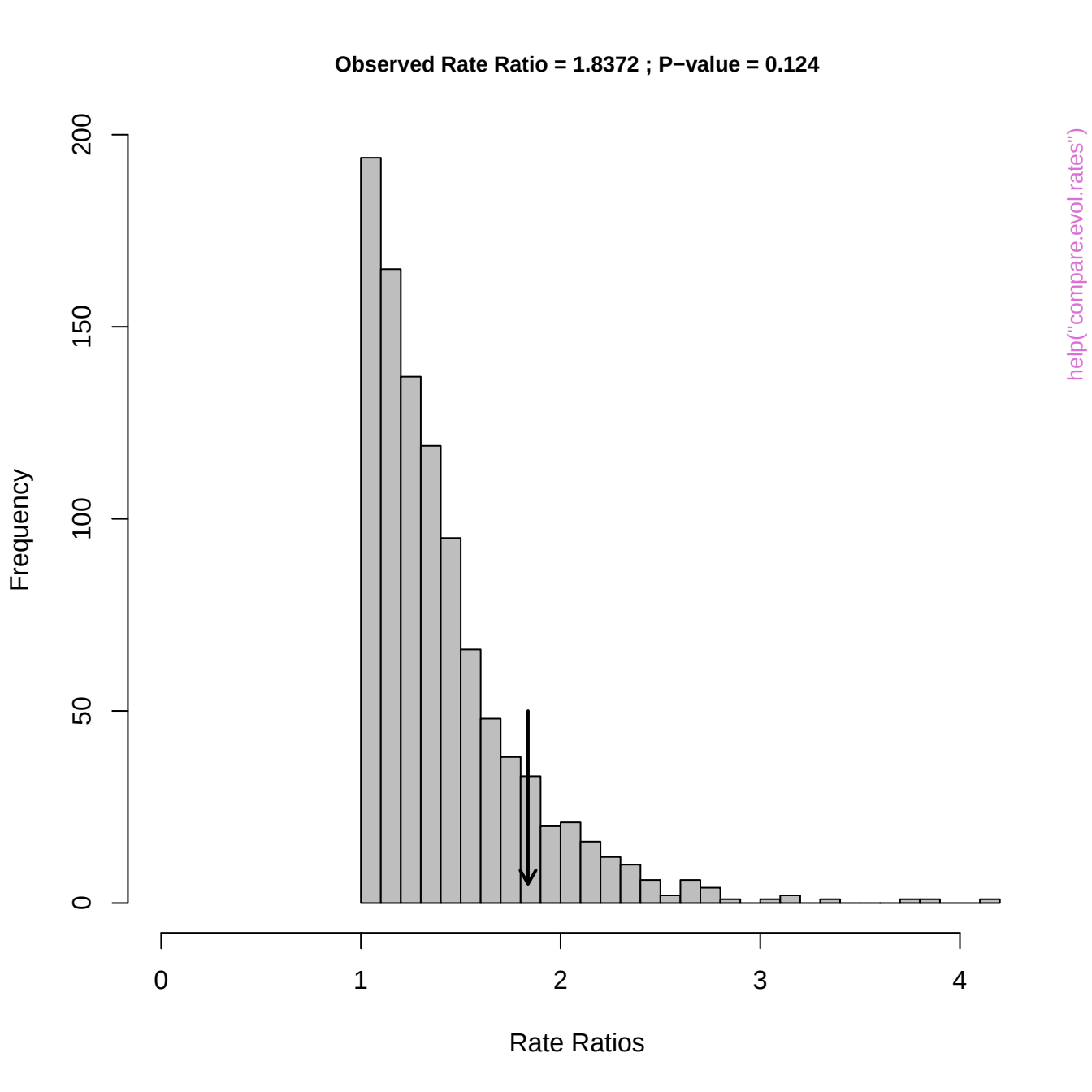
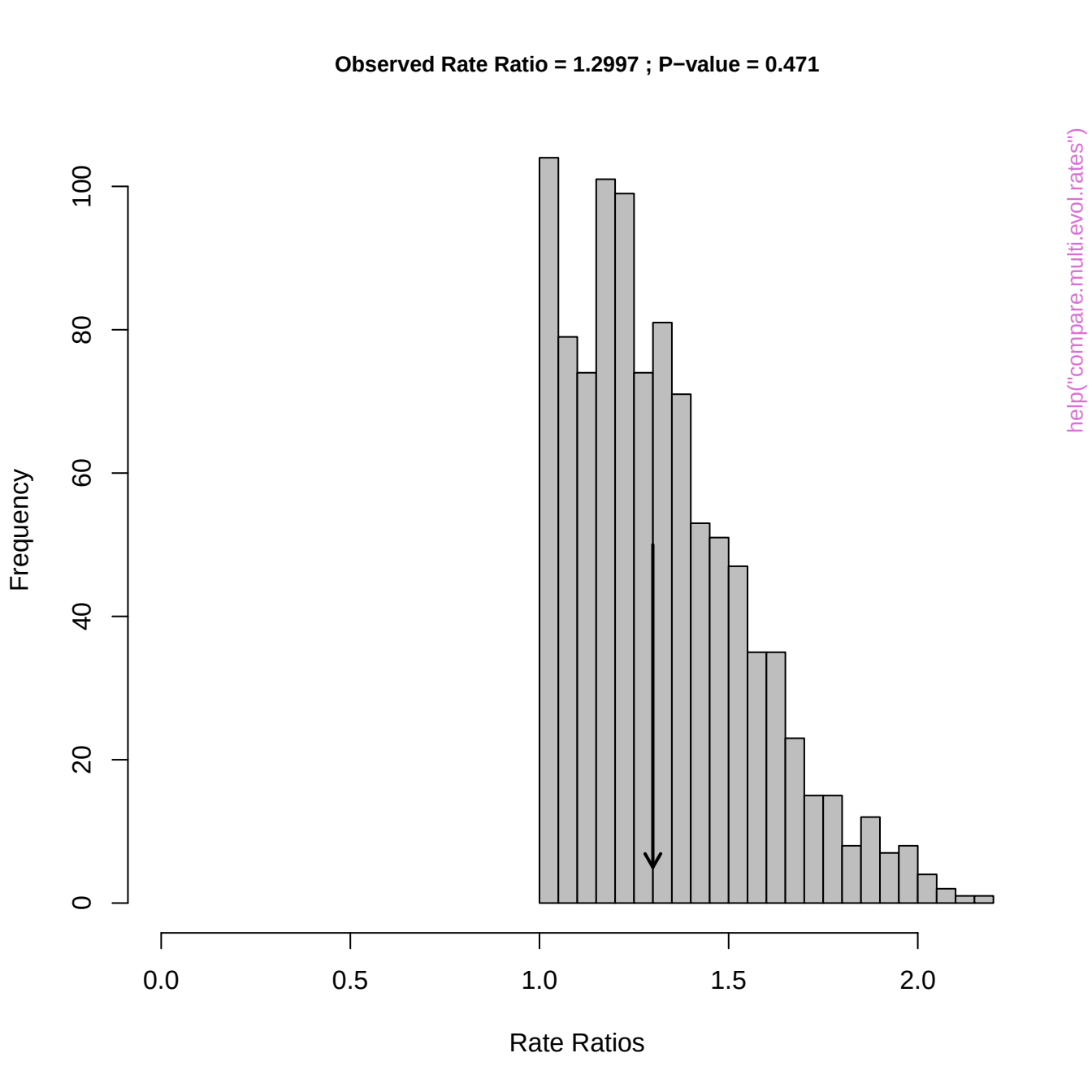
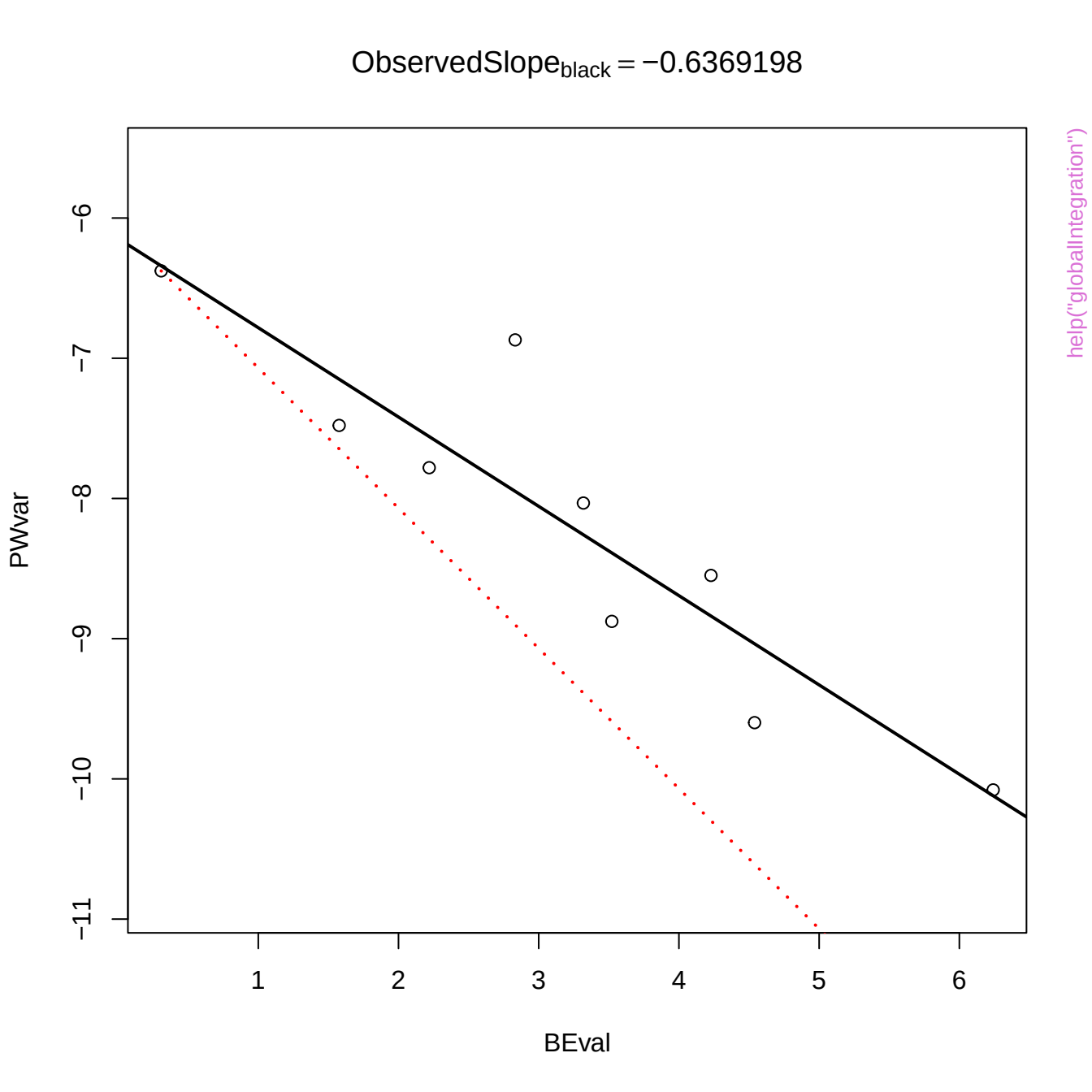
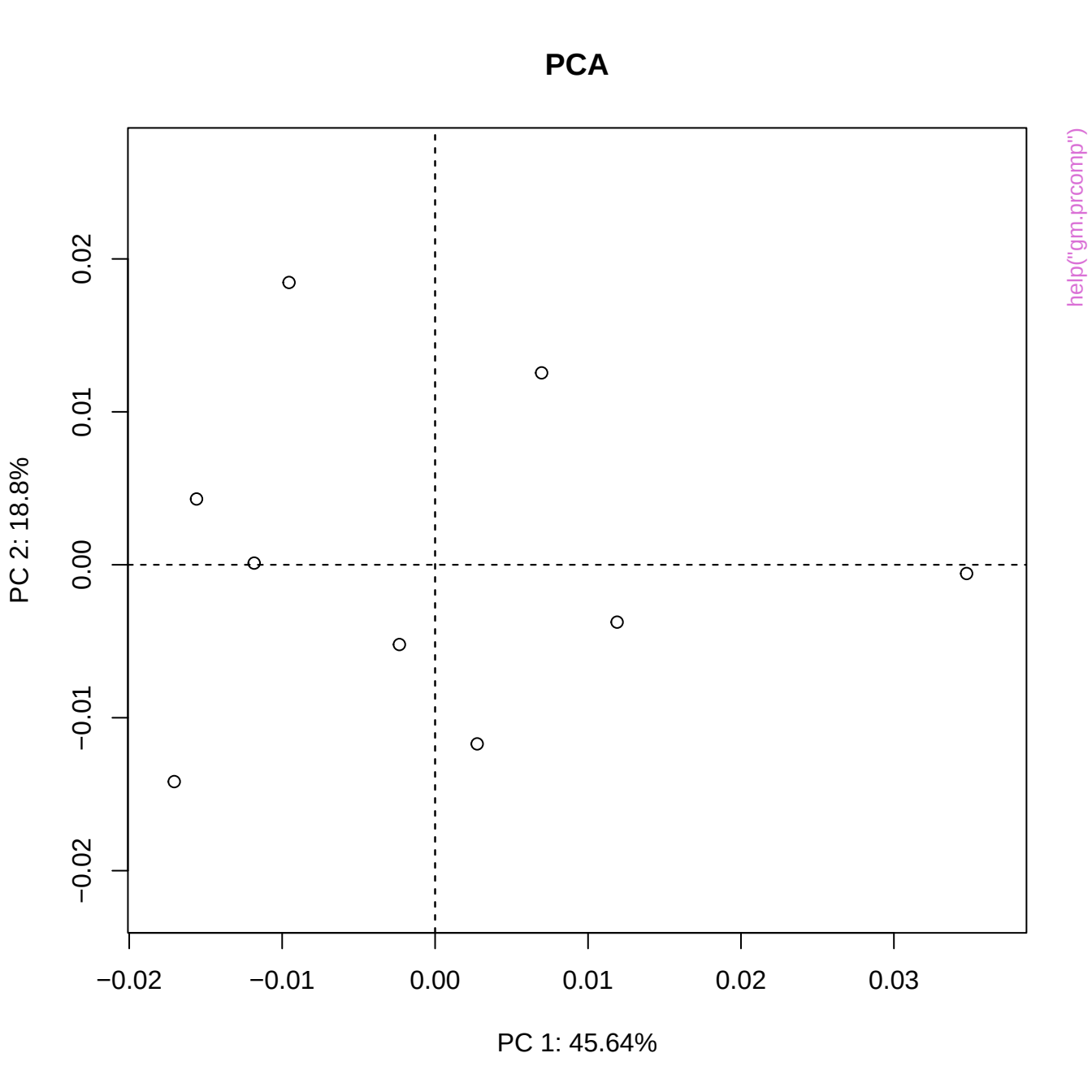

Observed Rate Ratio = 1.8372 ; P−value = 0.124
Frequency
0
50
100
150
200
0
1
2
3
4
Rate Ratios
help("compare.evol.rates")

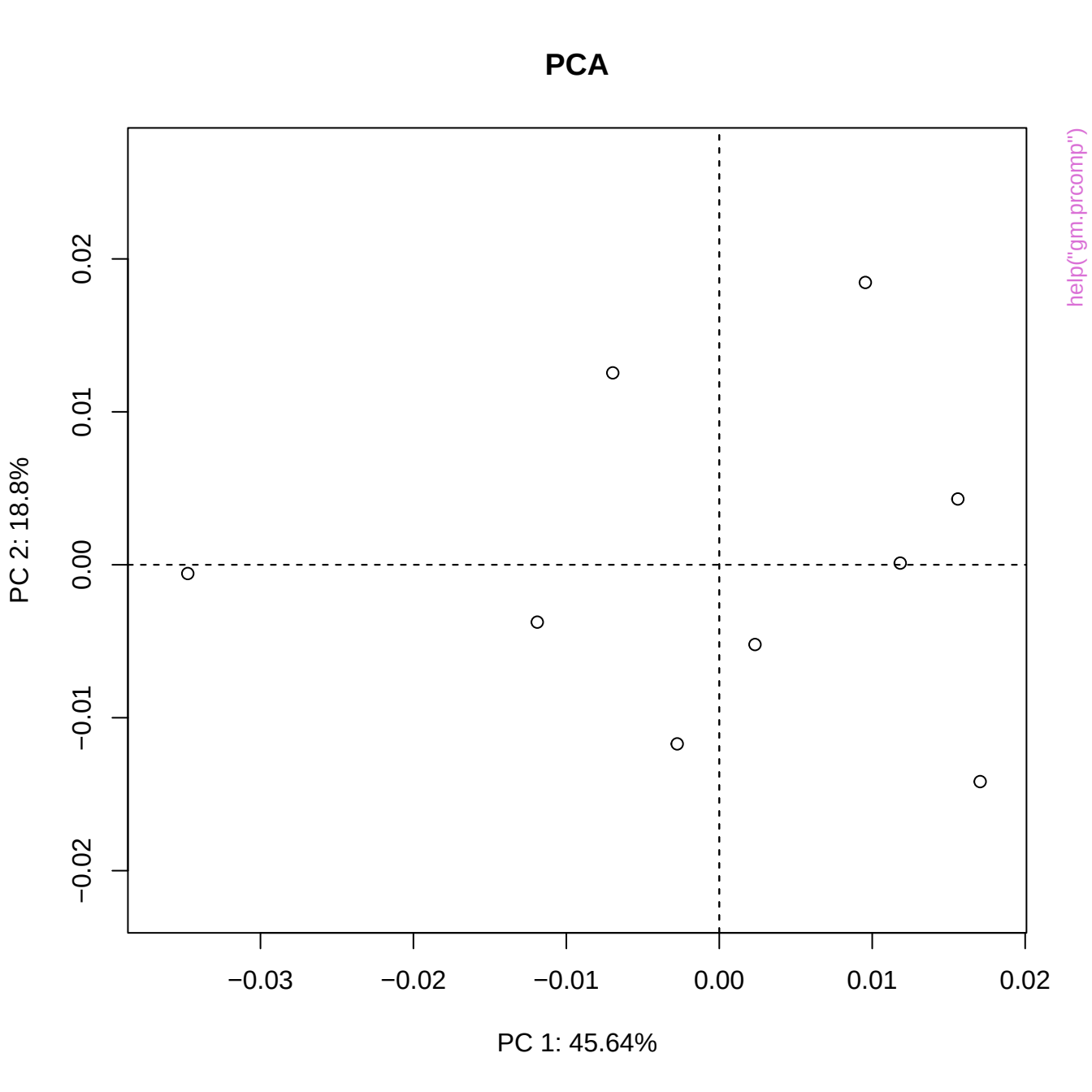

Observed Rate Ratio = 1.2997 ; P−value = 0.471
Frequency
0
20
40
60
80
100
0.0
0.5
1.0
1.5
2.0
Rate Ratios
help("compare.multi.evol.rates")

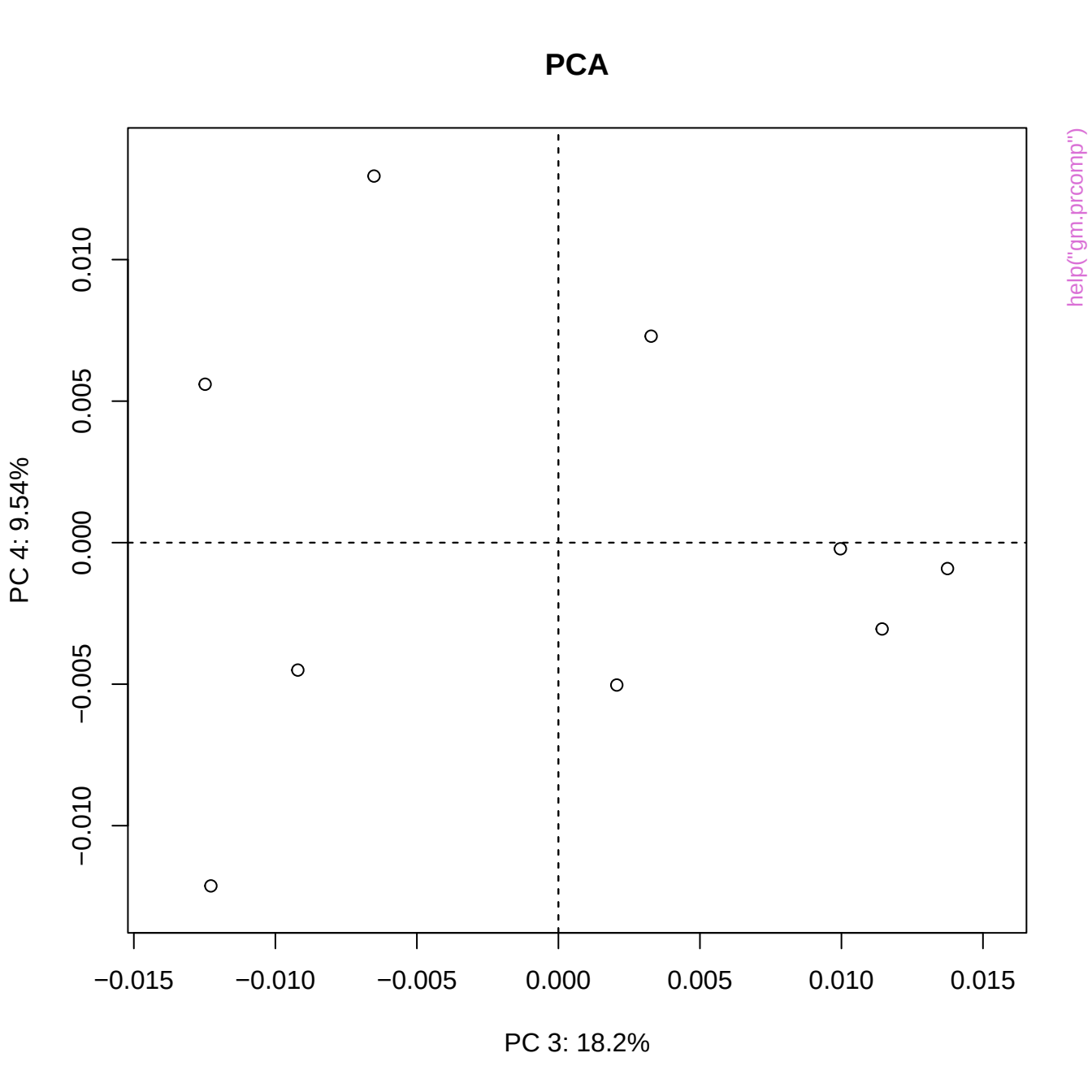
0.4
0.2
0.0
−0.2
−0.4
y
−0.2
0.0
0.2
0.4
0.6
x
help("fixed.angle")

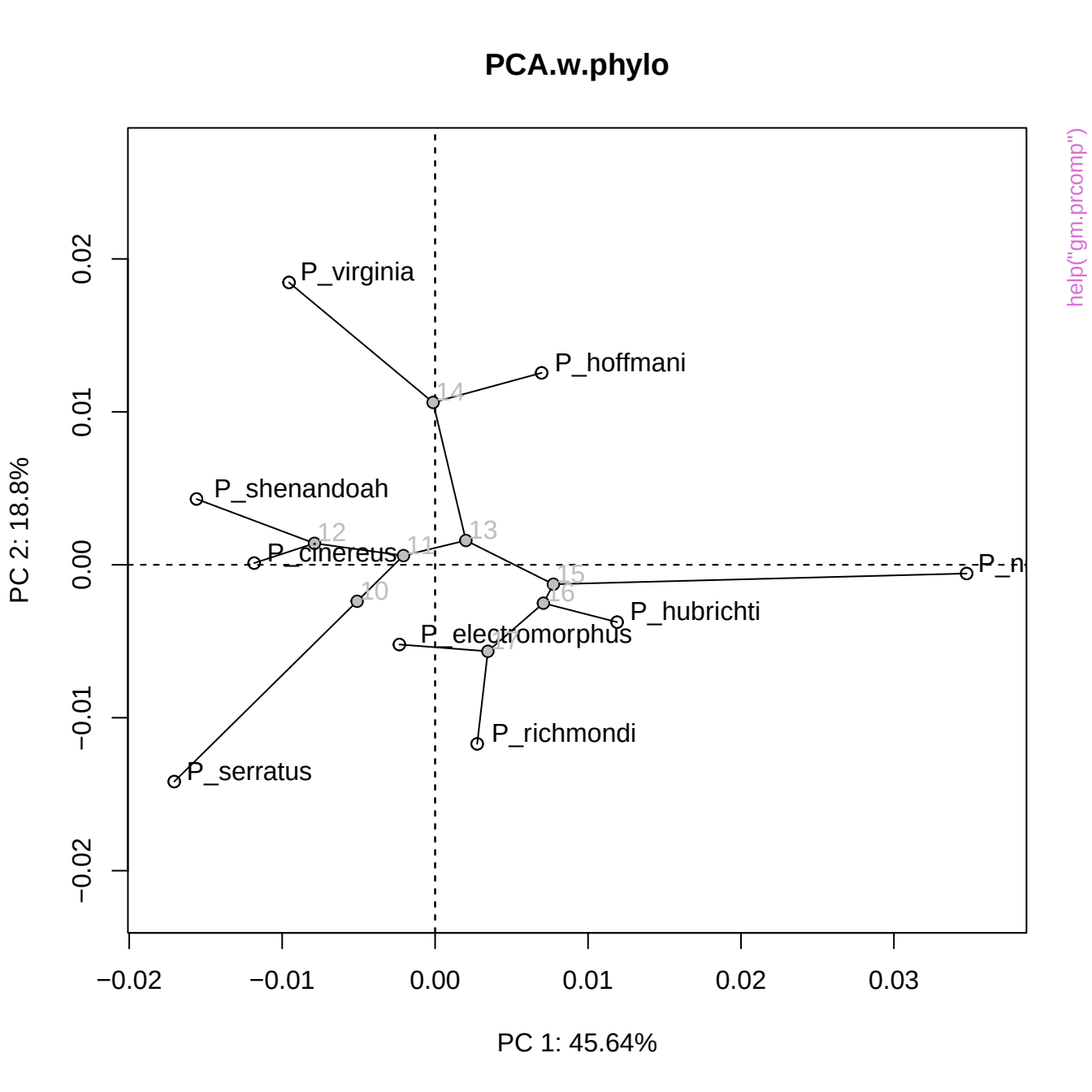
0.4
0.2
0.0
−0.2
−0.4
y
−0.2
0.0
0.2
0.4
0.6
x
help("fixed.angle")

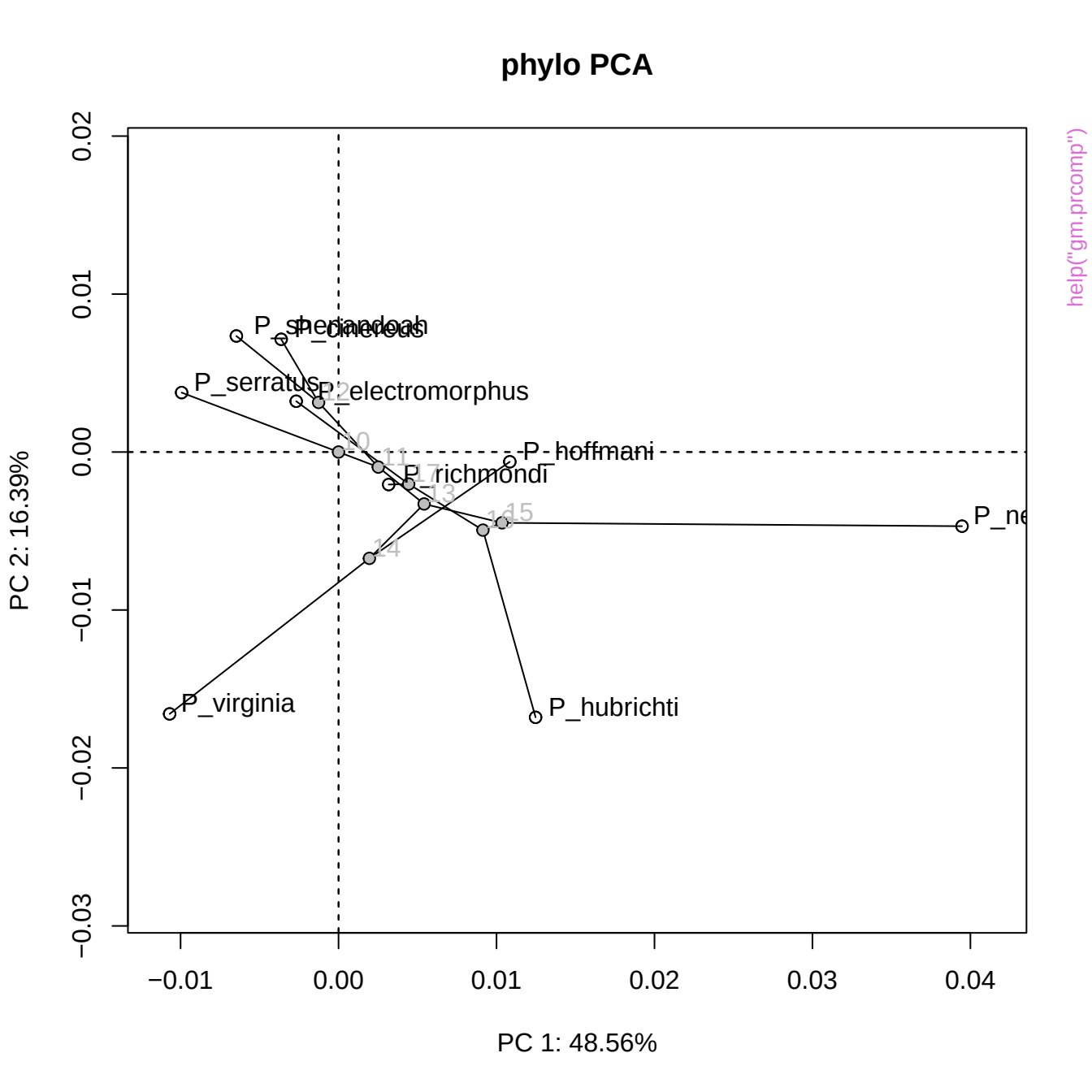

ObservedSlope$_{black}$ = −0.6369198
PWvar
−6
−7
−8
−9
−10
−11
1
2
3
4
5
6
BEval
help("globalIntegration")

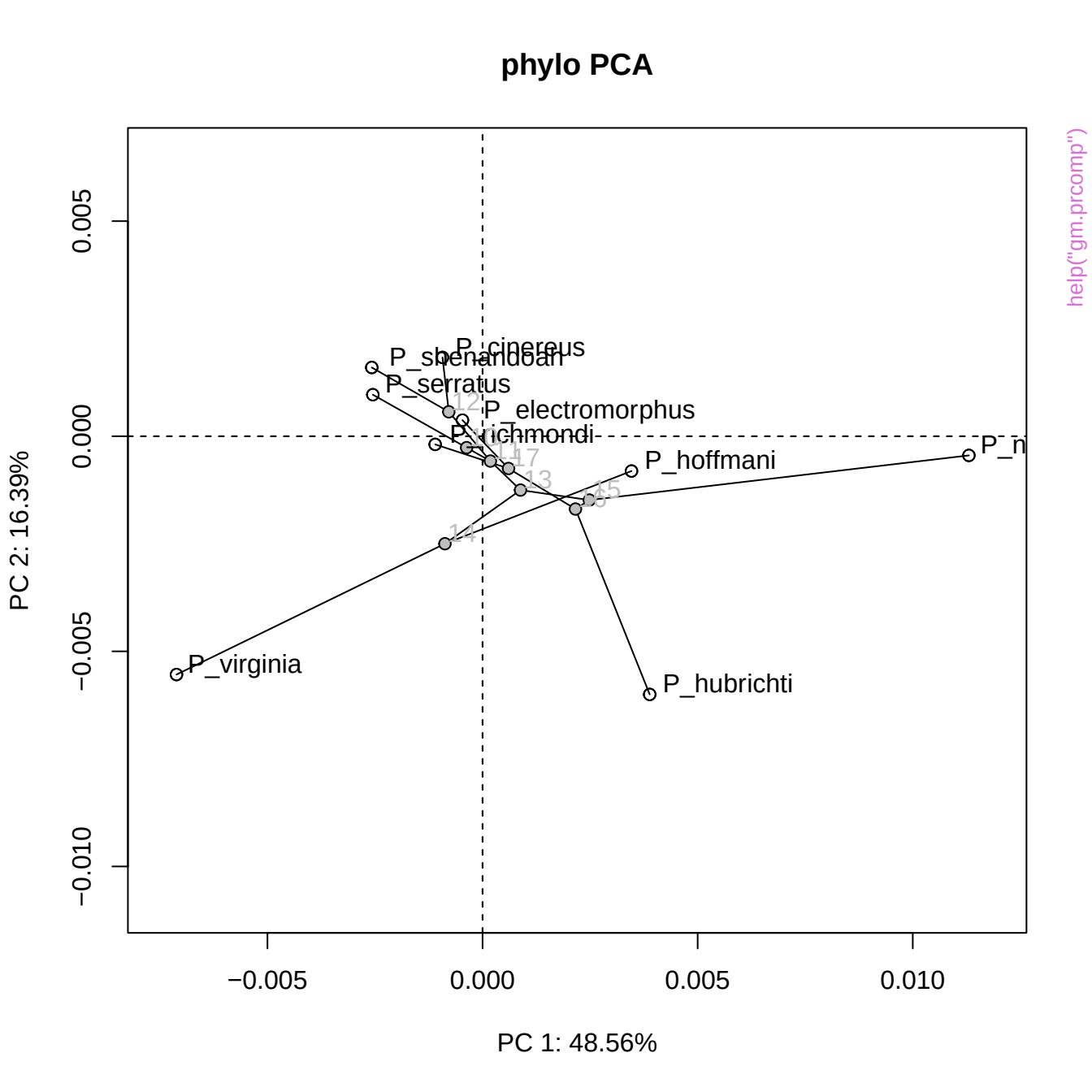

PCA
help("gm.prcomp")
PC 2: 18.8%
0.02
0.01
0.00
−0.01
−0.02
−0.02
−0.01
0.00
0.01
0.02
0.03
PC 1: 45.64%

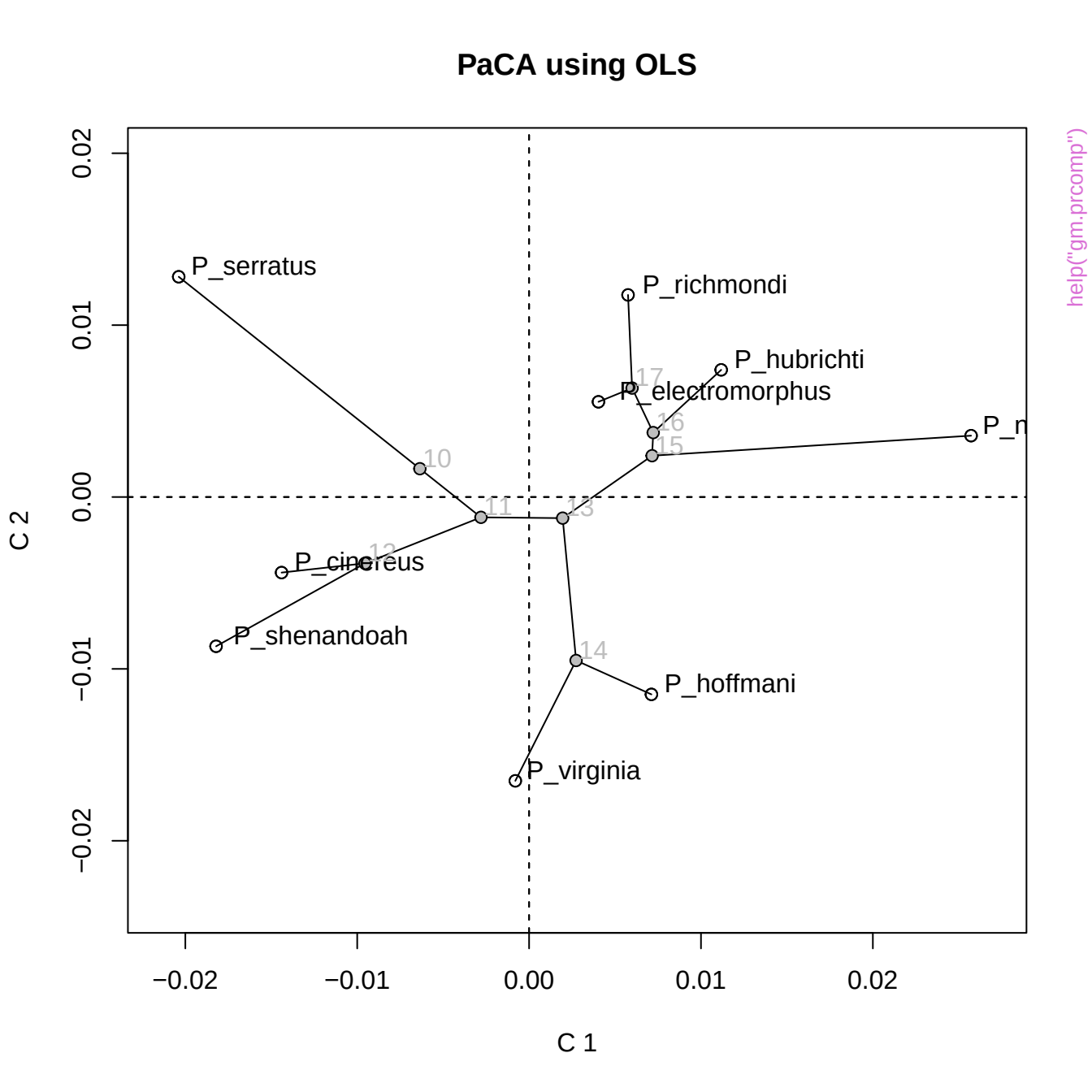

PCA
help("gm.prcomp")
PC 2: 18.8%
0.02
0.01
0.00
−0.01
−0.02
−0.03
−0.02
−0.01
0.00
0.01
0.02
PC 1: 45.64%

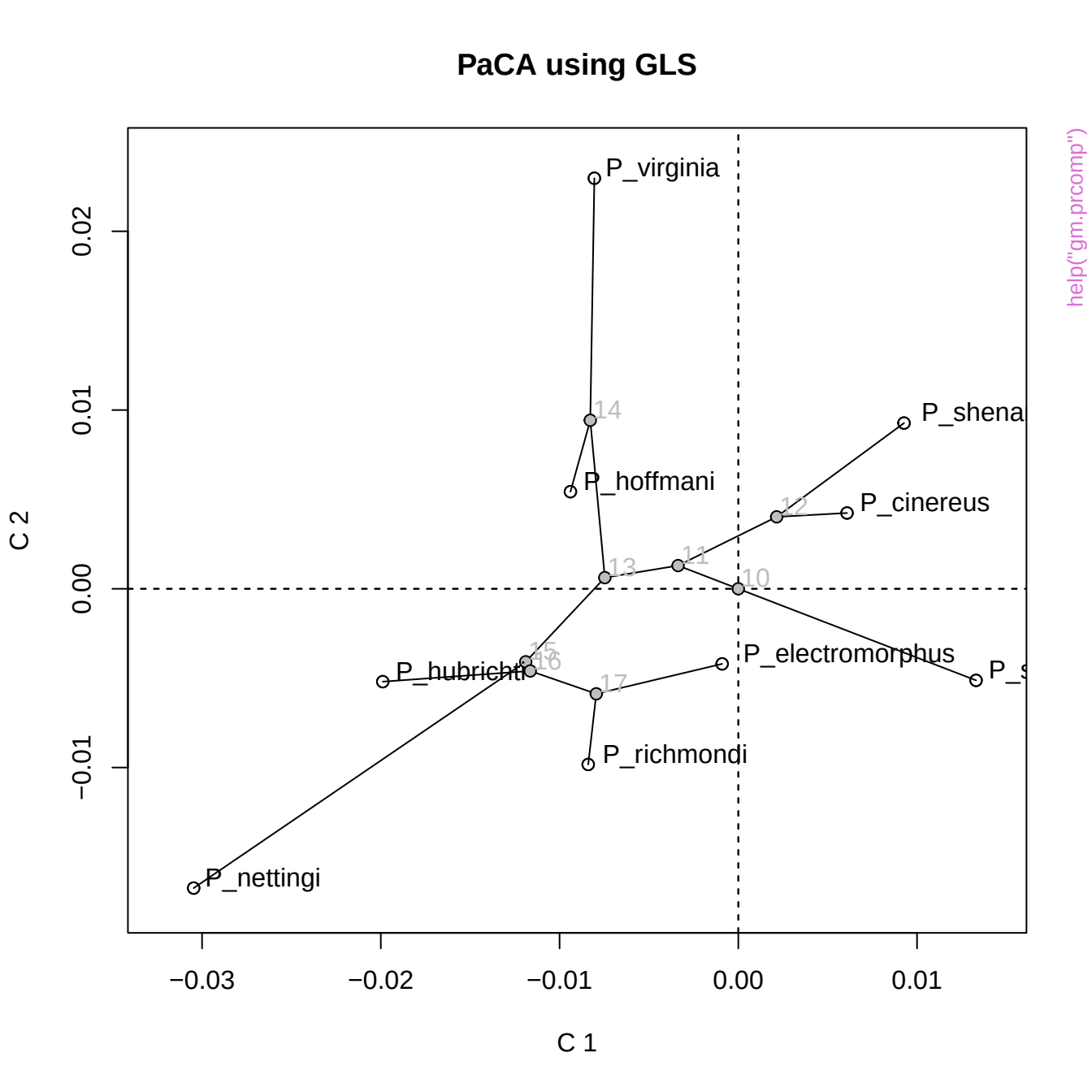

PCA
PC 4: 9.54%
PC 3: 18.2%
0.010
0.005
0.000
−0.005
−0.010
−0.015
−0.010
−0.005
0.000
0.005
0.010
0.015
help("gm.prcomp")

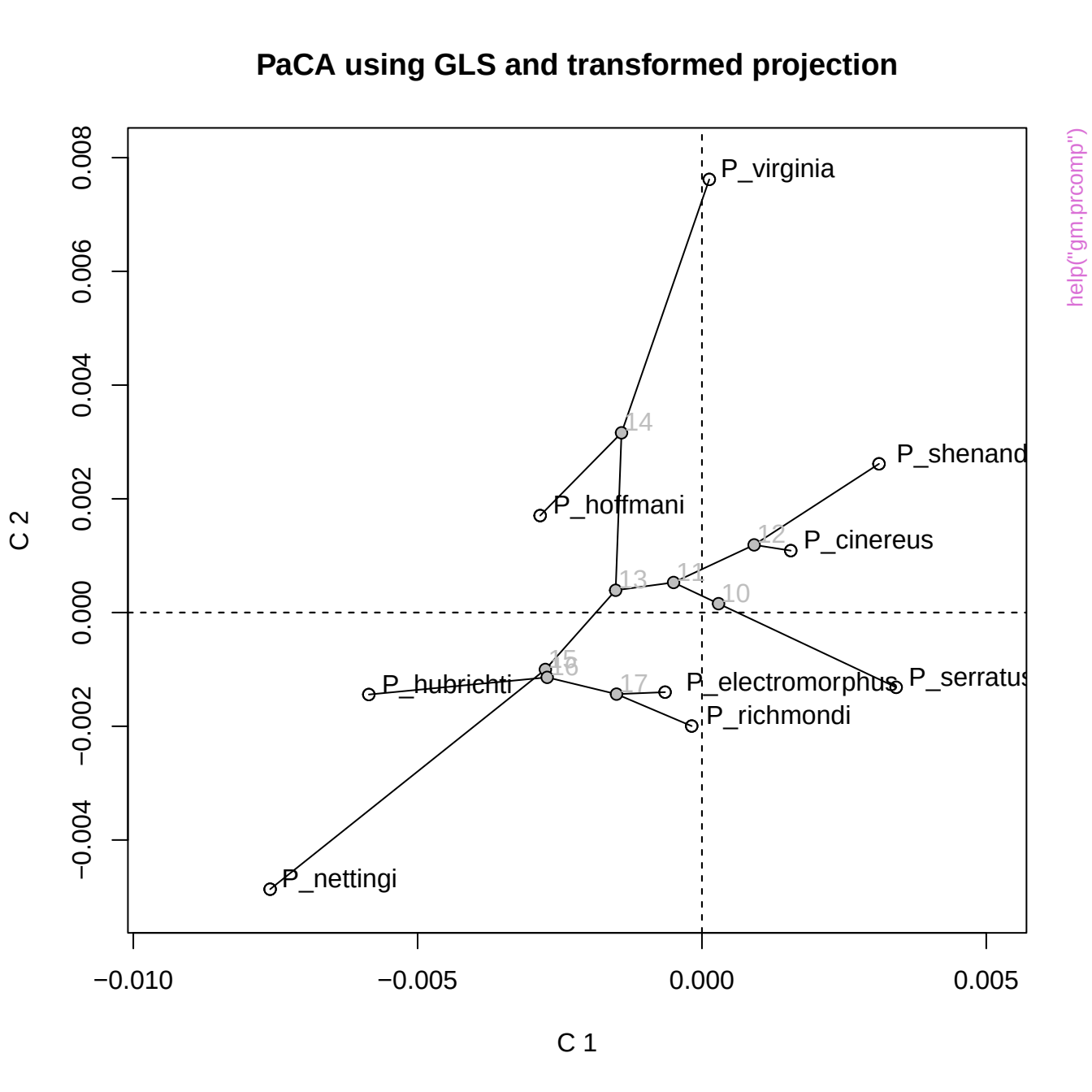

PCA.w.phylo
P_virginia
P_hoffmani
P_shenandoah
P_cinereus
P_hubrichti
P_electromorphus
P_richmondi
P_serratus
P_n
10
11
12
13
14
15
16
17
PC 1: 45.64%
PC 2: 18.8%
−0.02
−0.01
0.00
0.01
0.02
0.03
help("gm.prcomp")

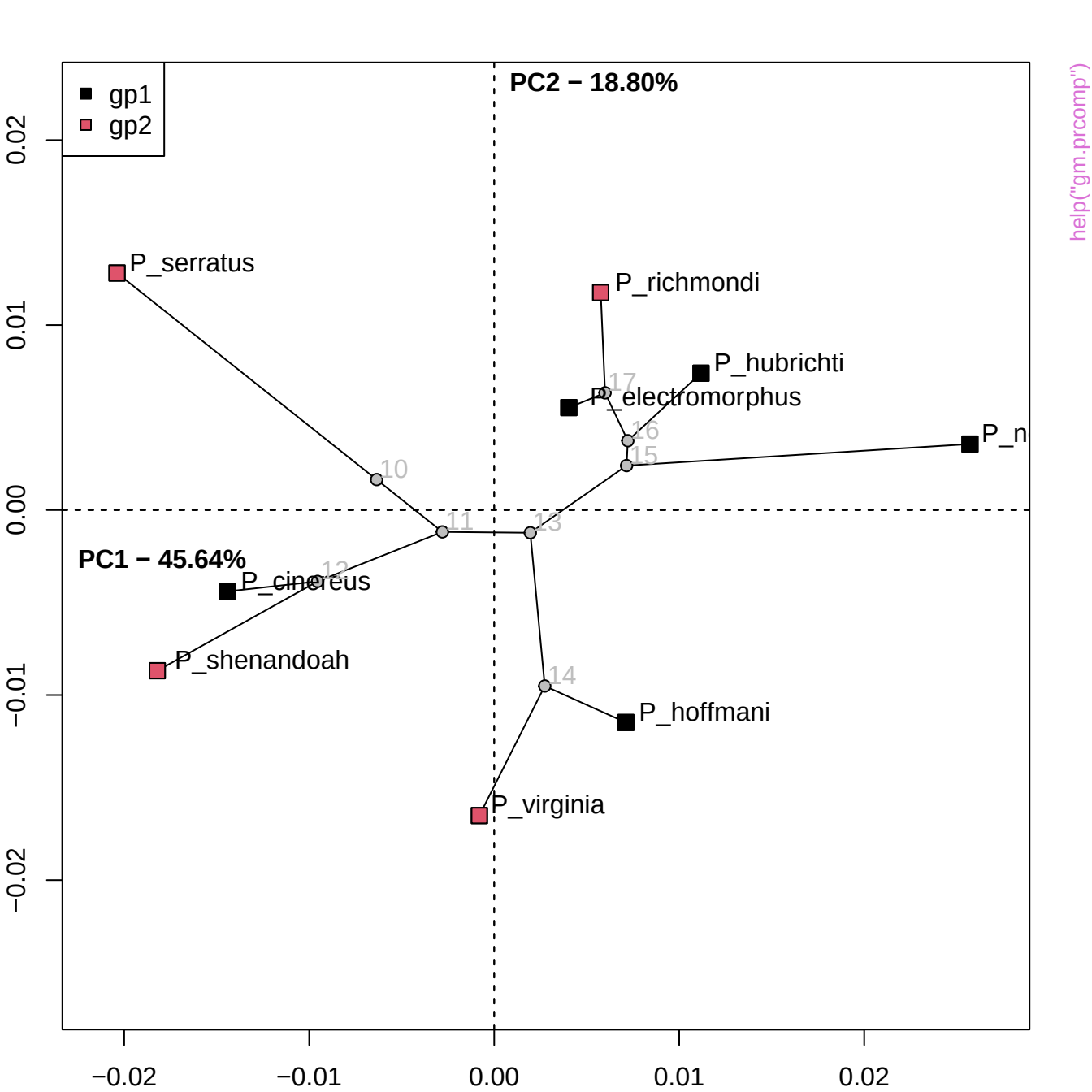

phylo PCA
P_shenandoah
P_cinereus
P_serratus
P_electromorphus
P_hoffmani
P_richmondi
P_ne
P_virginia
P_hubrichti
PC 1: 48.56%
PC 2: 16.39%
help("gm.prcomp")

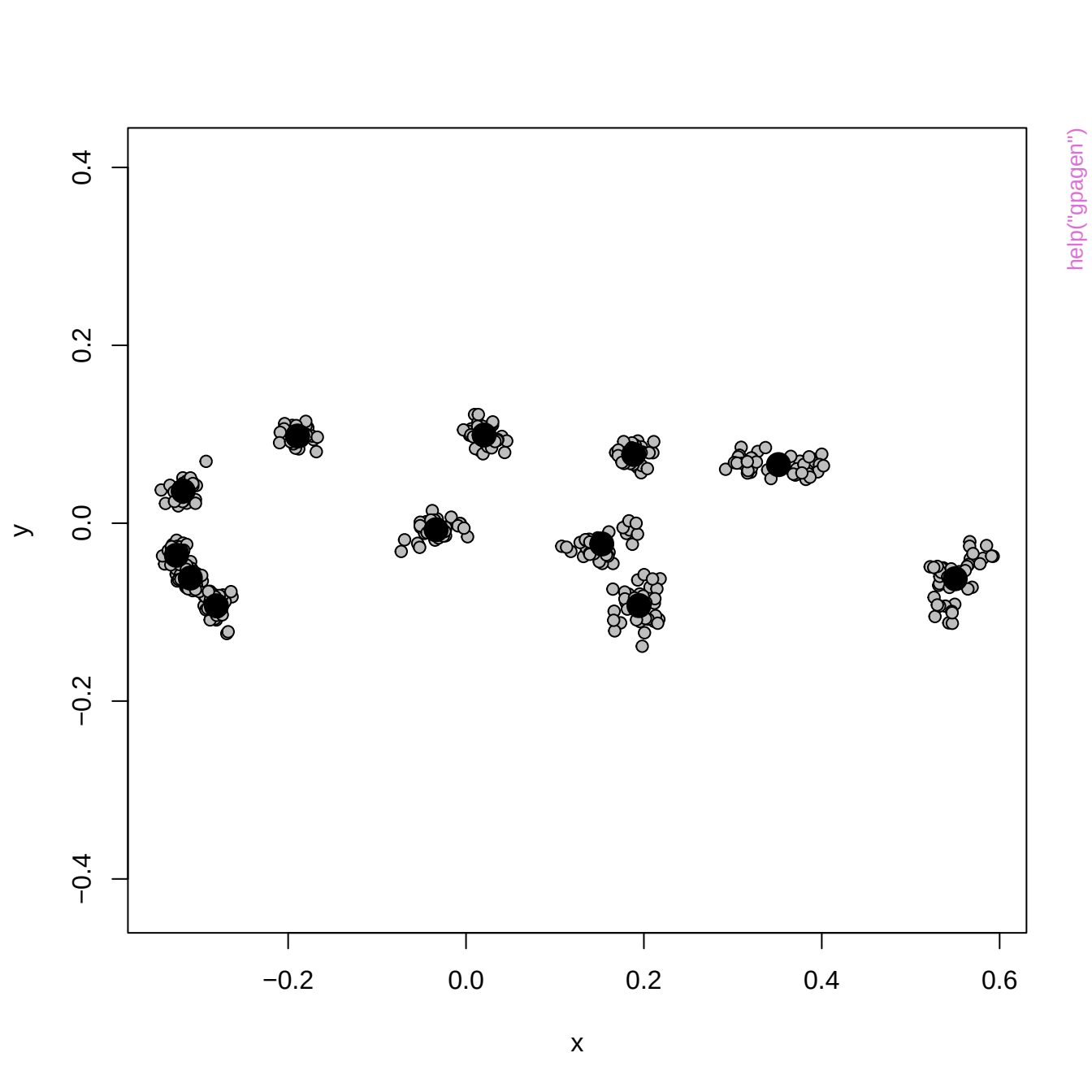

phylo PCA
P_cinereus
P_shenandoah
P_serratus
12
P_electromorphus
P_richmondi
11
17
P_hoffmani
13
15
14
P_virginia
P_hubrichti
P_n
0.005
0.000
−0.005
−0.010
PC 2: 16.39%
−0.005
0.000
0.005
0.010
PC 1: 48.56%
help("gm.prcomp")

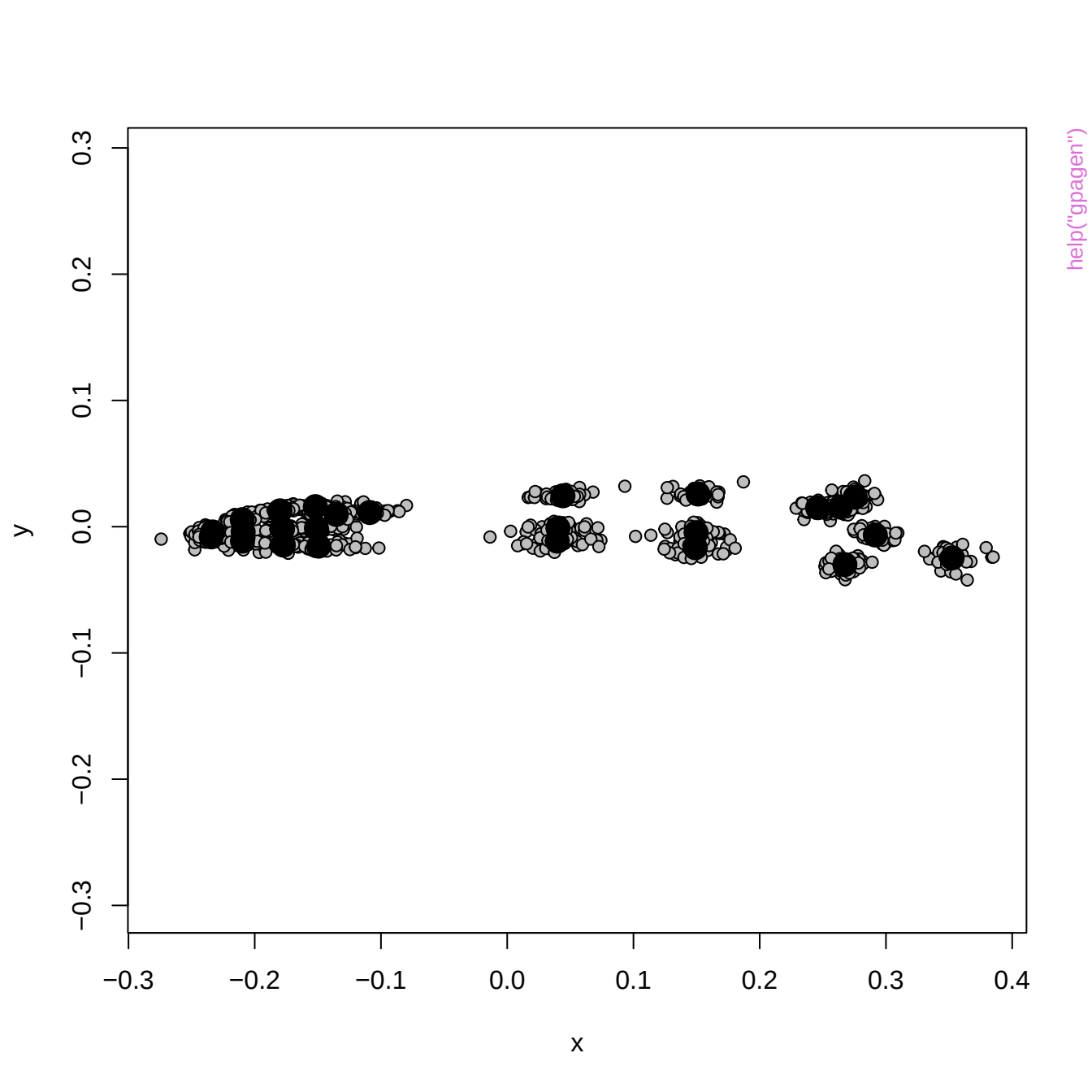

PaCA using OLS
P_serratus
P_richmondi
P_hubrichti
P_electromorphus
P_n
P_cinereus
P_shenandoah
P_hoffmani
P_virginia
10
11
12
13
14
15
16
17
C 1
C 2
−0.02
−0.01
0.00
0.01
0.02
help("gm.prcomp")

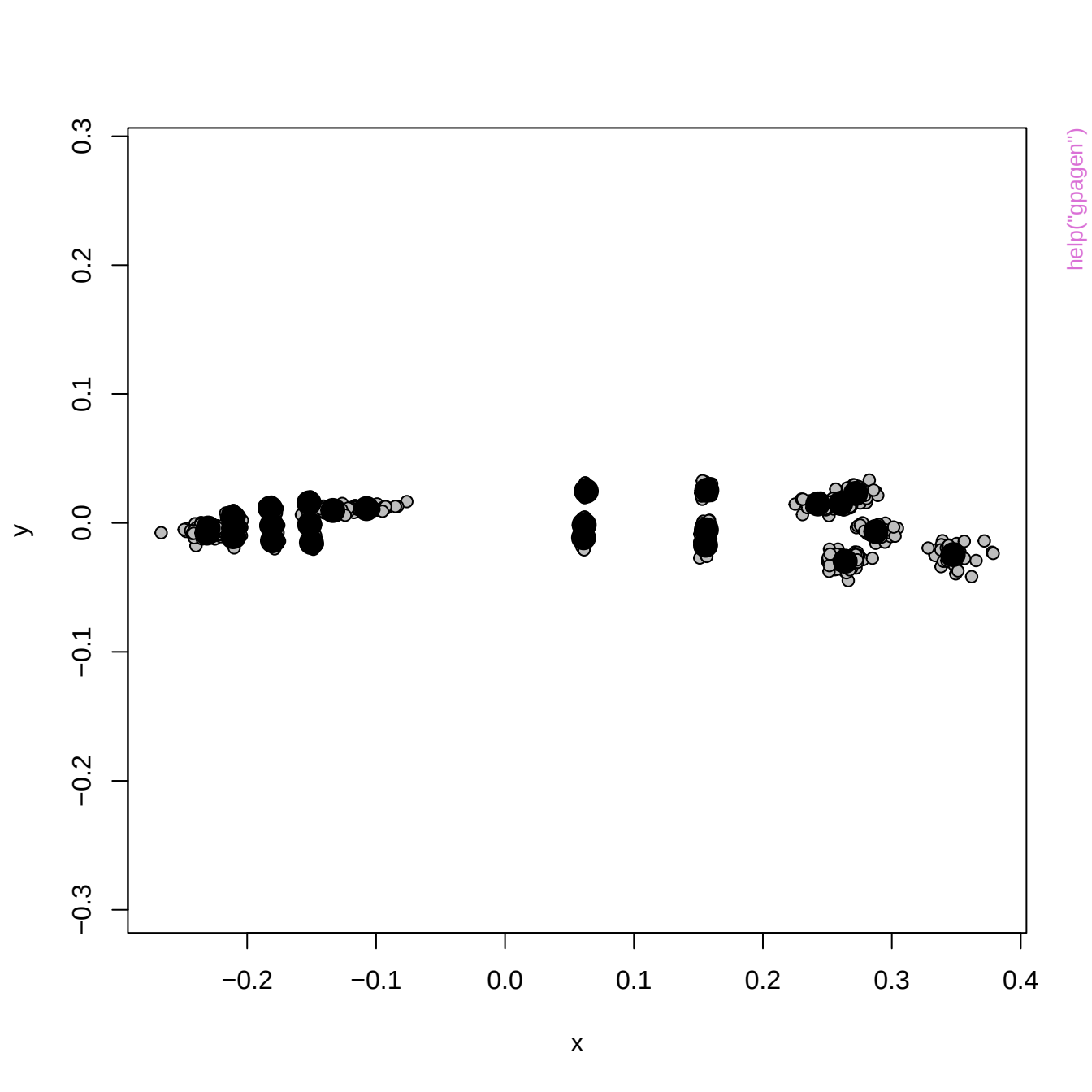

PaCA using GLS
P_virginia
P_shena
P_hoffmani
P_cinereus
P_electromorphus
P_hubrichti
P_richmondi
P_nettingi
14
12
11
13
10
15
16
17
0.02
0.01
0.00
−0.01
−0.03
−0.02
−0.01
0.00
0.01
C 2
C 1
help("gm.prcomp")

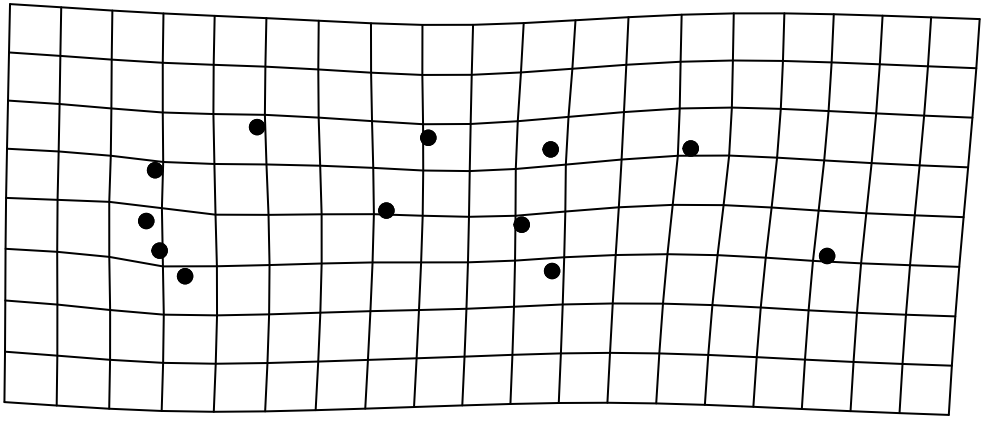

PaCA using GLS and transformed projection
P_virginia
P_shenand
P_hoffmani
P_cinereus
P_serratus
P_electromorphus
P_richmondi
P_hubrichti
P_nettingi
14
12
13
11
10
15
16
17
C 1
C 2
−0.010
−0.005
0.000
0.005
0.008
0.006
0.004
0.002
0.000
−0.002
−0.004
help("gm.prcomp")


gp1
gp2
PC2 − 18.80%
PC1 − 45.64%
P_serratus
P_richmondi
P_hubrichti
P_electromorphus
P_n
P_cinereus
P_shenandoah
P_hoffmani
P_virginia
10
11
12
13
14
15
16
17
0.02
0.01
0.00
−0.01
−0.02
−0.02
−0.01
0.00
0.01
0.02
help("gm.prcomp")

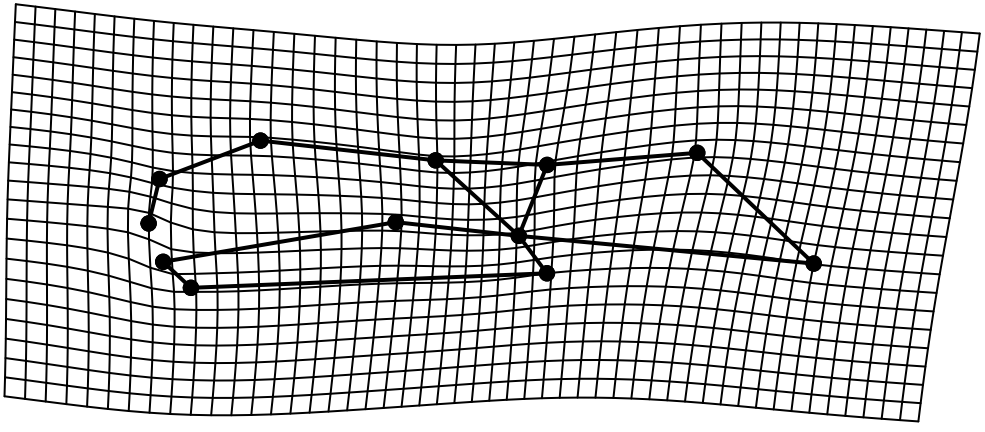

help("gpagen")
y
x
0.4
0.2
0.0
−0.2
−0.4
−0.2
0.0
0.2
0.4
0.6


help("gpagen")
y
x
0.3
0.2
0.1
0.0
−0.1
−0.2
−0.3
−0.3
−0.2
−0.1
0.0
0.1
0.2
0.3
0.4

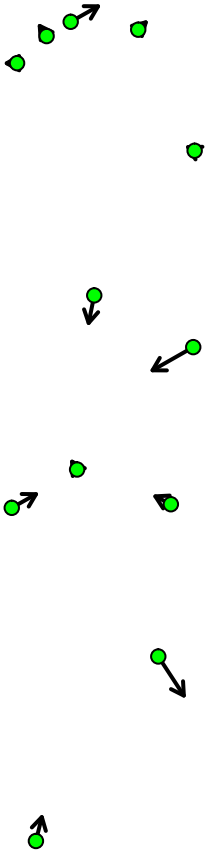

help("gpagen")
0.3
0.2
0.1
0.0
−0.1
−0.2
−0.3
y
−0.2
−0.1
0.0
0.1
0.2
0.3
0.4
x



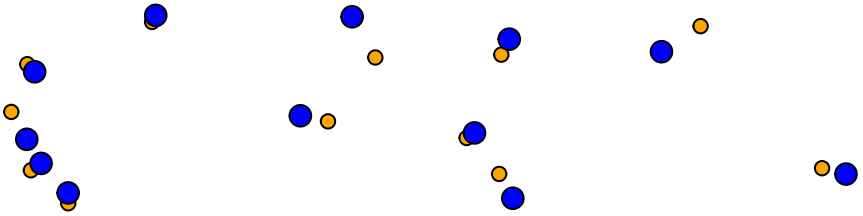
help("gridPar")



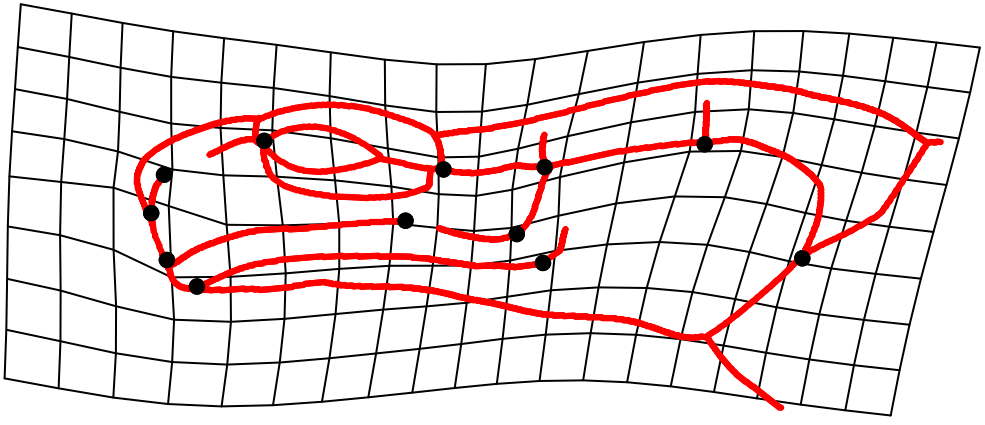
help("gridPar")



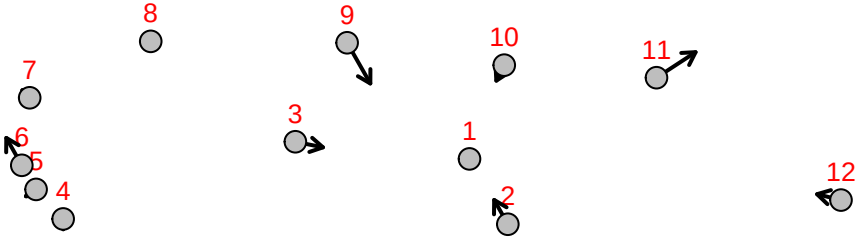
help("gridPar")



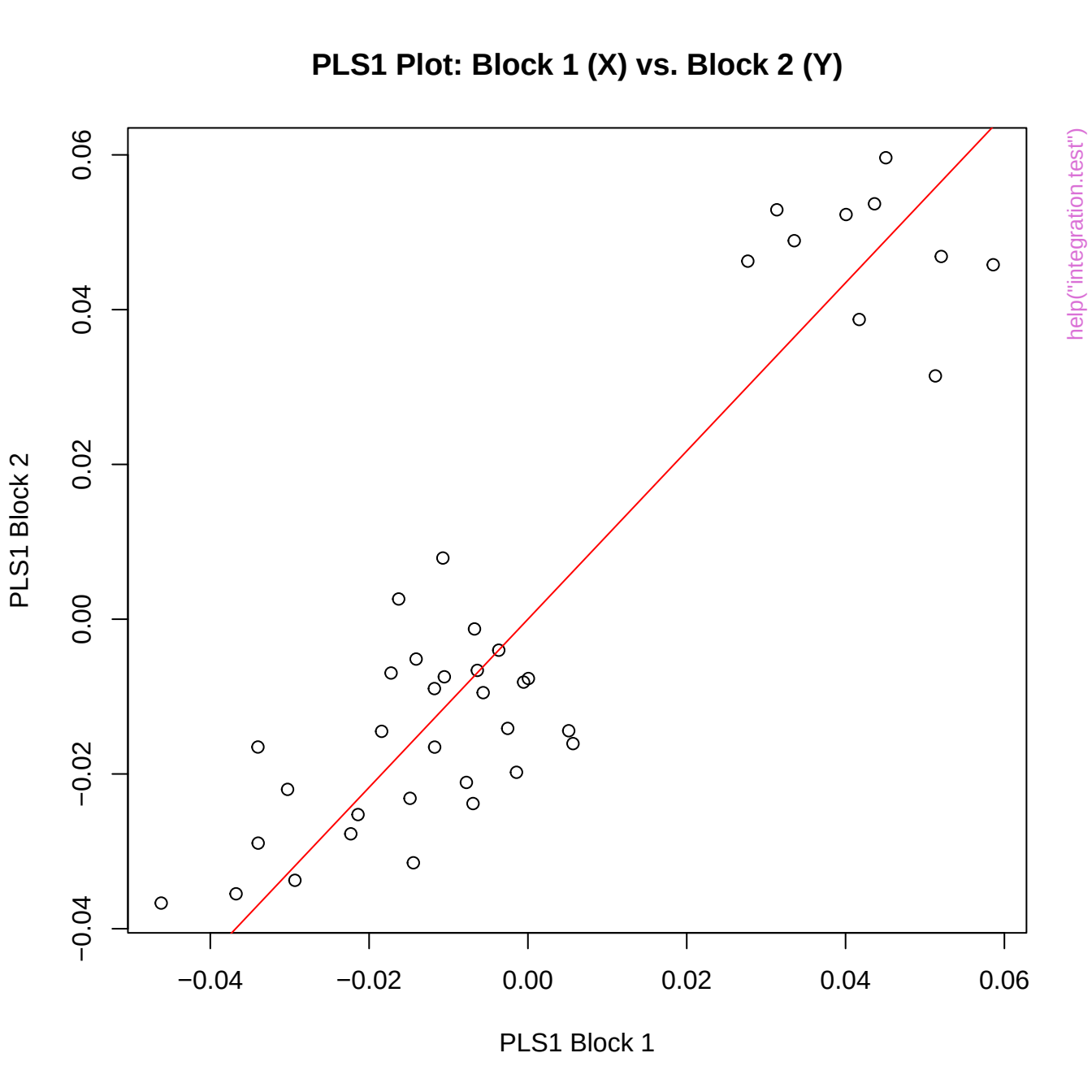
help("gridPar")

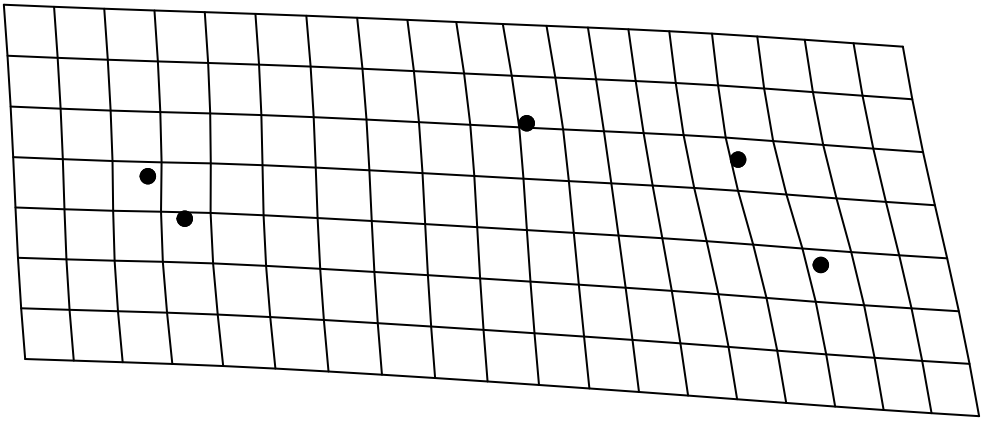


help("gridPar")

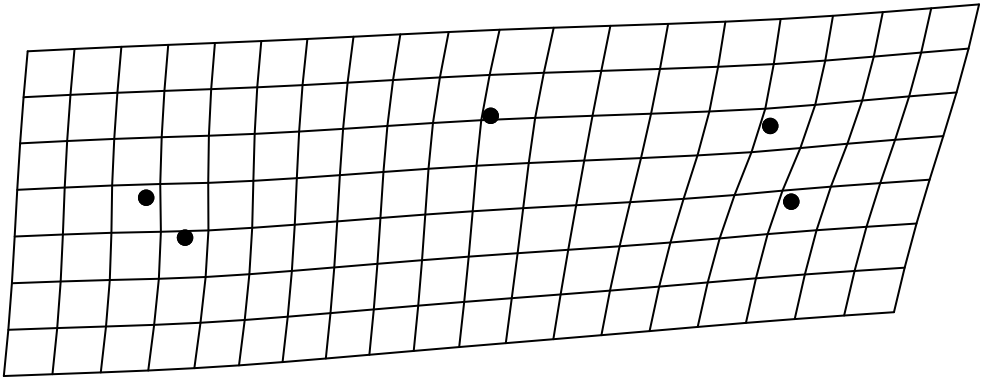


help("gridPar")

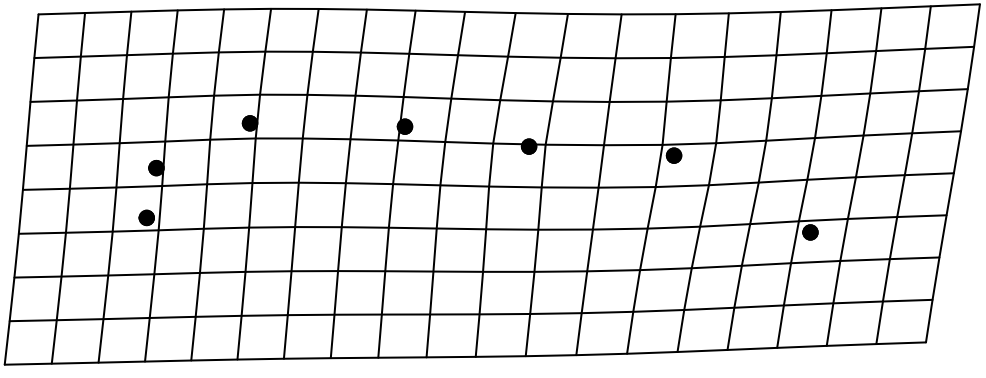

PLS1 Plot: Block 1 (X) vs. Block 2 (Y)
PLS1 Block 2
PLS1 Block 1
0.06
0.04
0.02
0.00
−0.02
−0.04
−0.04
−0.02
0.00
0.02
0.04
0.06
help("integration.test")



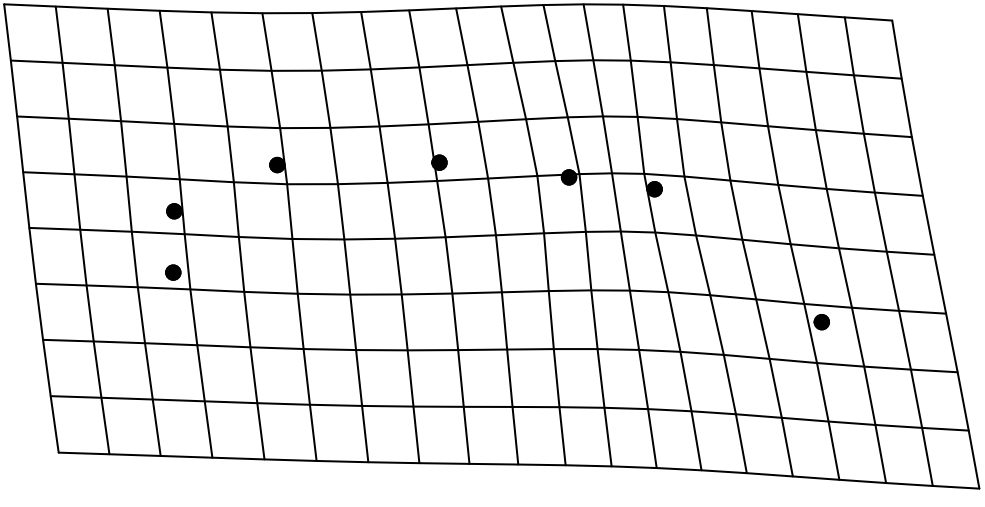
help("integration.test")



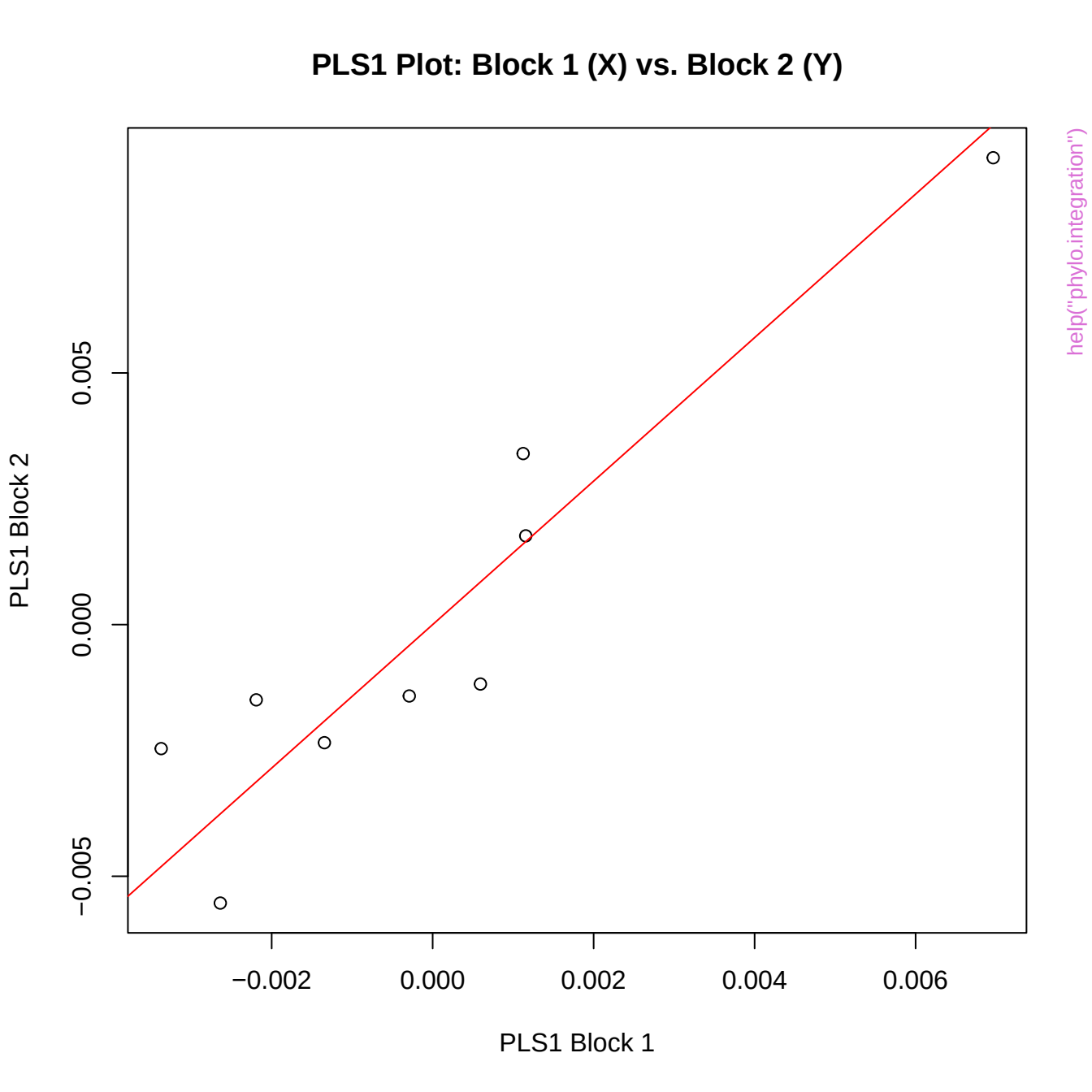
help("integration.test")

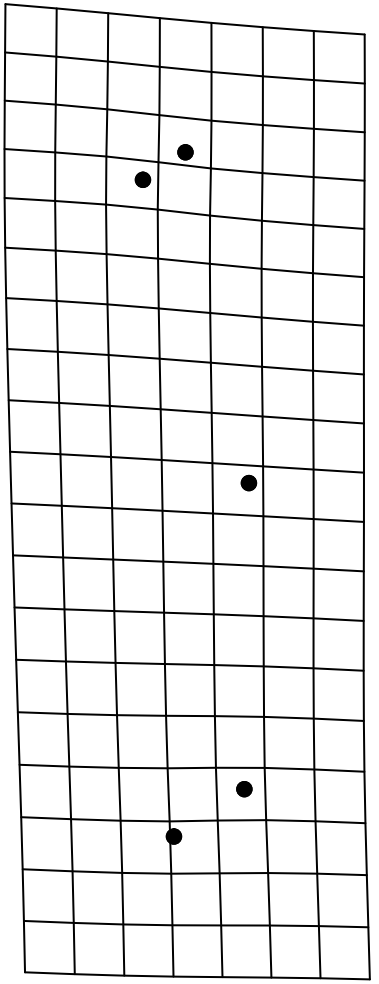


help("integration.test")

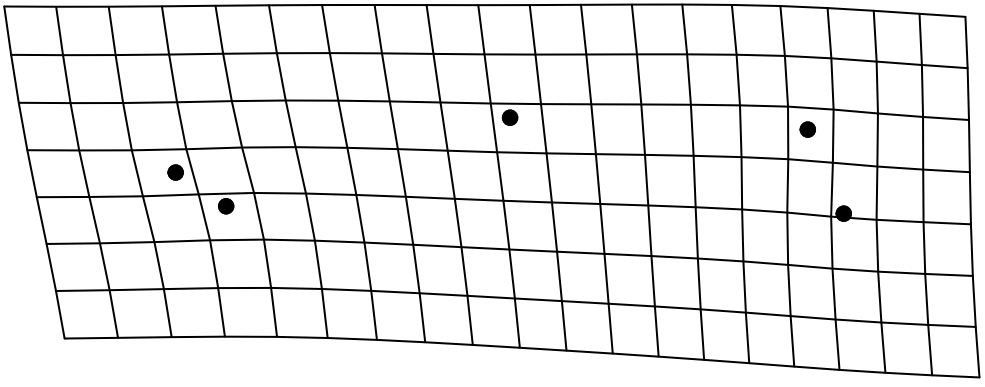


help("integration.test")

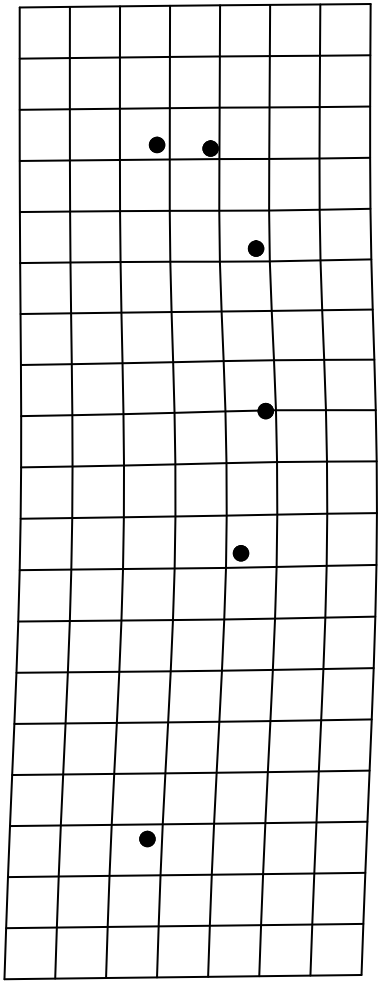

PLS1 Plot: Block 1 (X) vs. Block 2 (Y)
PLS1 Block 2
0.005
0.000
−0.005
−0.002
0.000
0.002
0.004
0.006
PLS1 Block 1
help("phylo.integration")



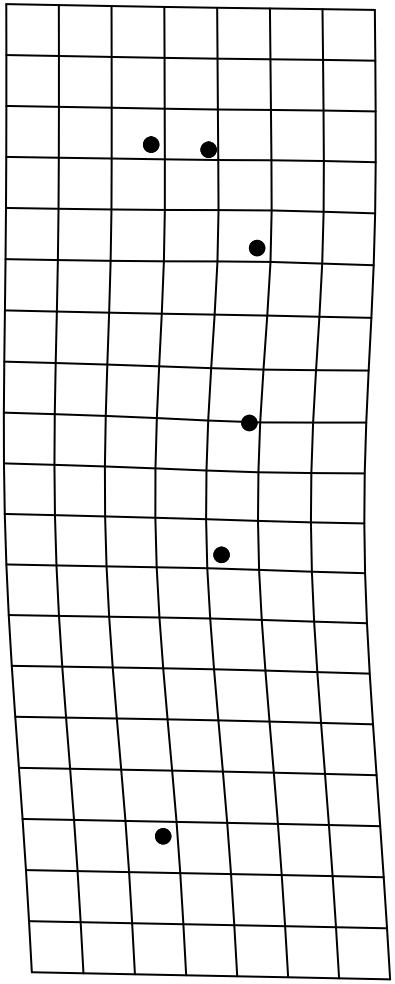
help("phylo.integration")



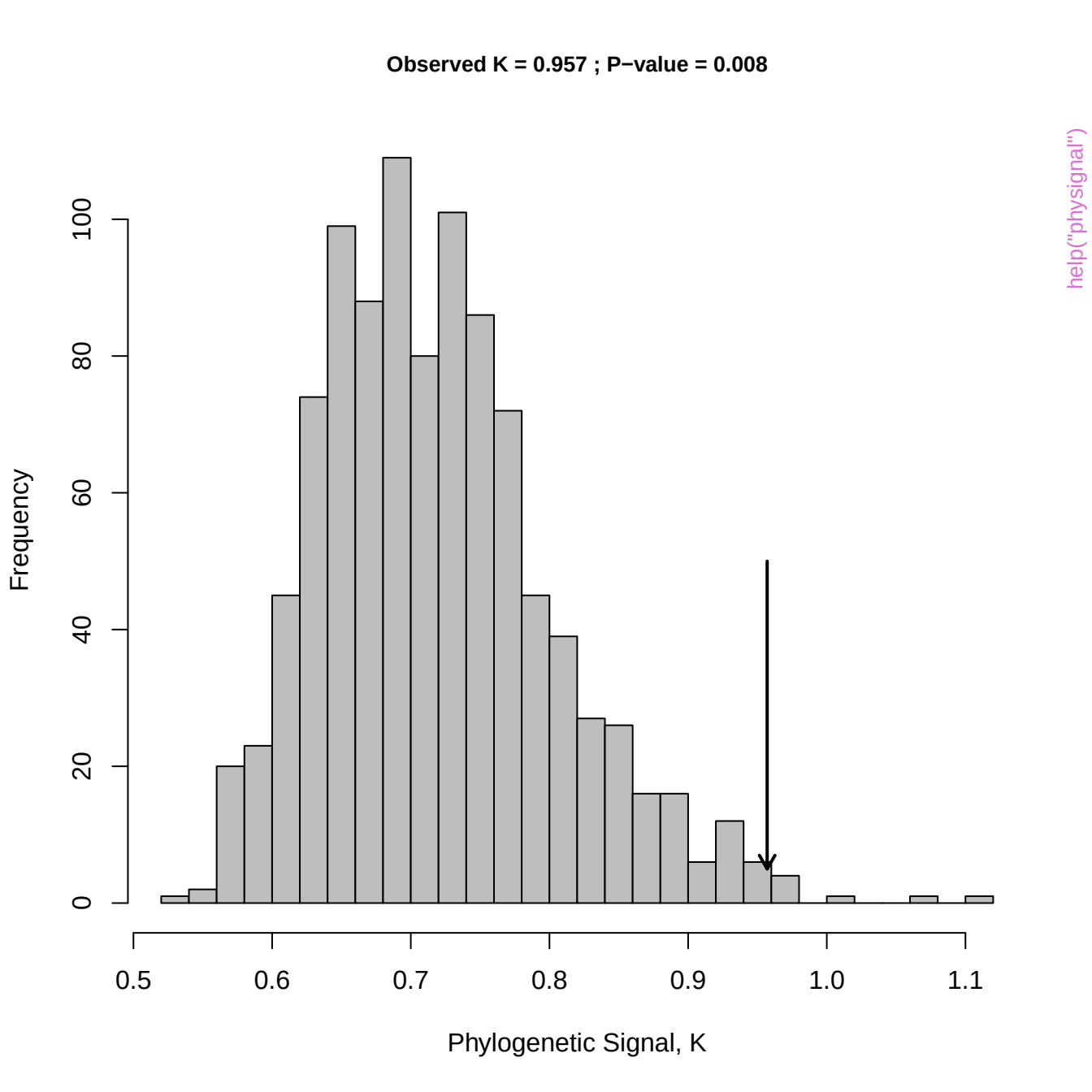
help("phylo.integration")

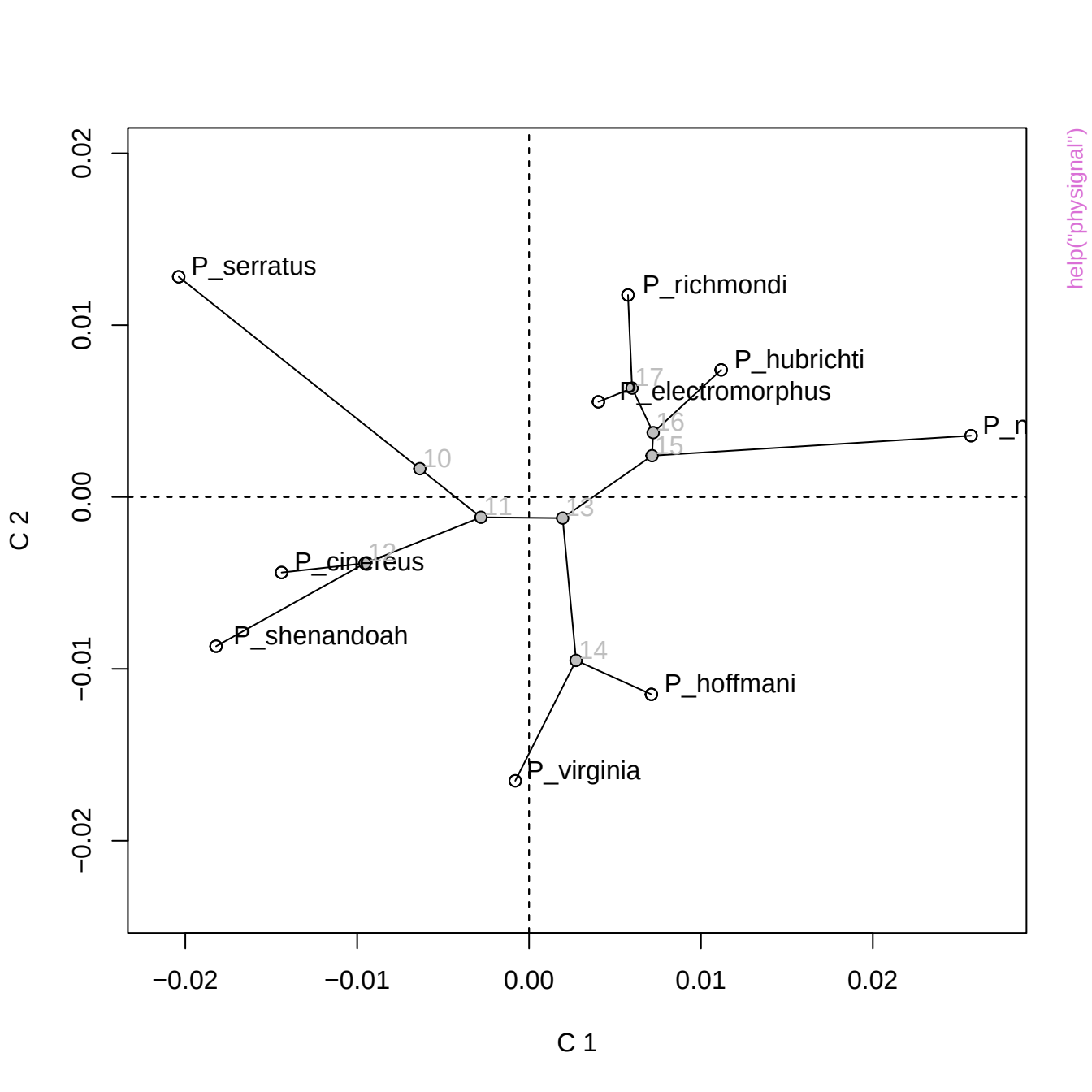


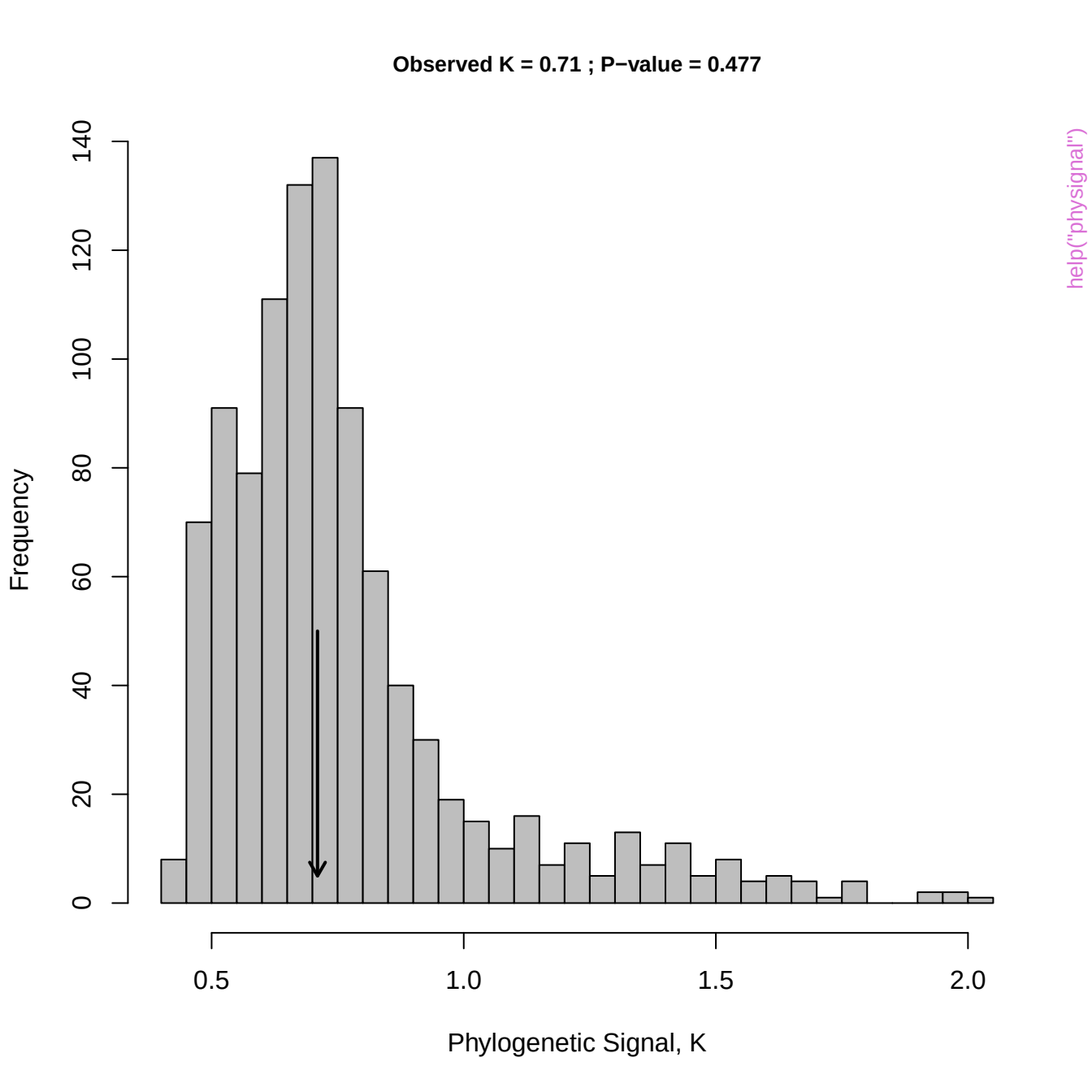
help("phylo.integration")

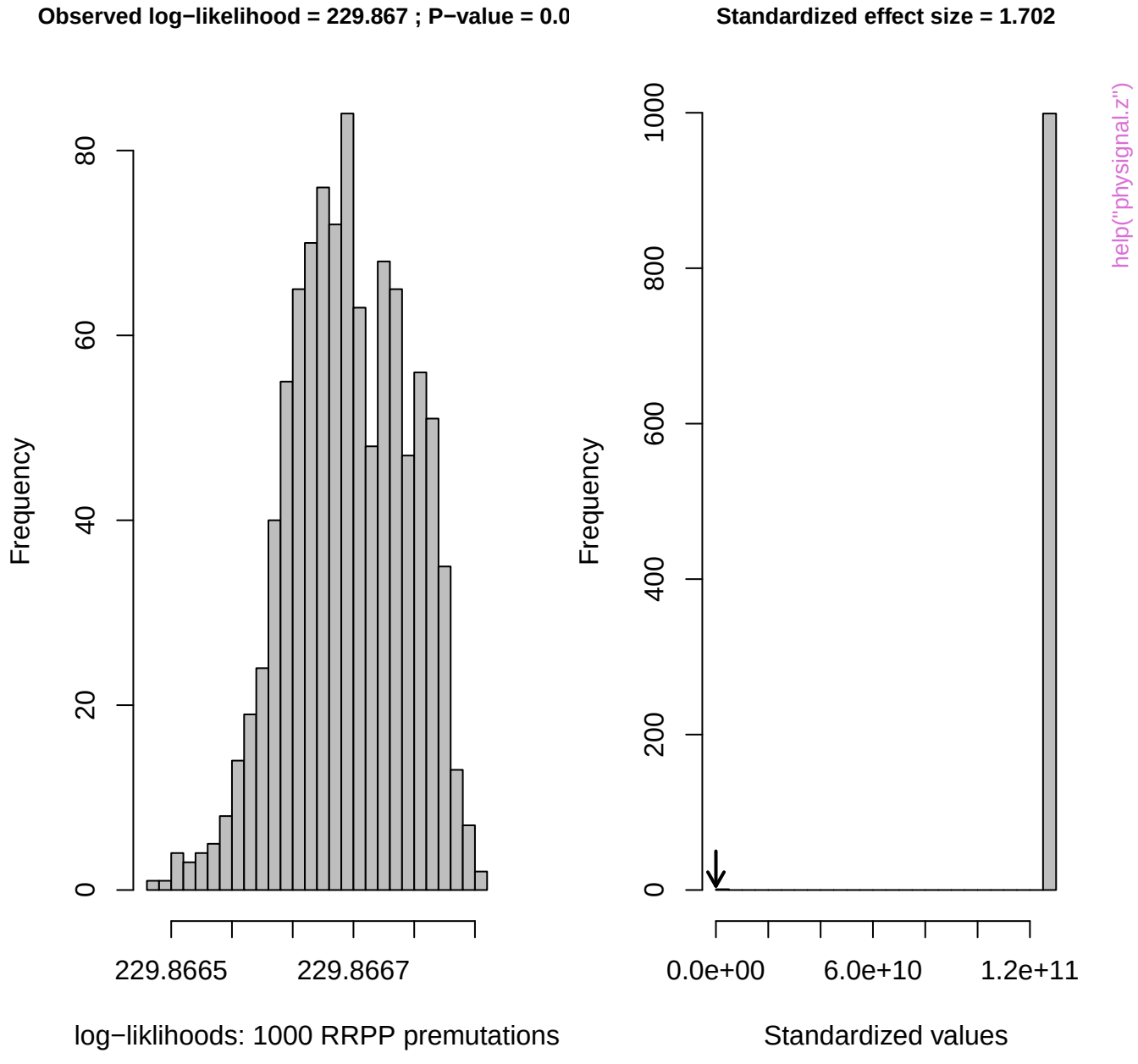


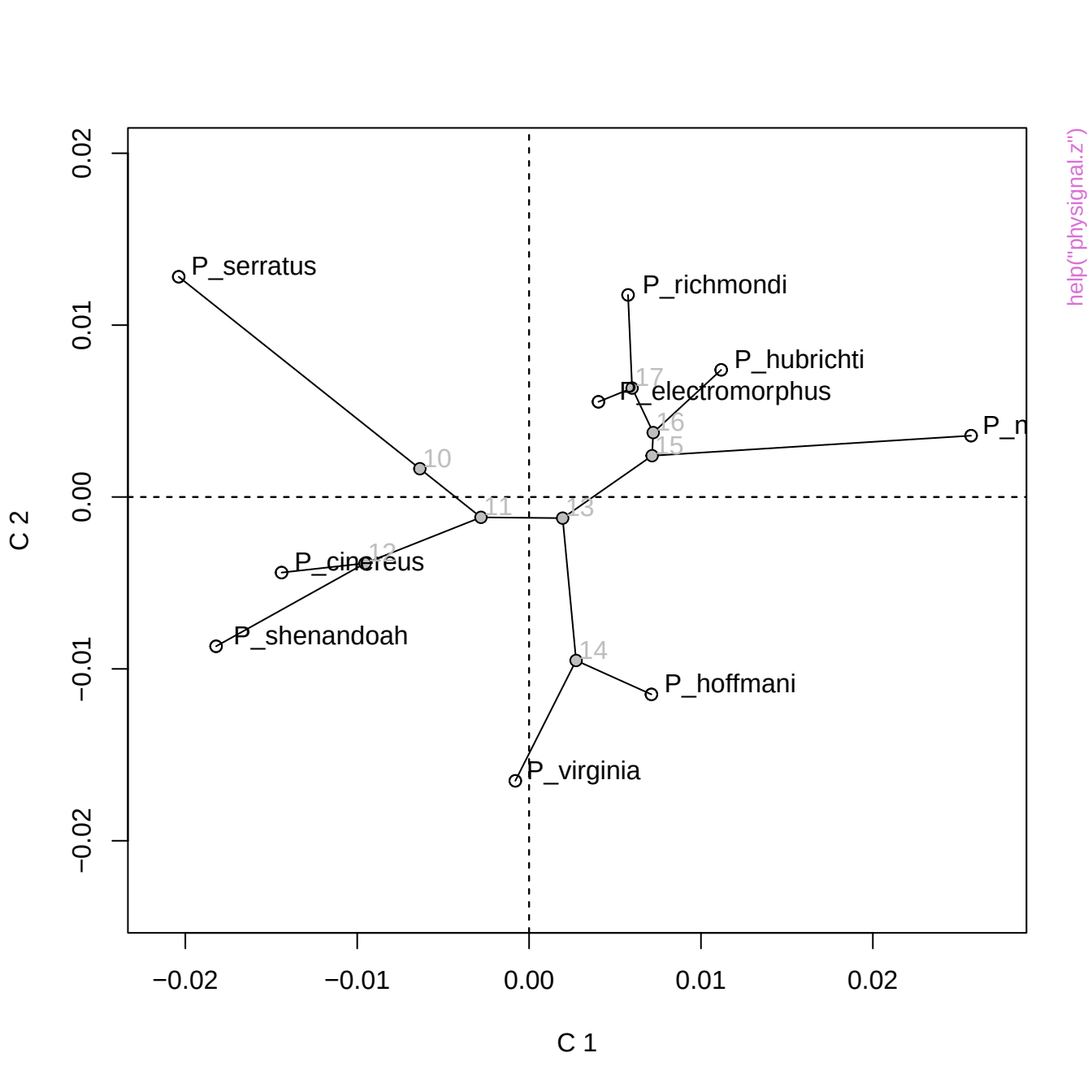
help("phylo.integration")

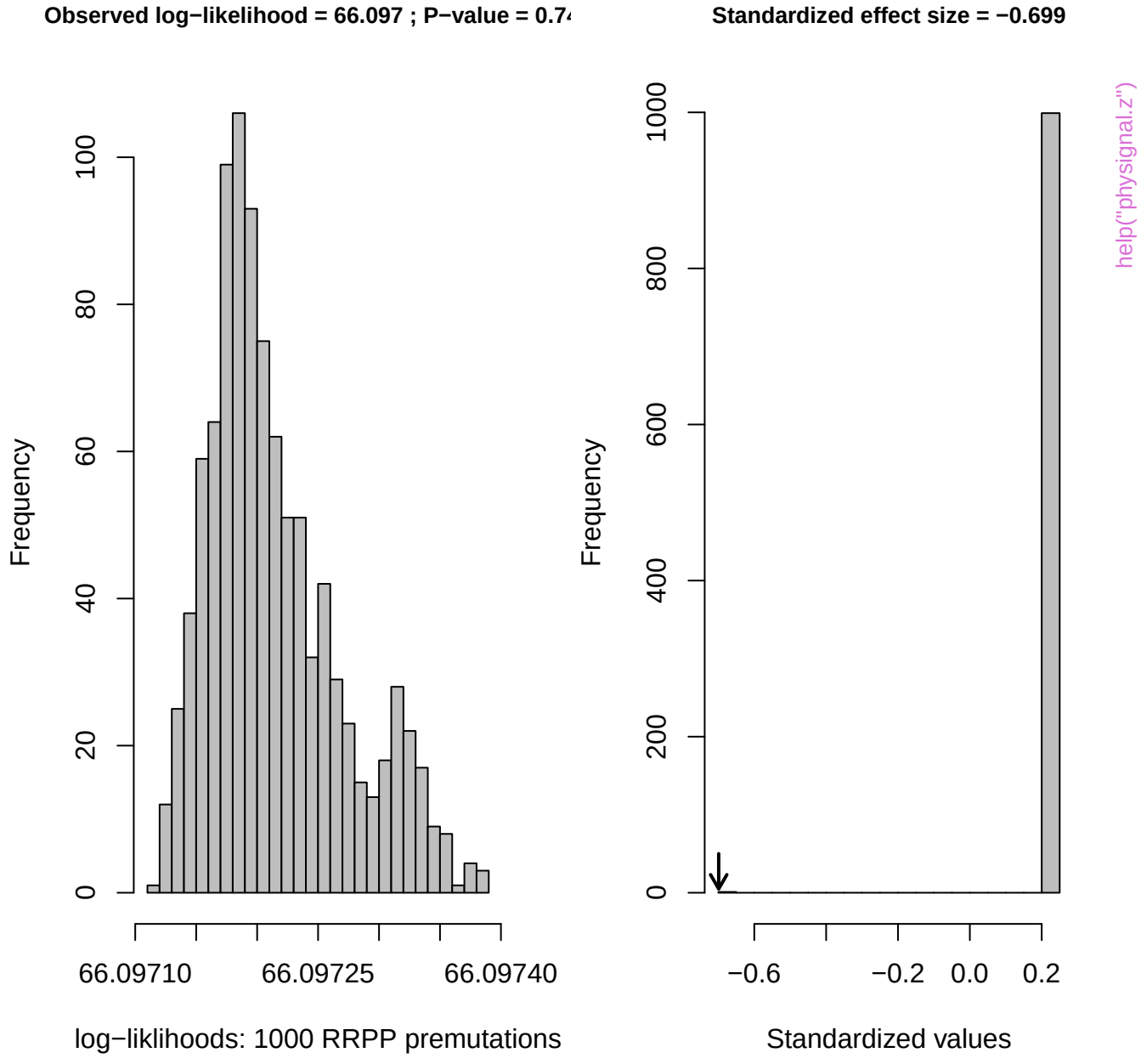

Observed K = 0.957 ; P−value = 0.008
help("physignal")
Frequency
0
20
40
60
80
100
0.5
0.6
0.7
0.8
0.9
1.0
1.1
Phylogenetic Signal, K

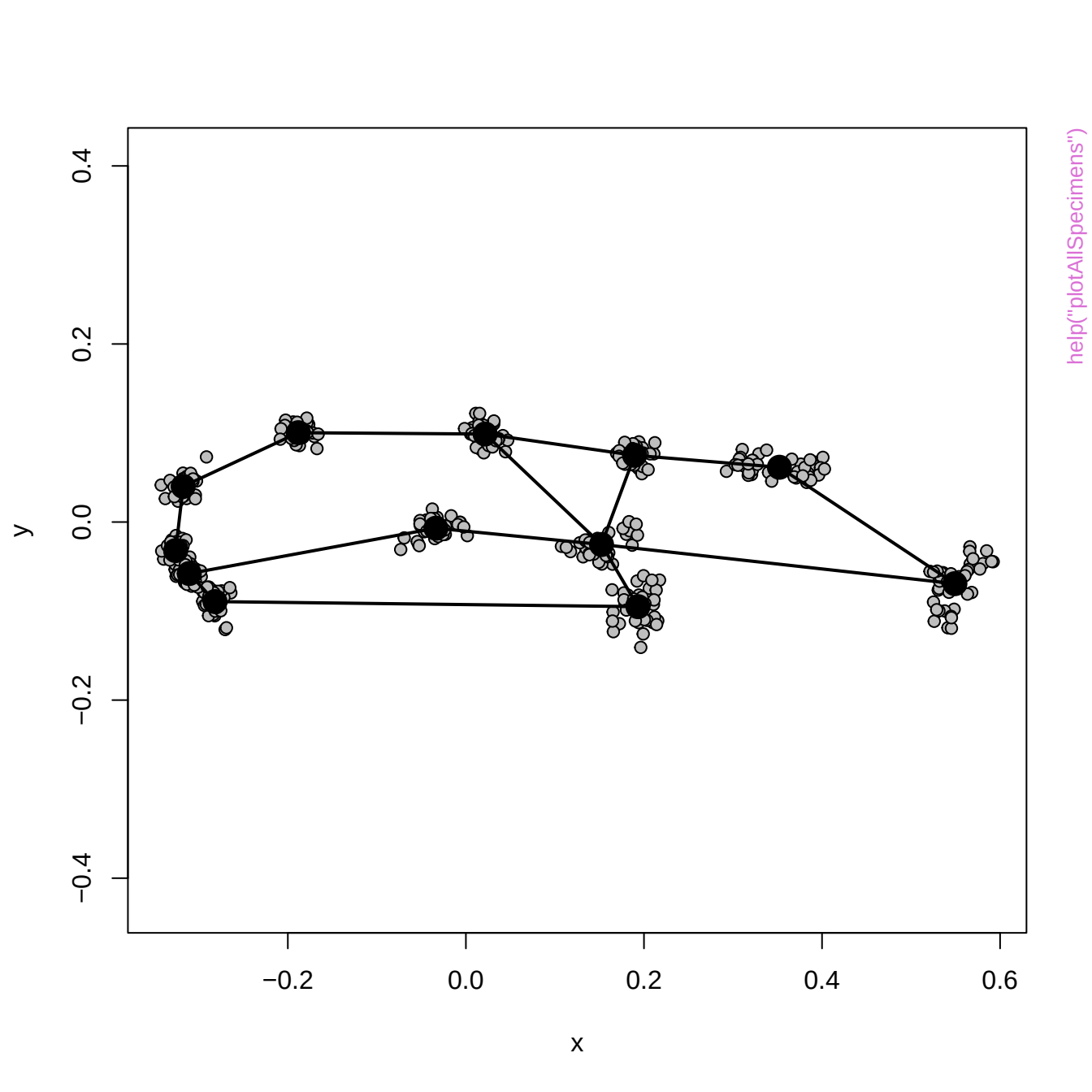

P_serratus
P_richmondi
P_hubrichti
P_electromorphus
P_n
P_cinereus
P_shenandoah
P_hoffmani
P_virginia
10
11
12
13
14
15
16
17
C 1
C 2
−0.02
−0.01
0.00
0.01
0.02
help("physignal")

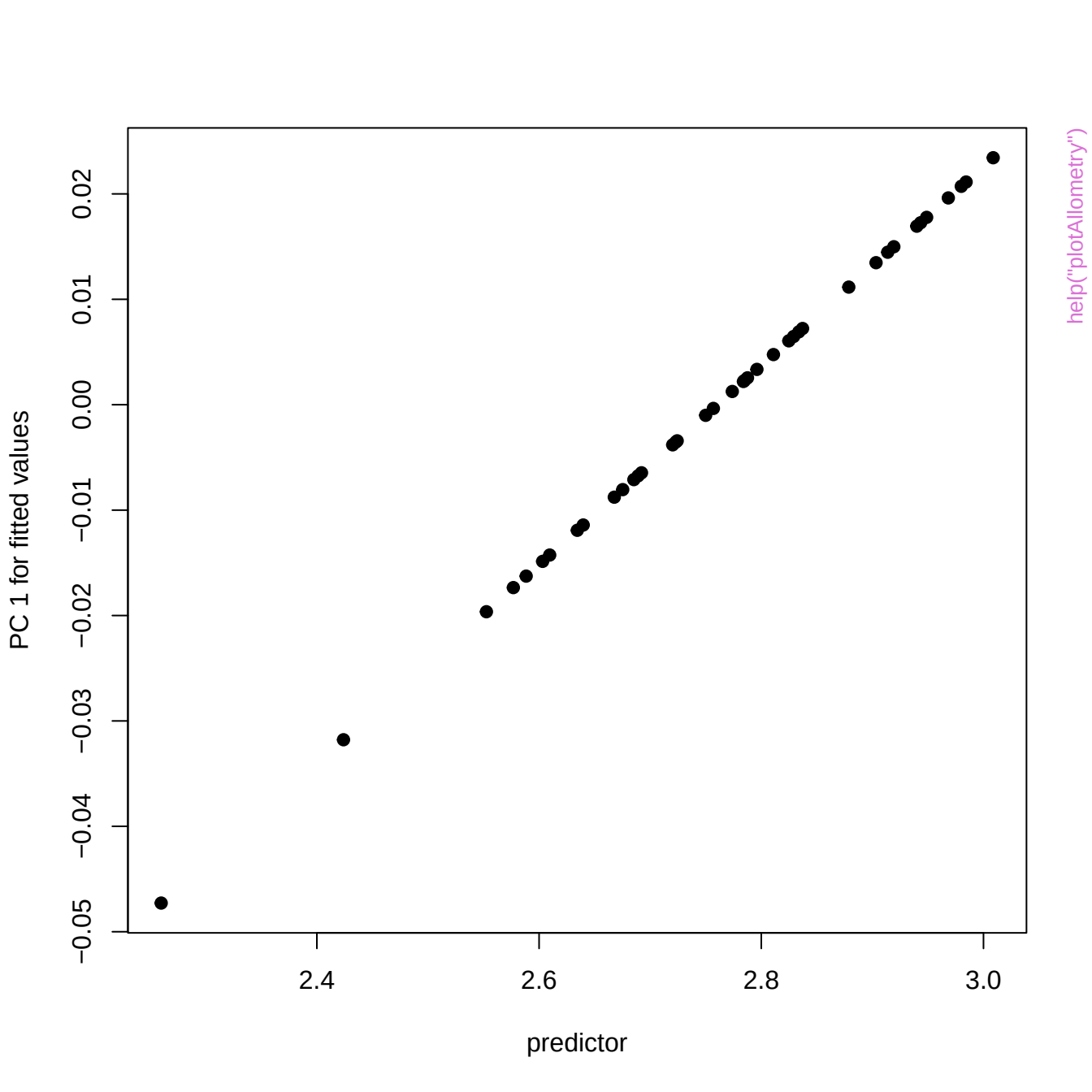

Observed K = 0.71 ; P−value = 0.477
Frequency
0
20
40
60
80
100
120
140
0.5
1.0
1.5
2.0
Phylogenetic Signal, K
help("physignal")

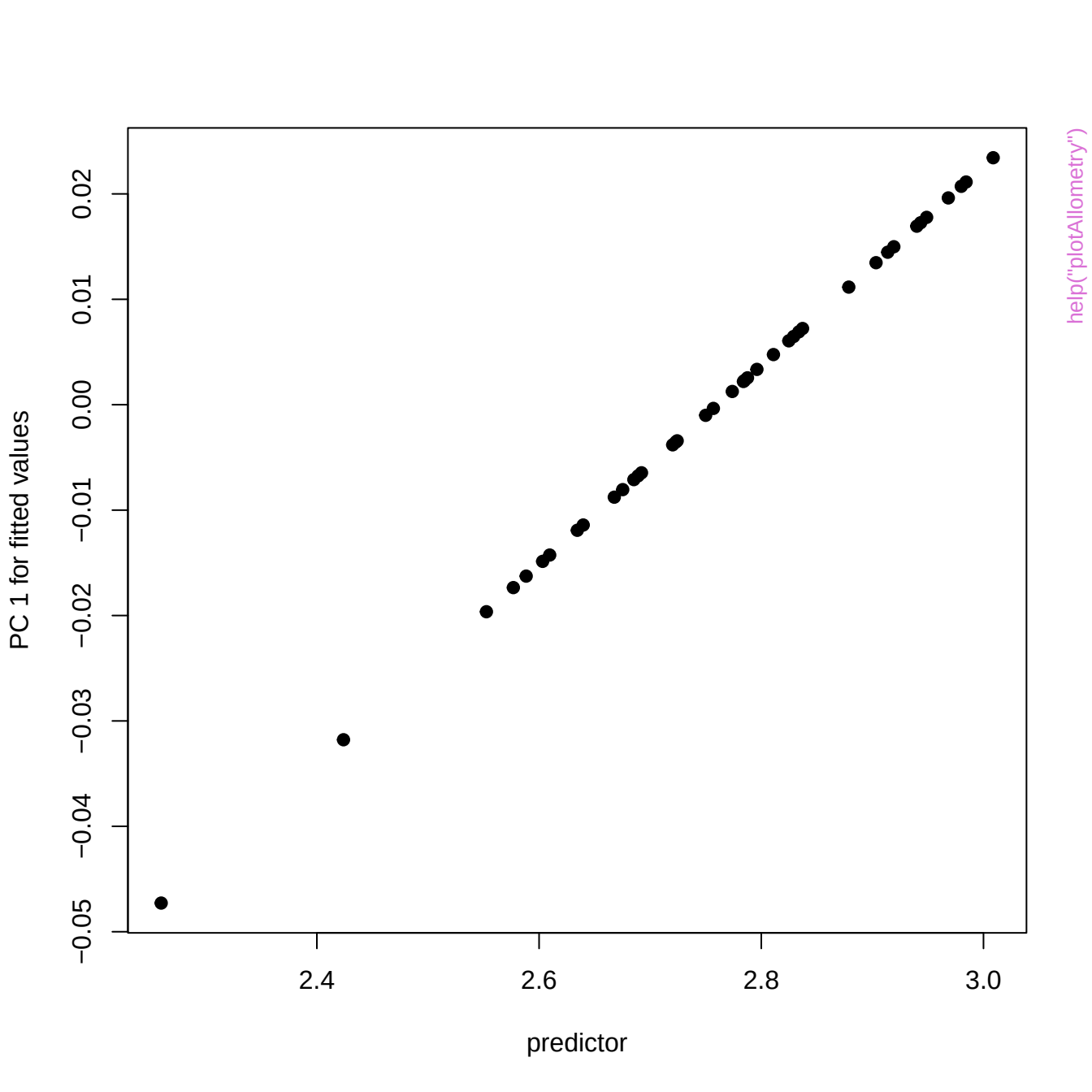

Observed log−likelihood = 229.867 ; P−value = 0.0
Frequency
0
20
40
60
80
229.8665
229.8667
log−liklihoods: 1000 RRPP premutations
Standardized effect size = 1.702
Frequency
0
200
400
600
800
1000
0.0e+00
6.0e+10
1.2e+11
Standardized values
help("physignal.z")

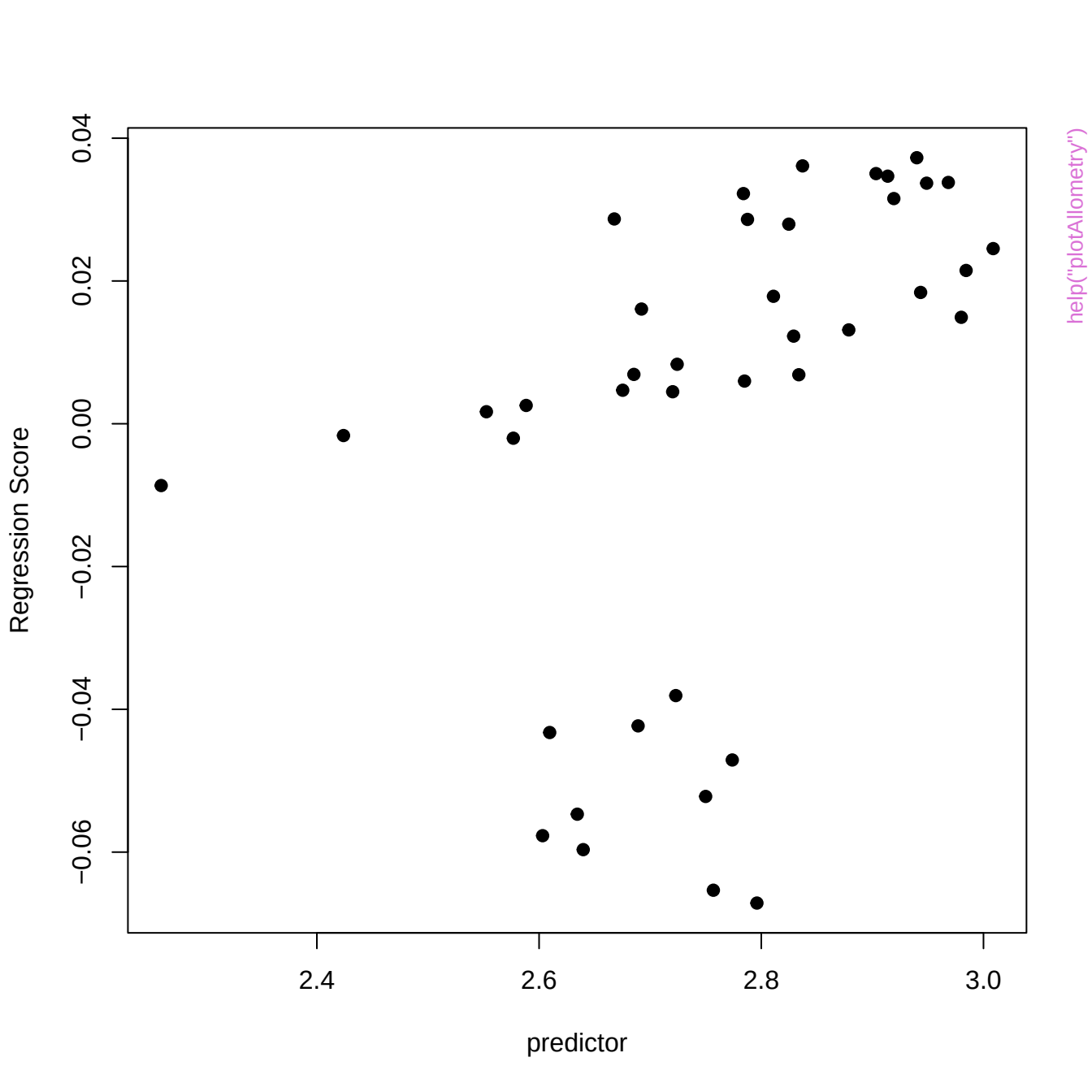

P_serratus
P_richmondi
P_hubrichti
P_electromorphus
P_n
P_cinereus
P_shenandoah
P_hoffmani
P_virginia
10
11
12
13
14
15
16
17
C 1
C 2
−0.02
−0.01
0.00
0.01
0.02
help("physignal.z")

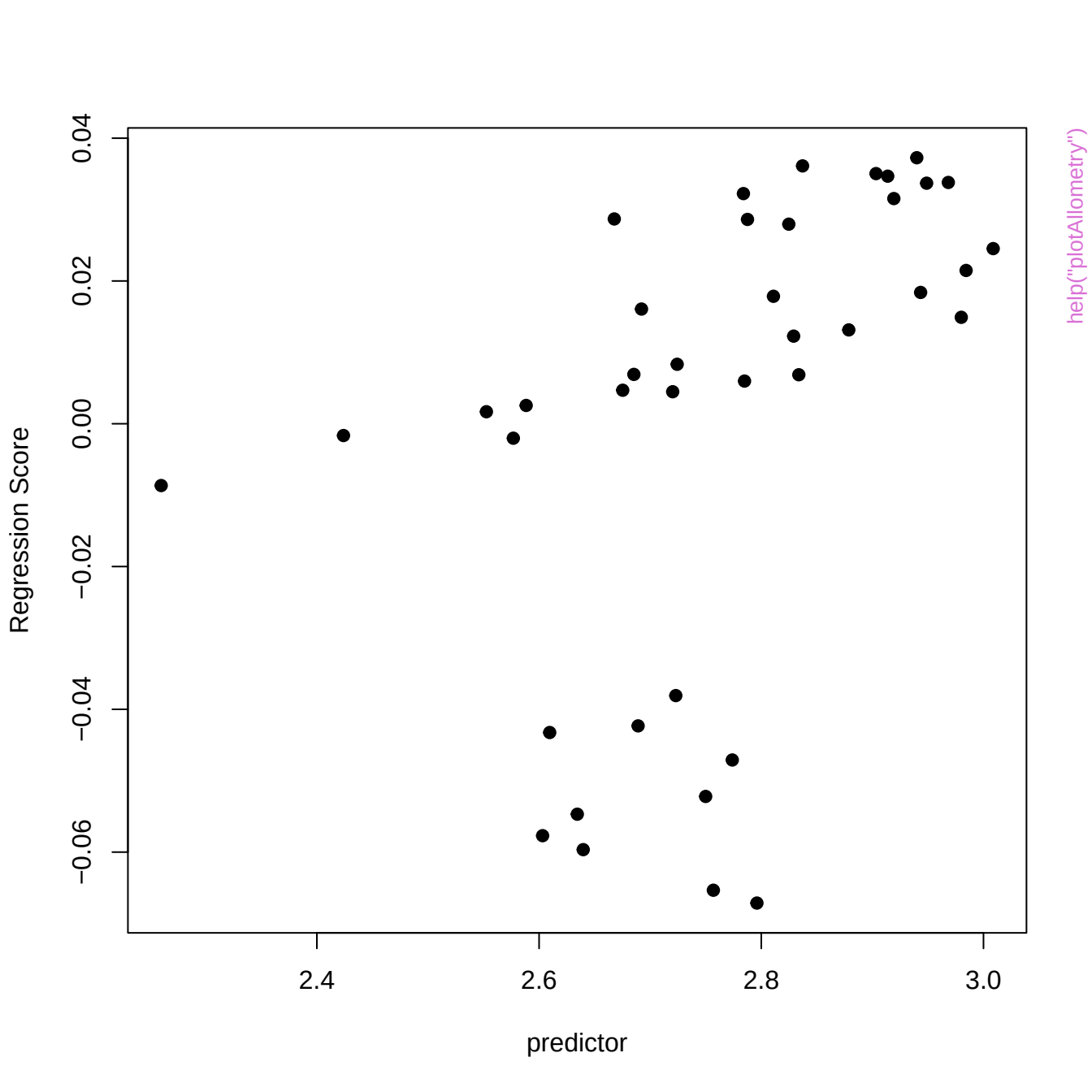

Observed log−likelihood = 66.097 ; P−value = 0.7
Frequency
0
20
40
60
80
100
66.09710
66.09725
66.09740
log−liklihoods: 1000 RRPP premutations
Standardized effect size = −0.699
Frequency
0
200
400
600
800
1000
−0.6
−0.2
0.0
0.2
Standardized values
help("physignal.z")

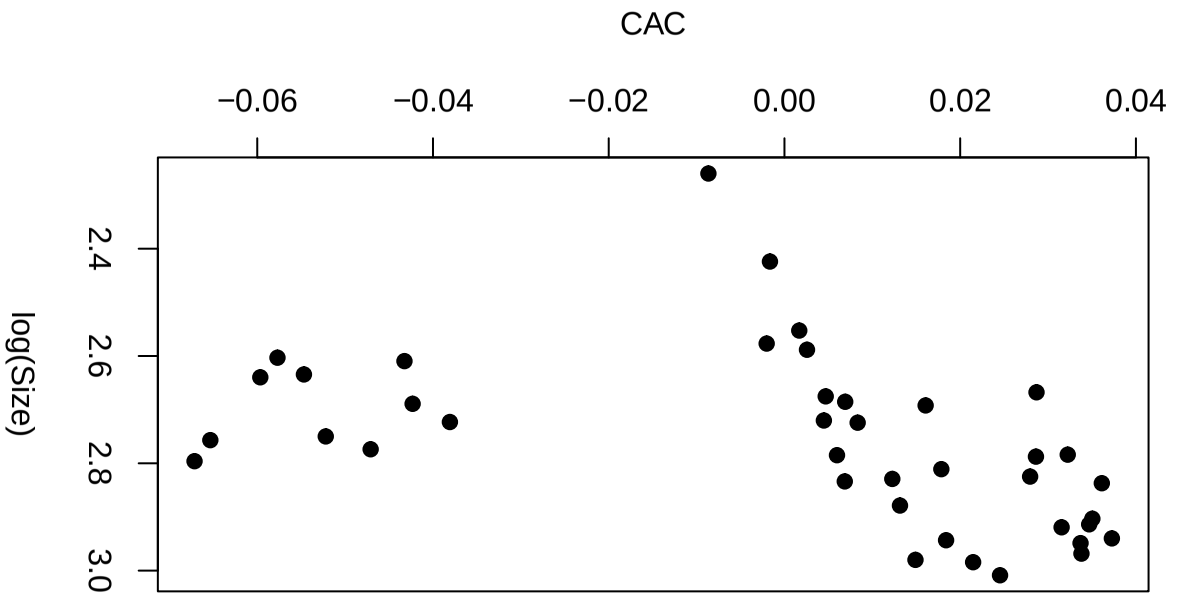

0.4
0.2
0.0
−0.2
−0.4
y
−0.2
0.0
0.2
0.4
0.6
x
help("plotAllSpecimens")

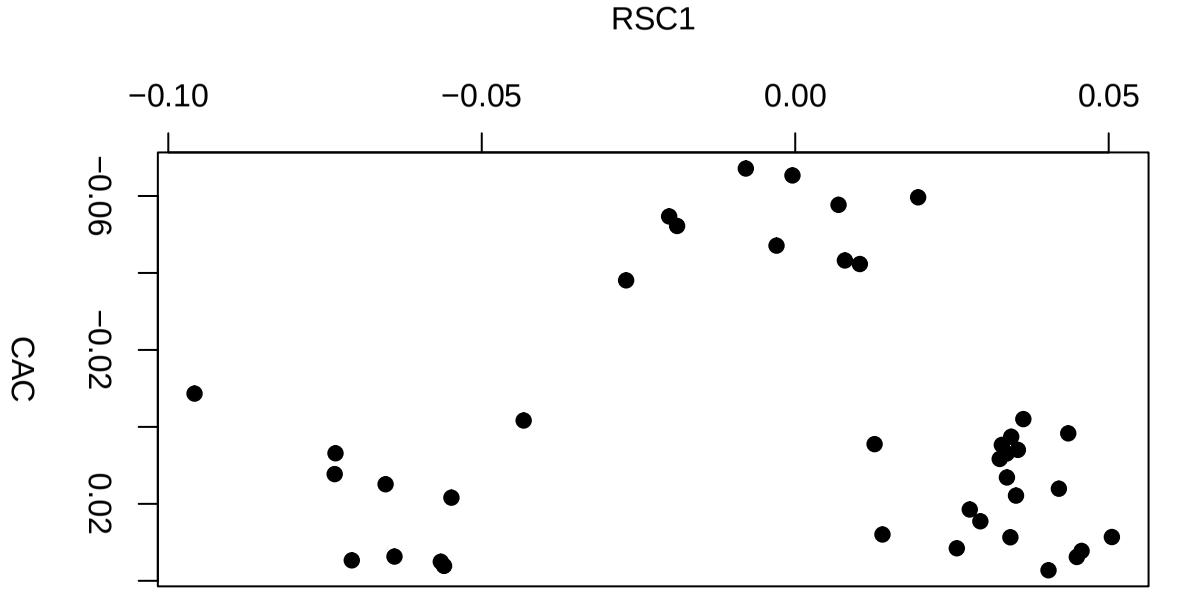

PC 1 for fitted values
predictor
help("plotAllometry")
−0.05
−0.04
−0.03
−0.02
−0.01
0.00
0.01
0.02
2.4
2.6
2.8
3.0


PC 1 for fitted values
predictor
help("plotAllometry")
−0.05
−0.04
−0.03
−0.02
−0.01
0.00
0.01
0.02
2.4
2.6
2.8
3.0

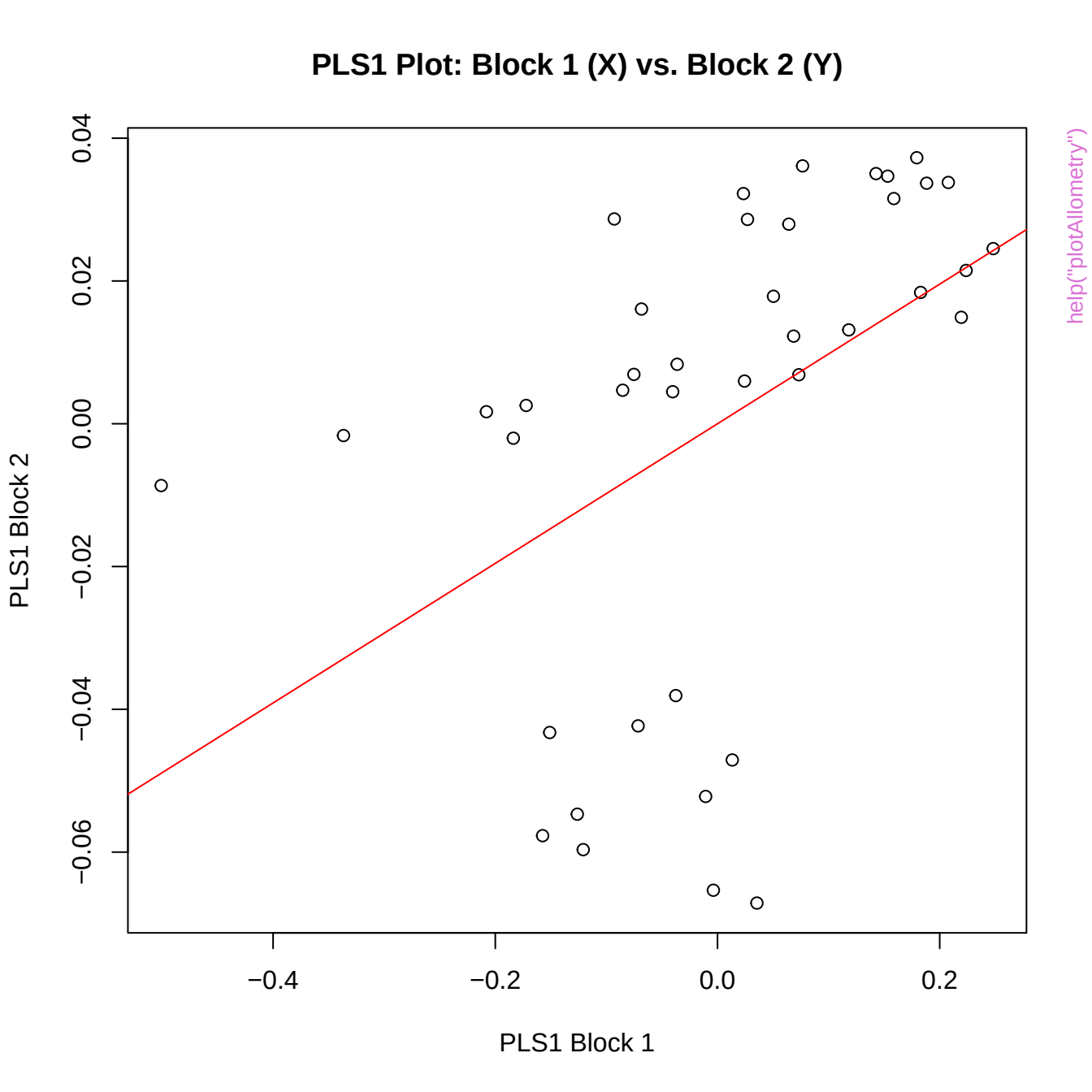

Regression Score
0.04
0.02
0.00
−0.02
−0.04
−0.06
2.4
2.6
2.8
3.0
predictor
help("plotAllometry")

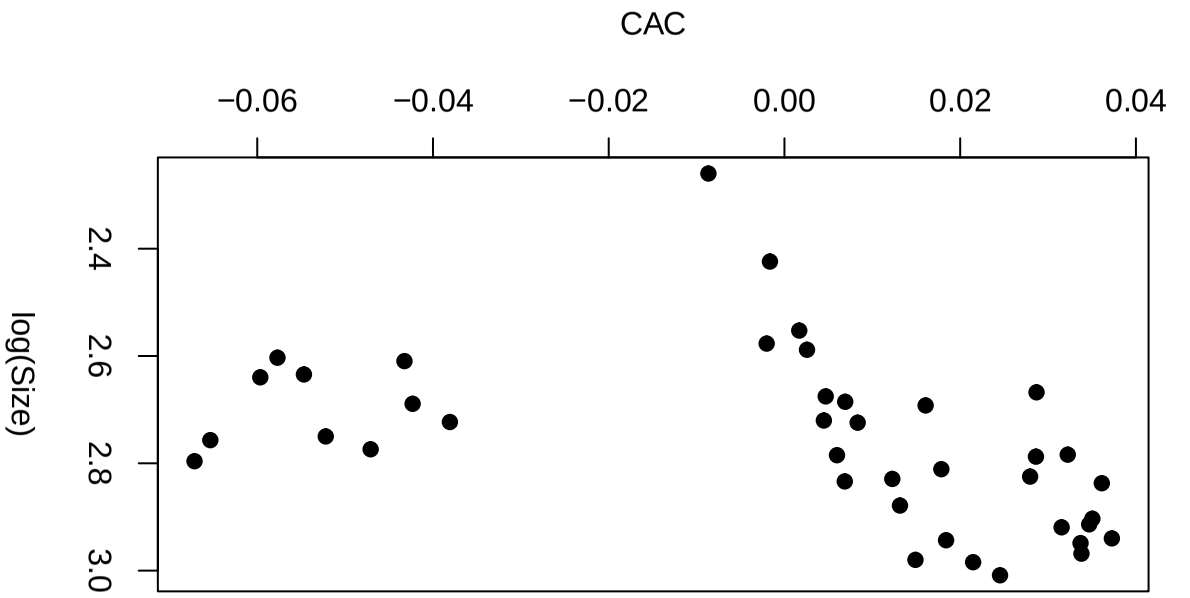

Regression Score
0.04
0.02
0.00
−0.02
−0.04
−0.06
2.4
2.6
2.8
3.0
predictor
help("plotAllometry")

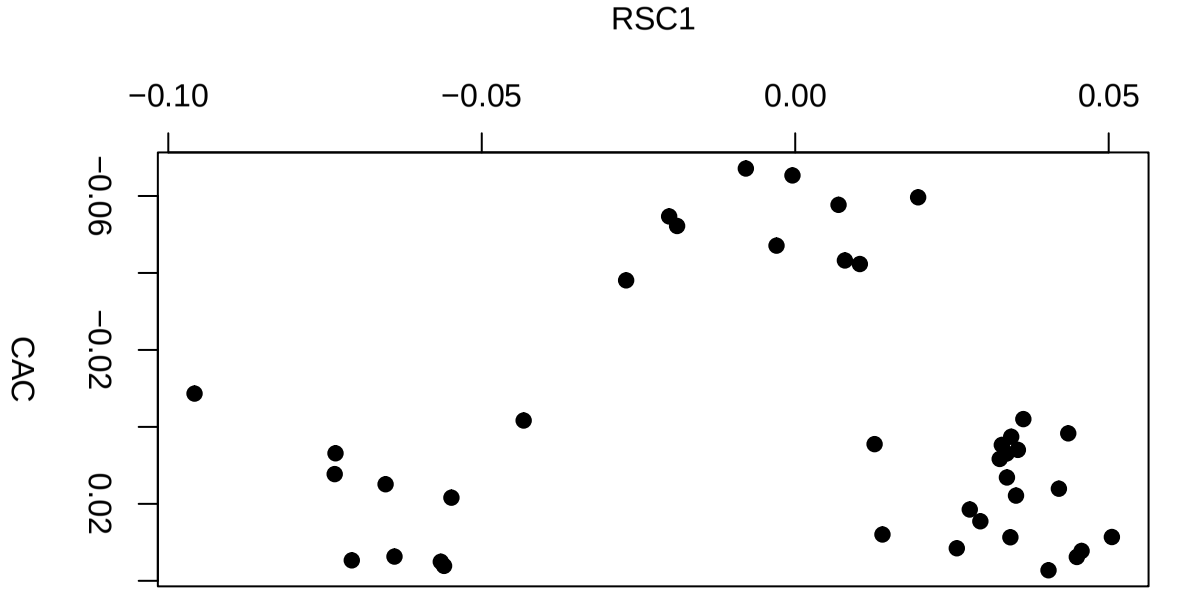




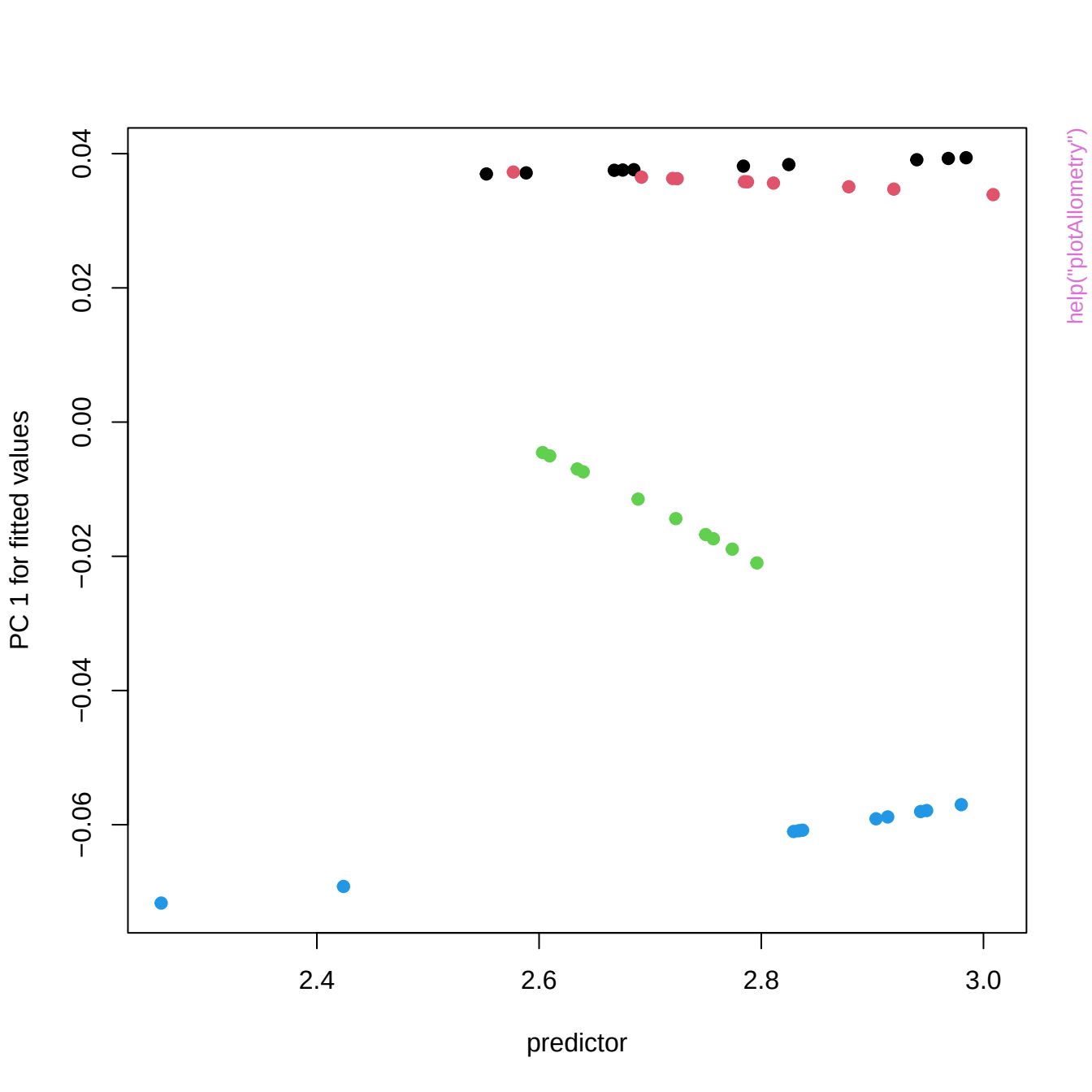
help("plotAllometry")

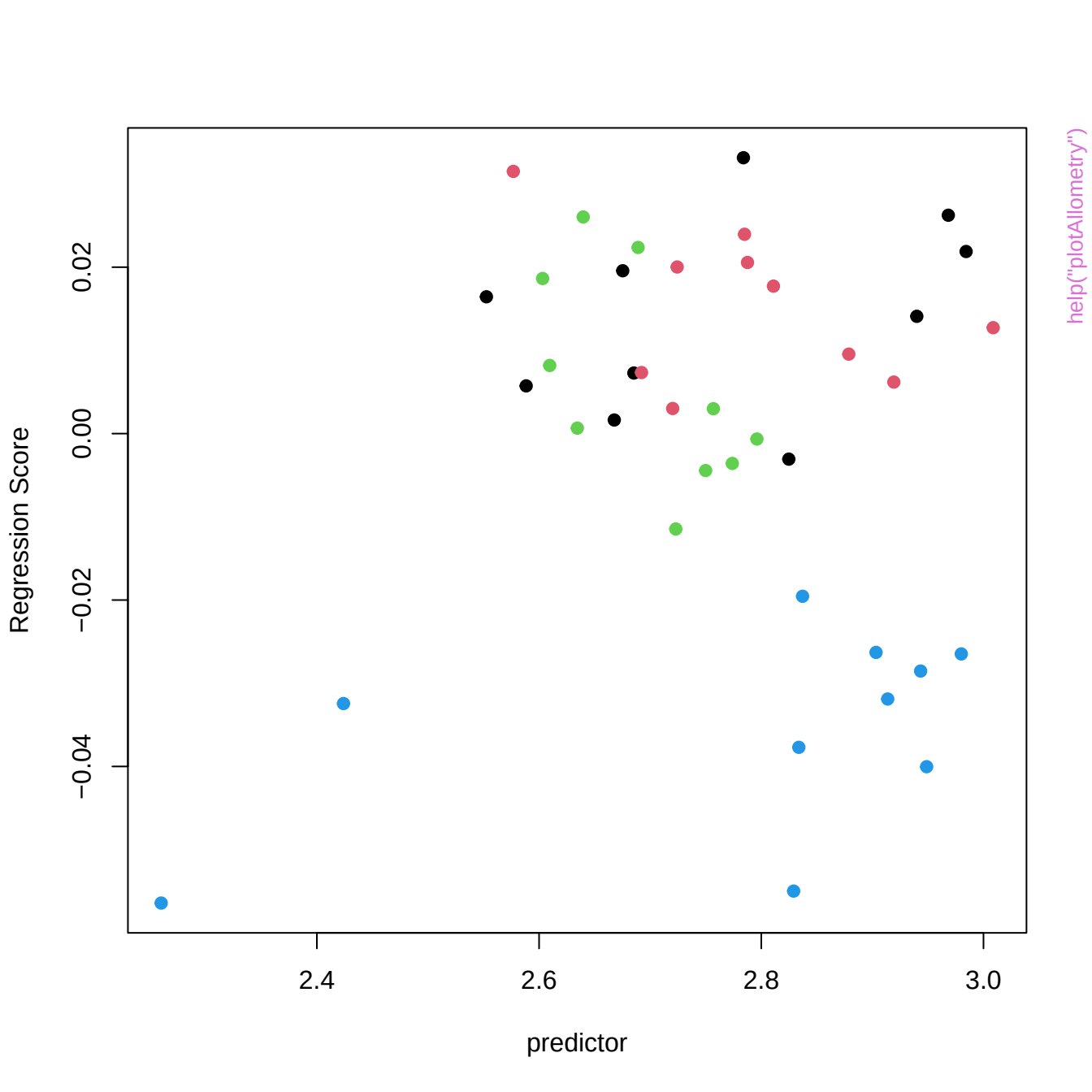

PLS1 Plot: Block 1 (X) vs. Block 2 (Y)
PLS1 Block 2
0.04
0.02
0.00
−0.02
−0.04
−0.06
−0.4
−0.2
0.0
0.2
PLS1 Block 1
help("plotAllometry")

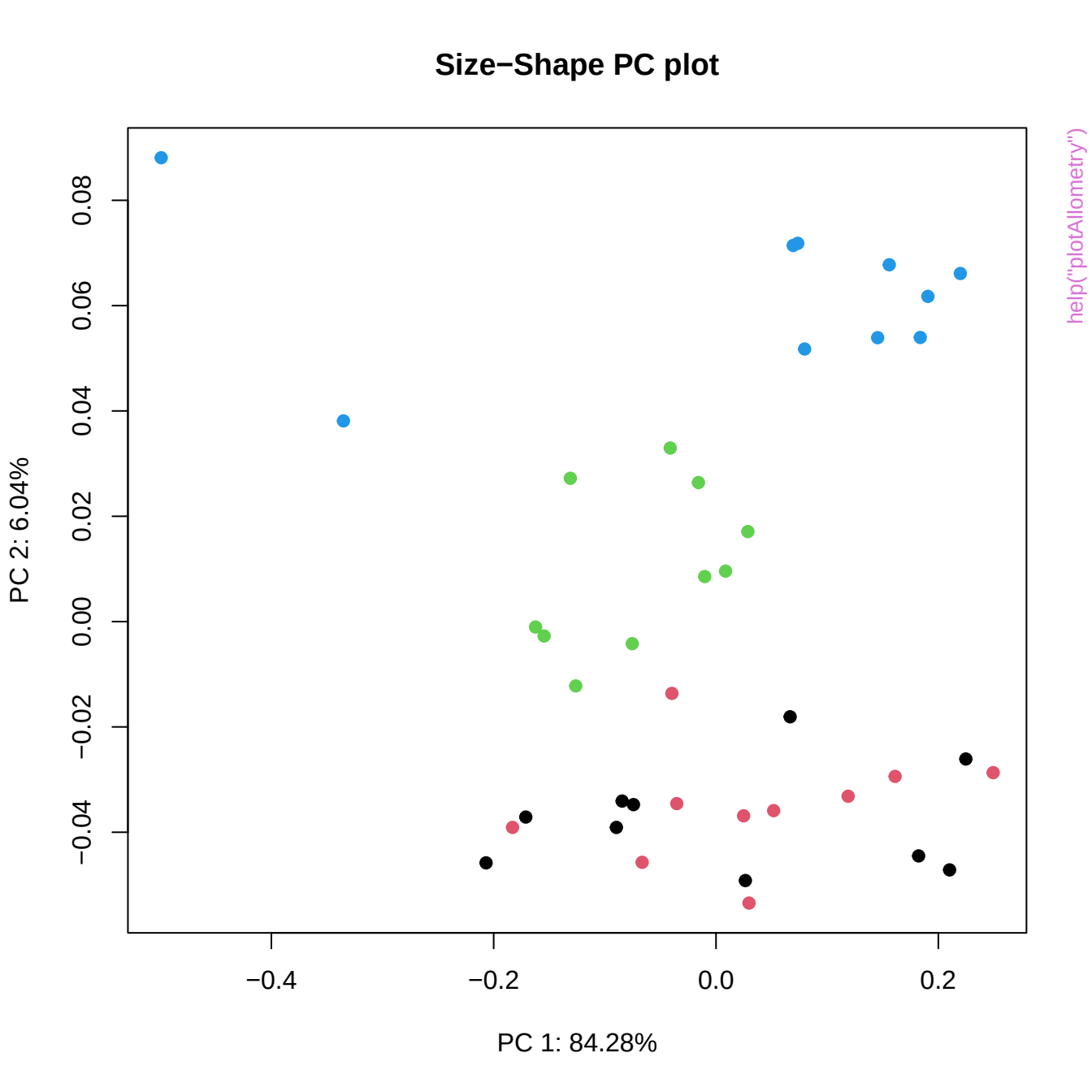


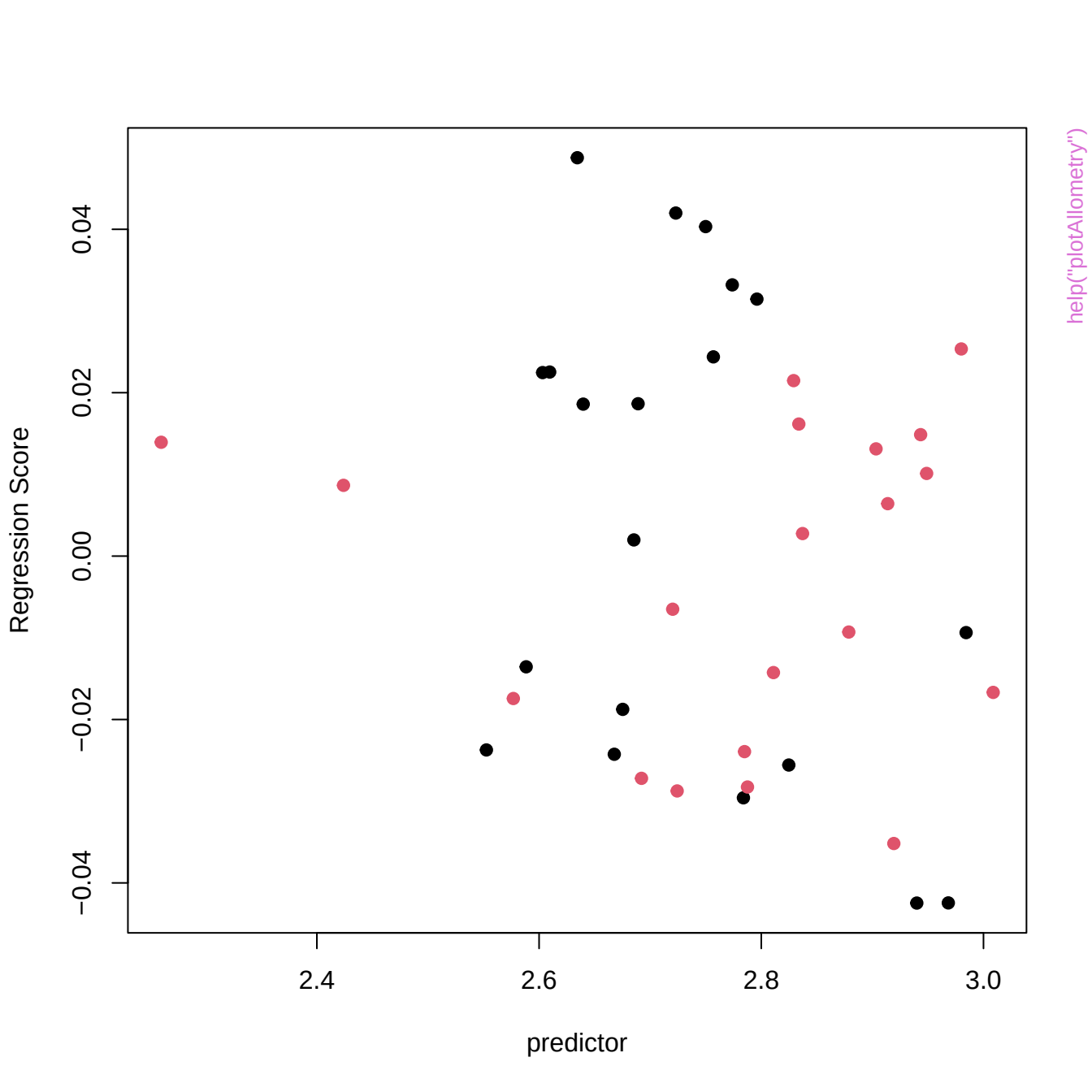


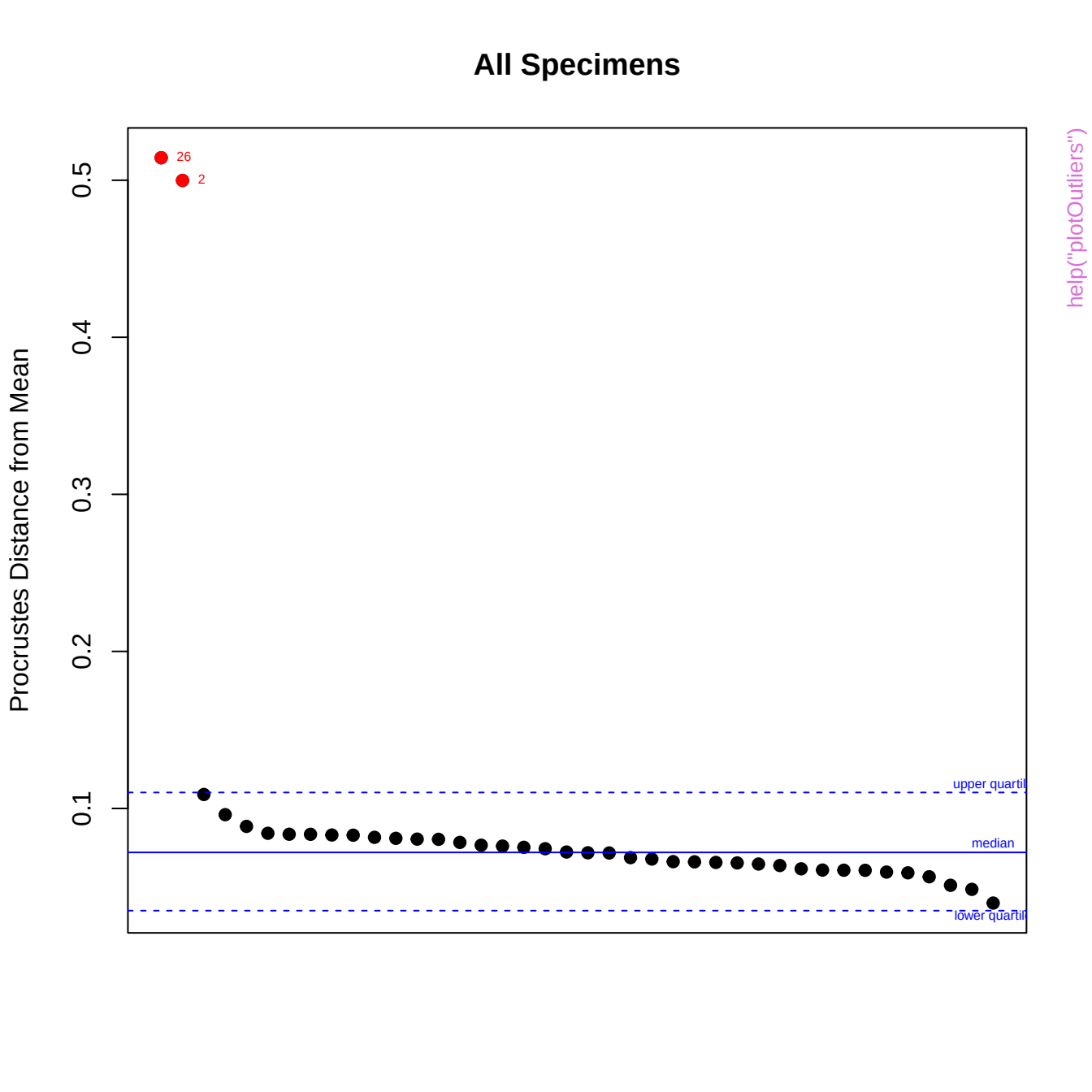
help("plotAllometry")

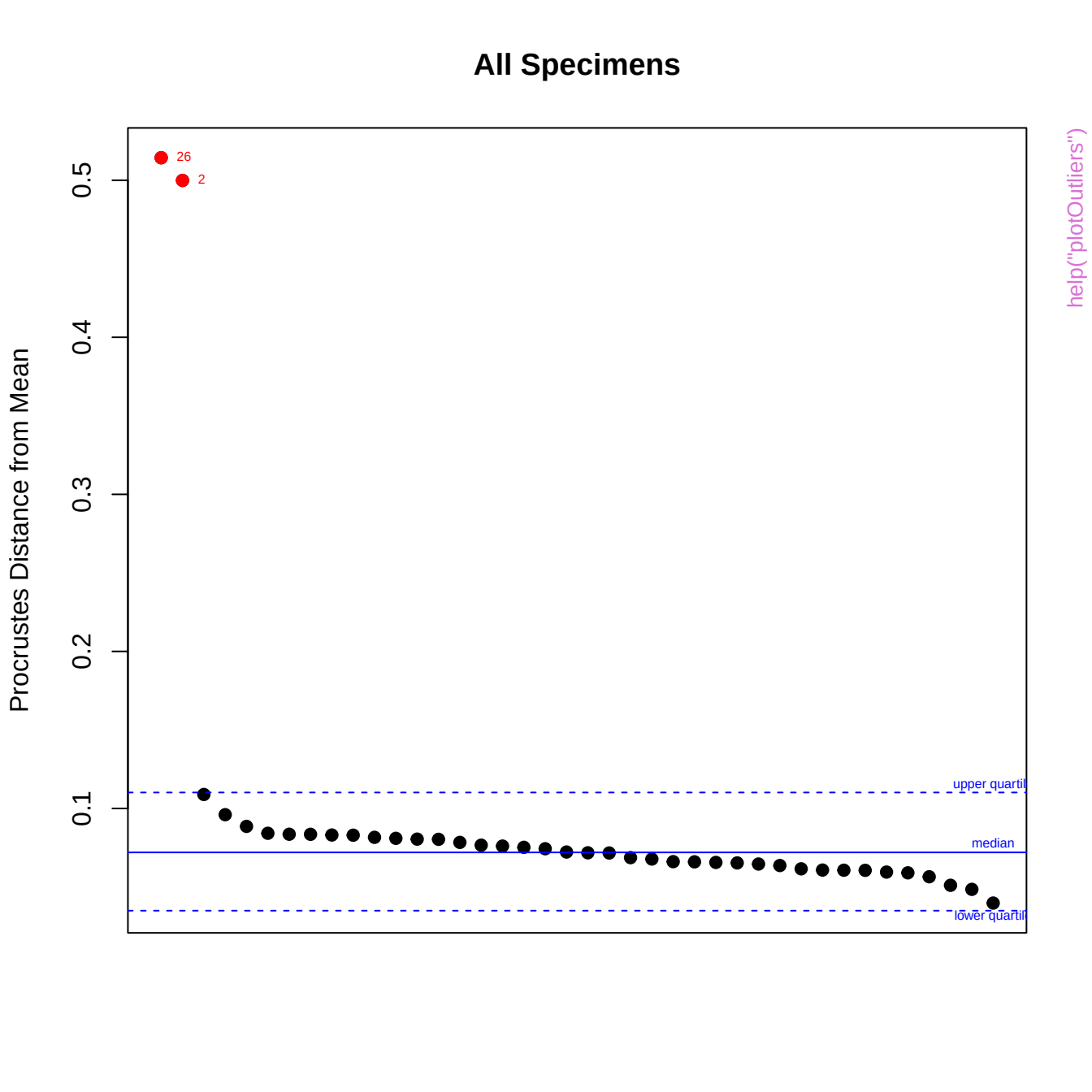

PC 1 for fitted values
0.04
0.02
0.00
−0.02
−0.04
−0.06
2.4
2.6
2.8
3.0
predictor
help("plotAllometry")


Regression Score
0.02
0.00
−0.02
−0.04
2.4
2.6
2.8
3.0
predictor
help("plotAllometry")

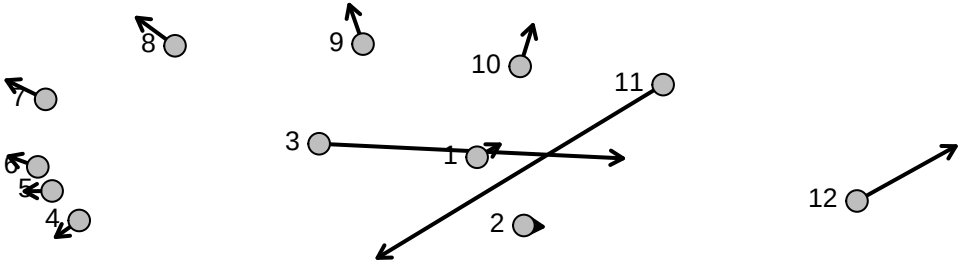

Size−Shape PC plot
PC 2: 6.04%
PC 1: 84.28%
0.08
0.06
0.04
0.02
0.00
−0.02
−0.04
−0.4
−0.2
0.0
0.2
help("plotAllometry")


Regression Score
0.04
0.02
0.00
−0.02
−0.04
2.4
2.6
2.8
3.0
predictor
help("plotAllometry")


All Specimens
Procrustes Distance from Mean
0.1
0.2
0.3
0.4
0.5
26
2
upper quartil
median
lower quartil
help("plotOutliers")

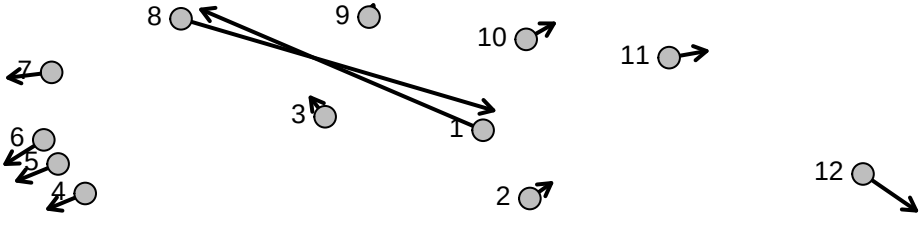

All Specimens
Procrustes Distance from Mean
0.1
0.2
0.3
0.4
0.5
26
2
upper quartil
median
lower quartil
help("plotOutliers")

group: All Specimens, specimen: 26

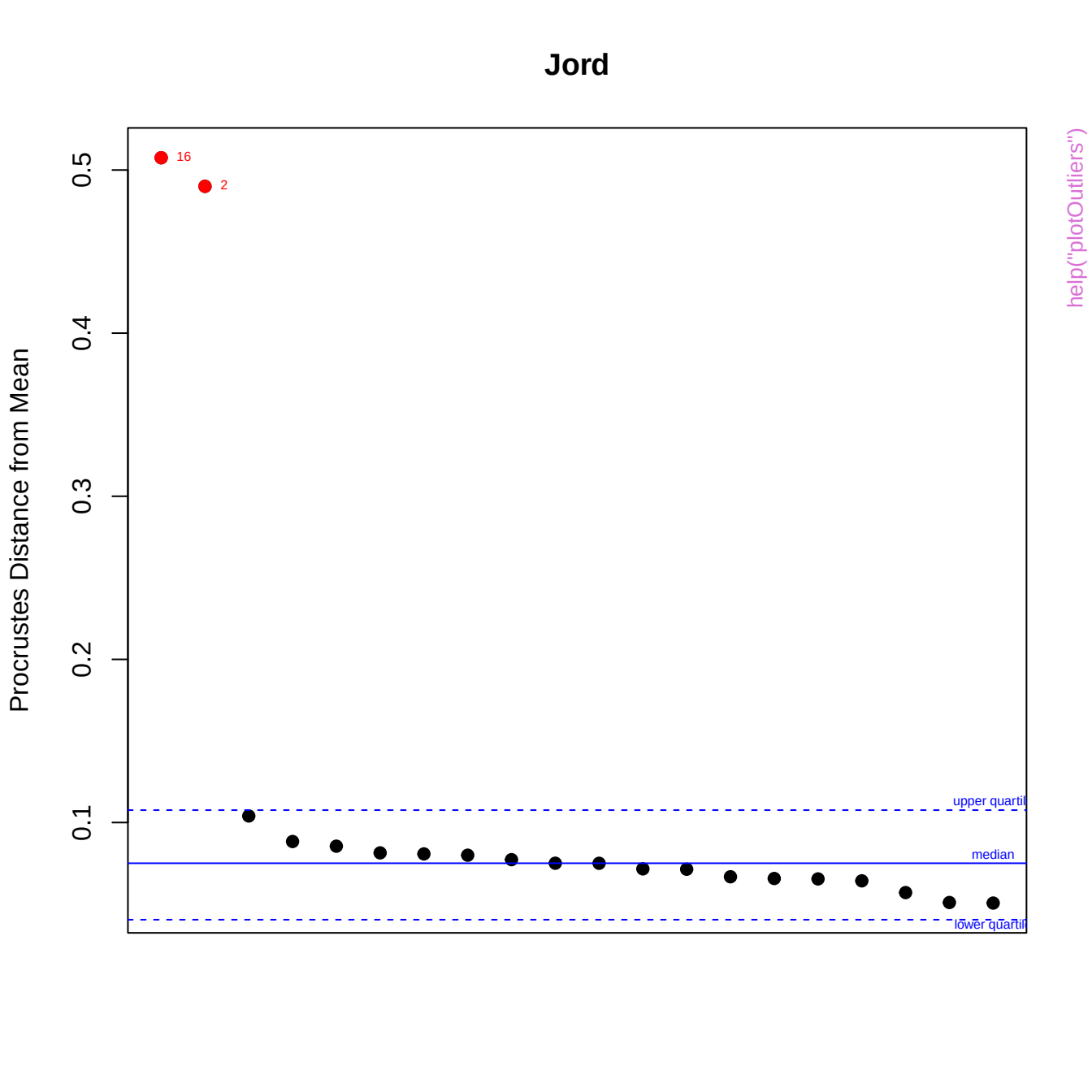


help("plotOutliers")

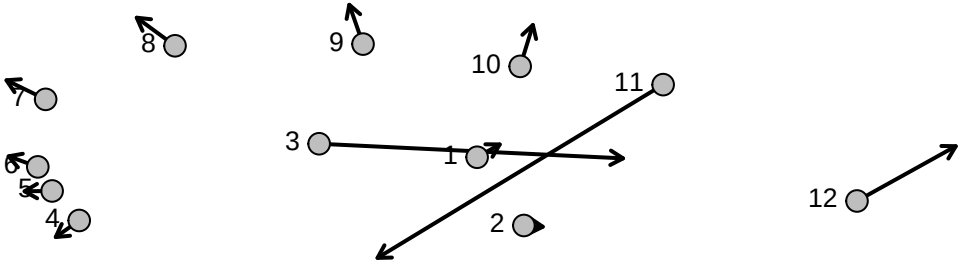
group: All Specimens, specimen: 2



help("plotOutliers")

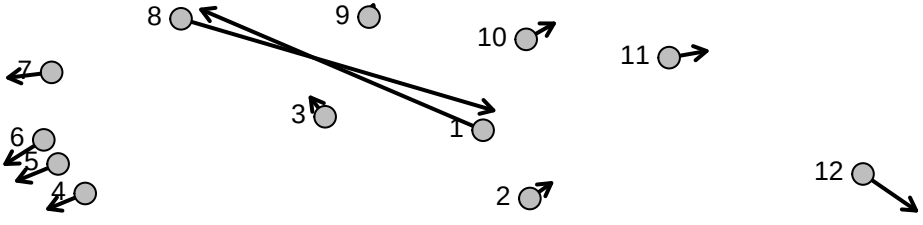

Jord
Procrustes Distance from Mean
0.1
0.2
0.3
0.4
0.5
16
2
upper quartil
median
lower quartil
help("plotOutliers")

group: Jord, specimen: 16

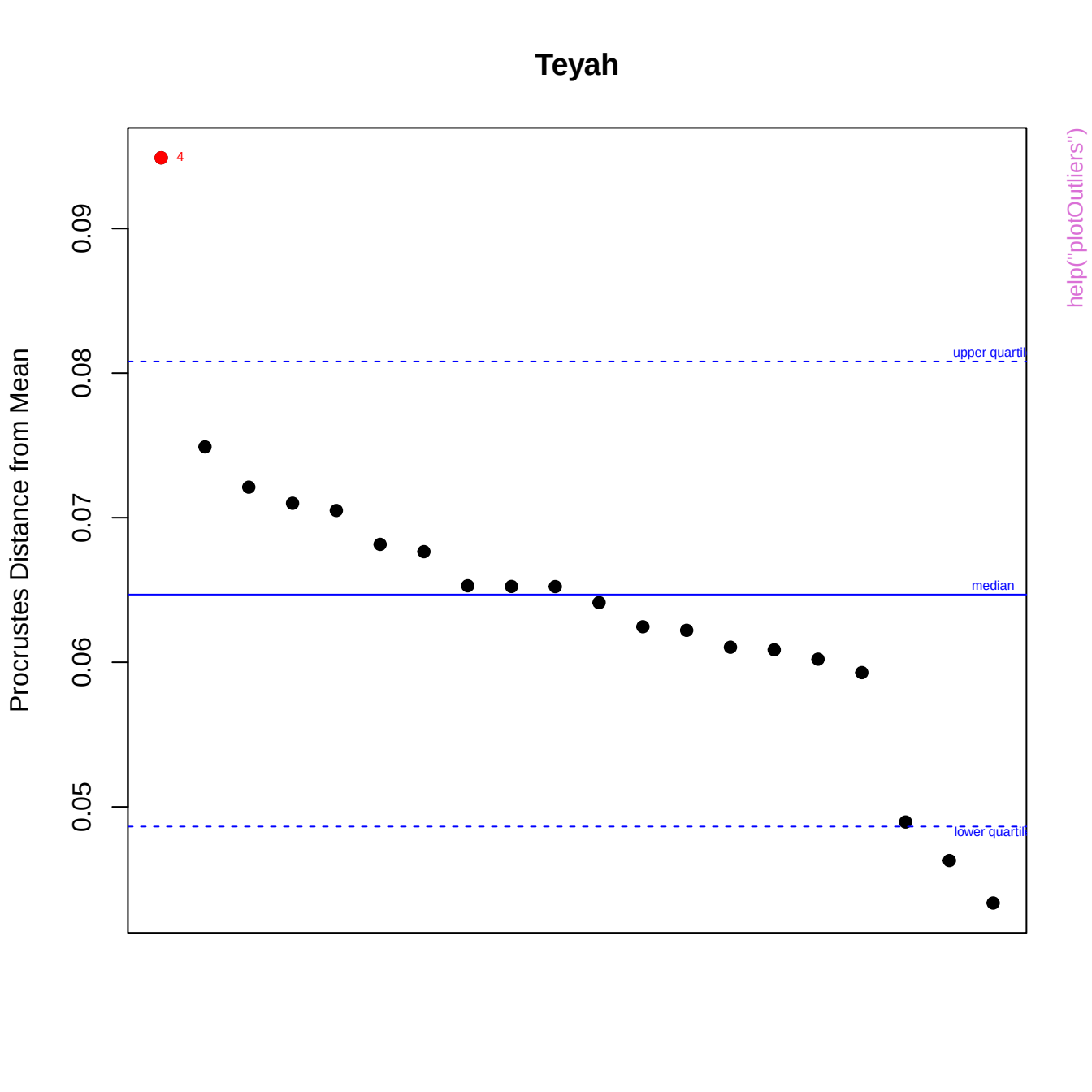


help("plotOutliers")

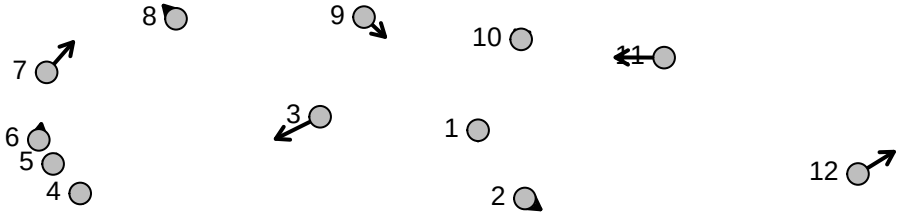
group: Jord, specimen: 2



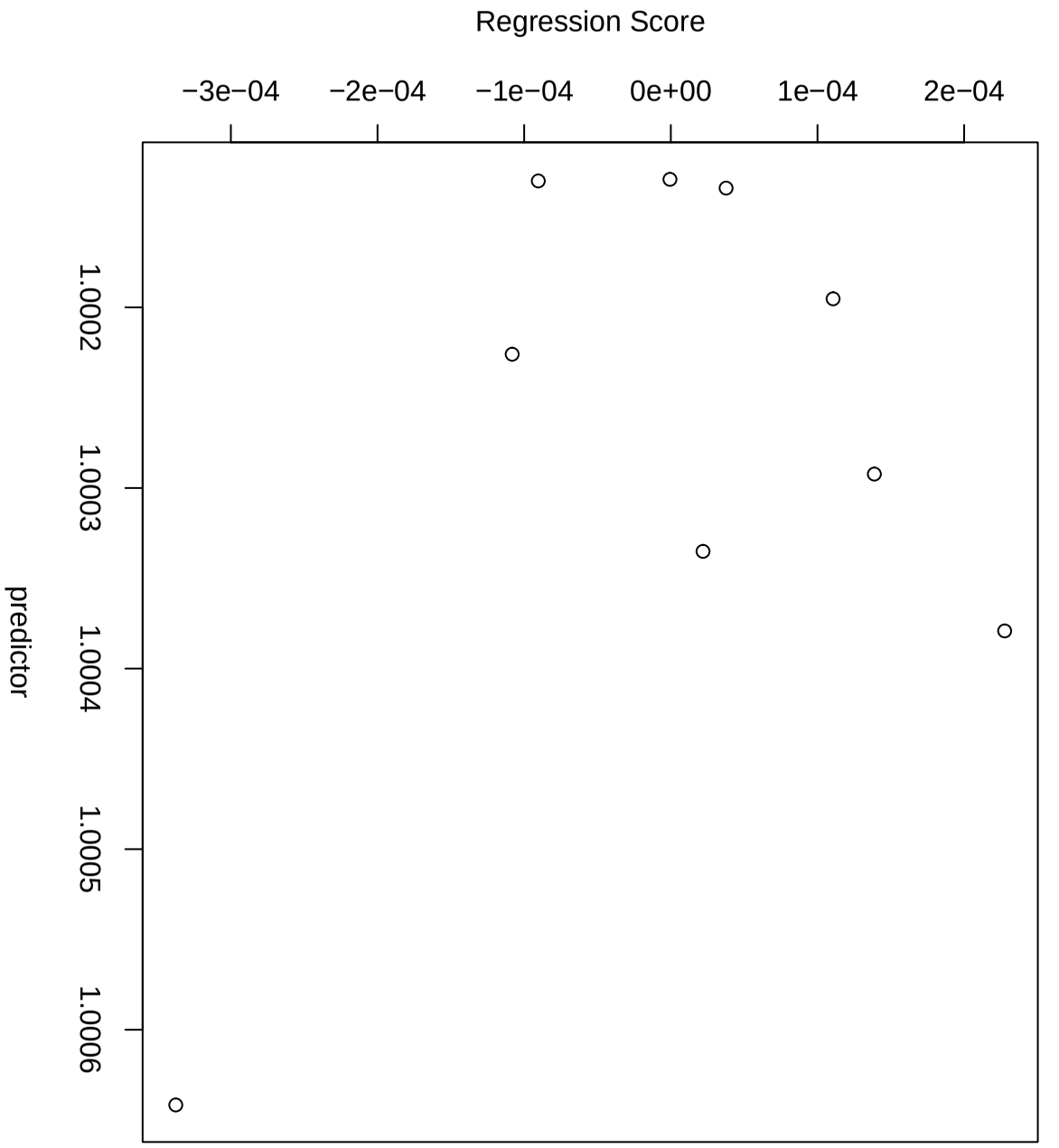
help("plotOutliers")


Teyah
Procrustes Distance from Mean
0.09
0.08
0.07
0.06
0.05
4
upper quartil
median
lower quartil
help("plotOutliers")

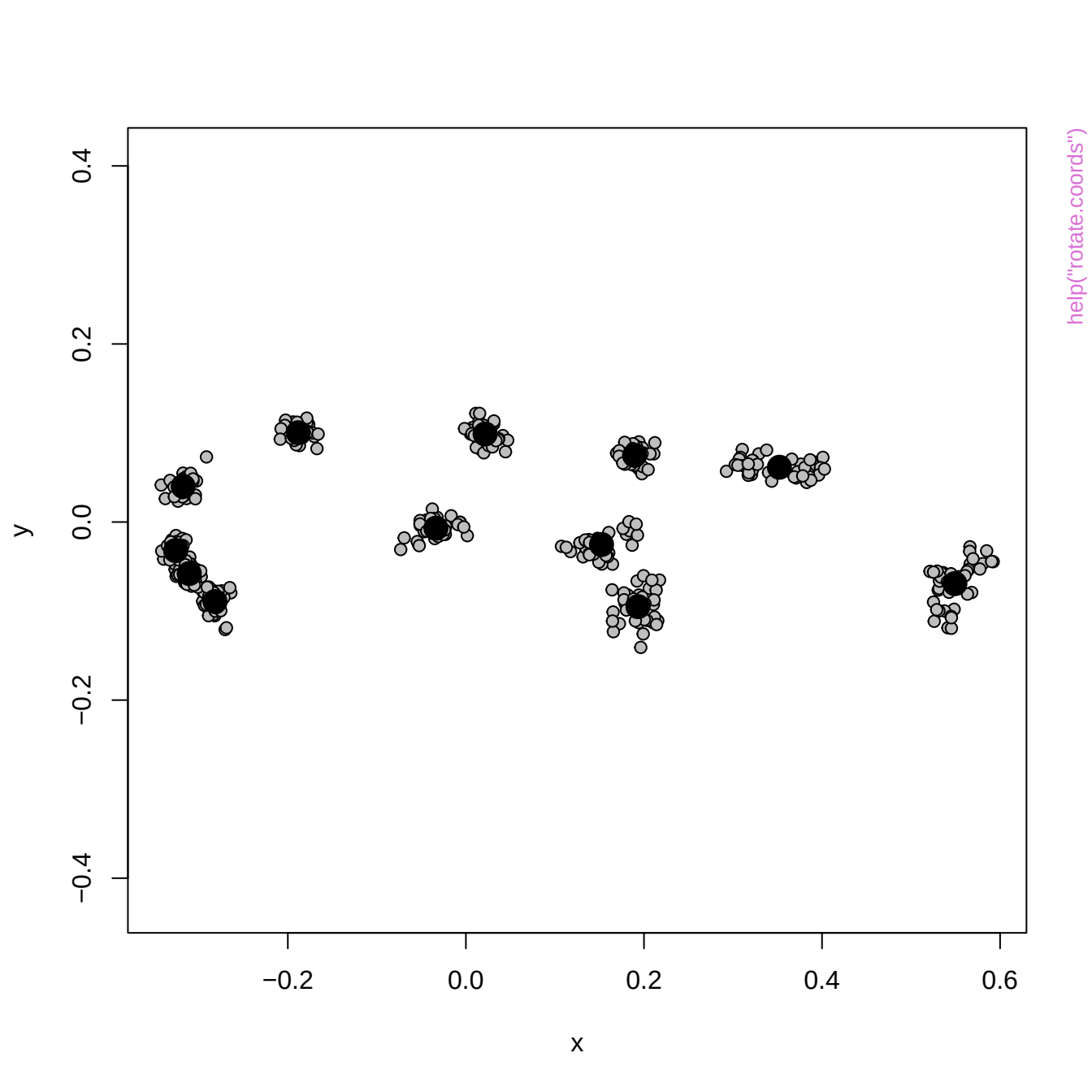
group: Teyah, specimen: 4

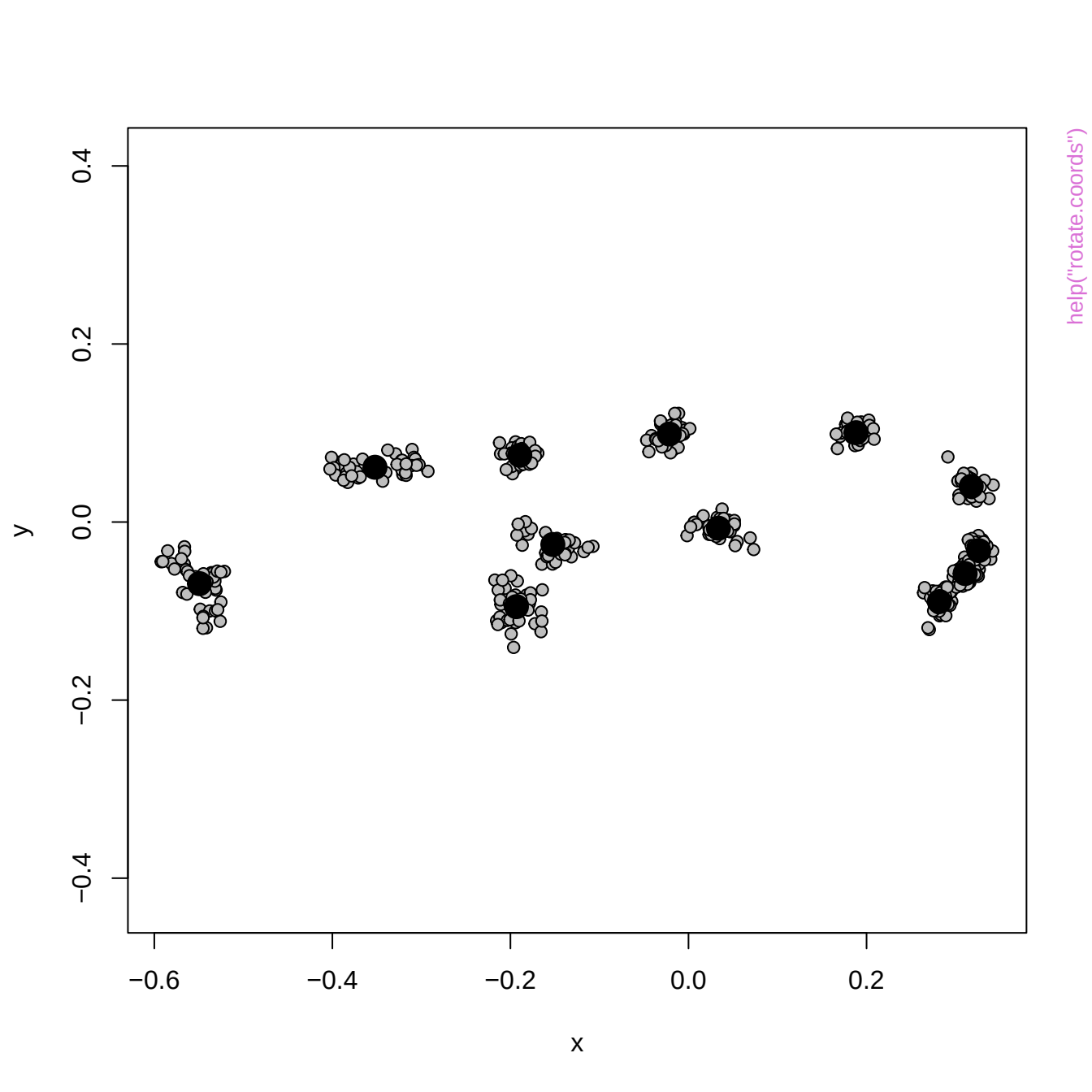


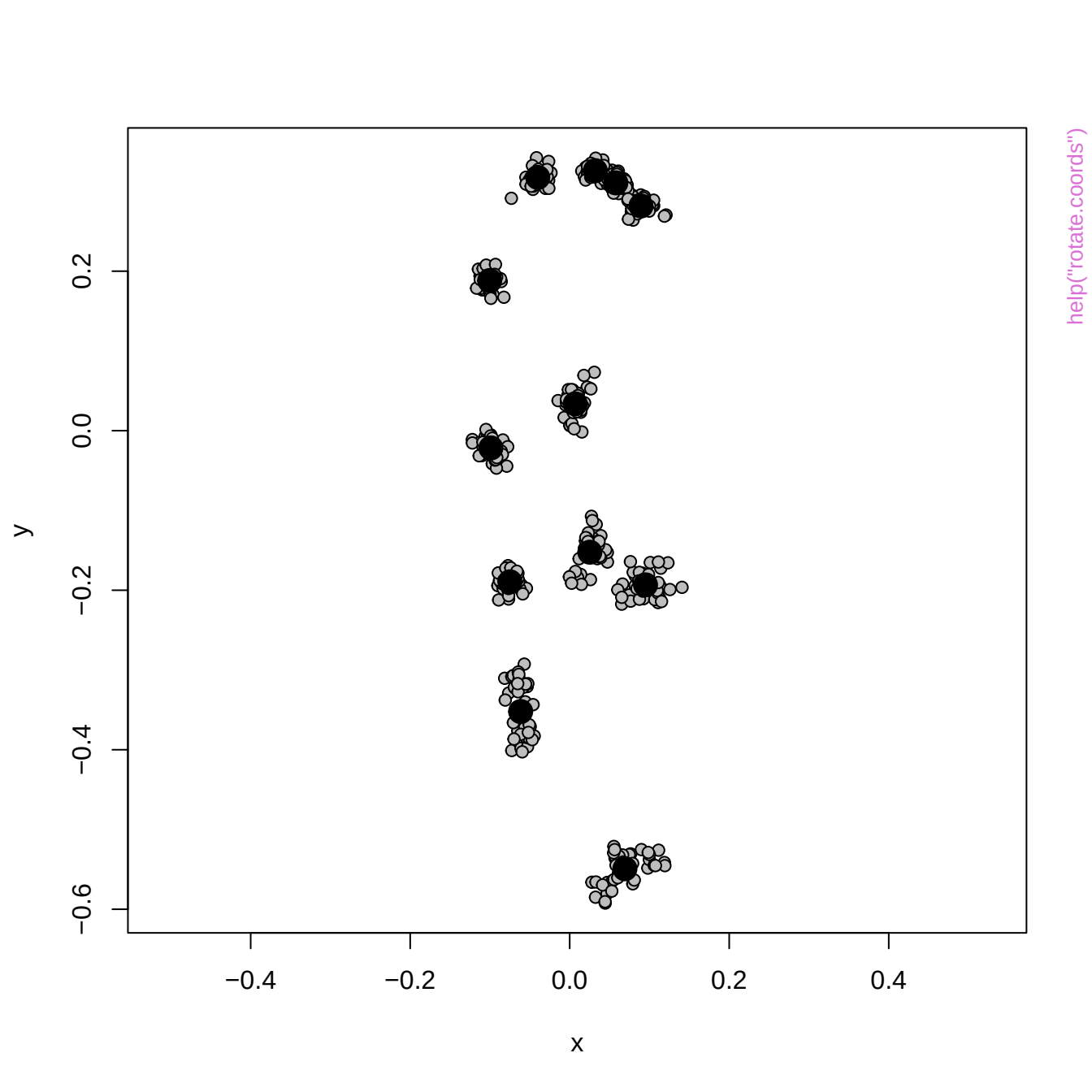
help("plotOutliers")



help("procD.pgls")

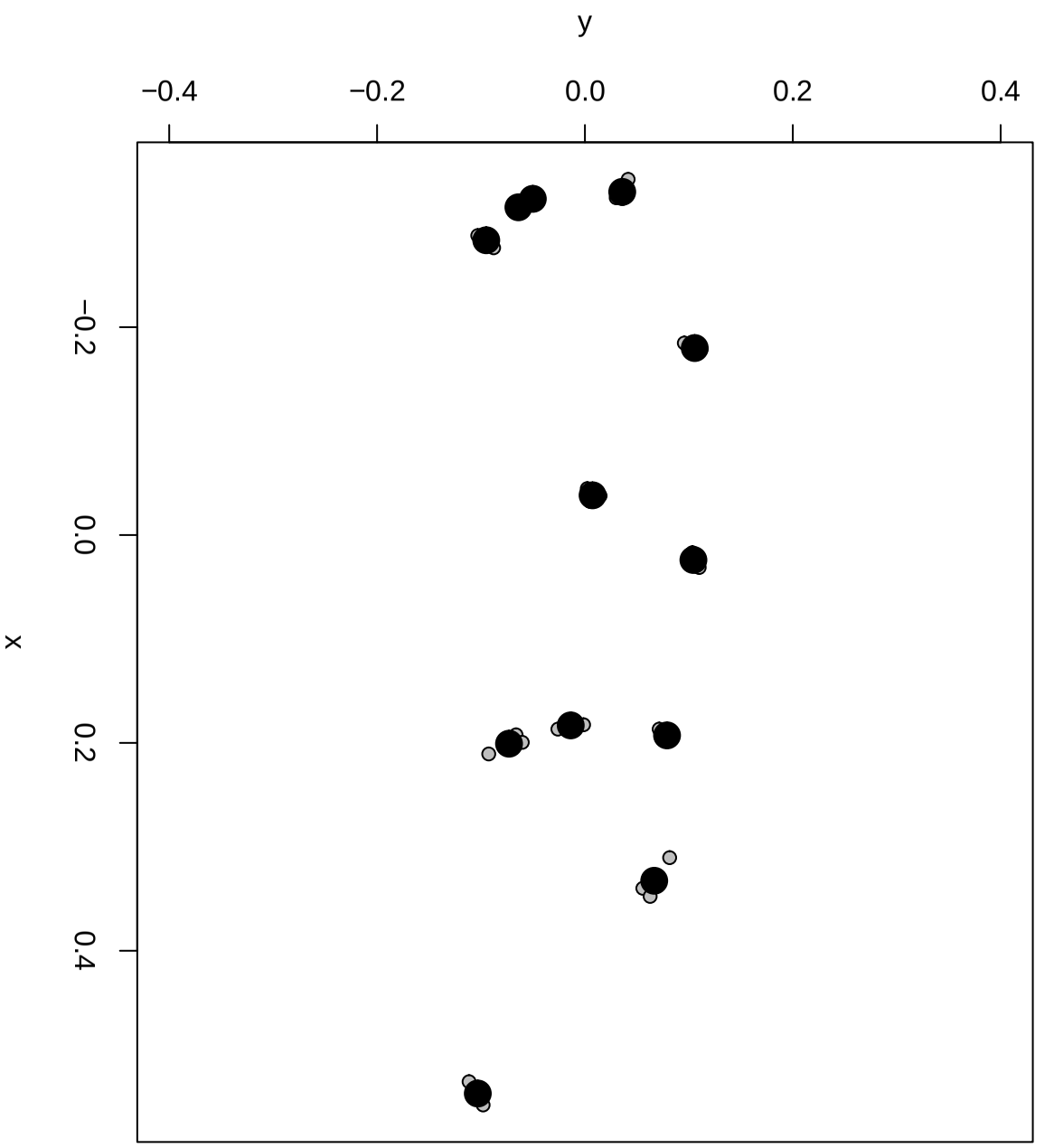

0.4
0.2
0.0
−0.2
−0.4
y
−0.2
0.0
0.2
0.4
0.6
x
help("rotate.coords")


0.4
0.2
0.0
−0.2
−0.4
y
−0.6
−0.4
−0.2
0.0
0.2
x
help("rotate.coords")


0.2
0.0
−0.2
−0.4
−0.6
y
−0.4
−0.2
0.0
0.2
0.4
x
help("rotate.coords")

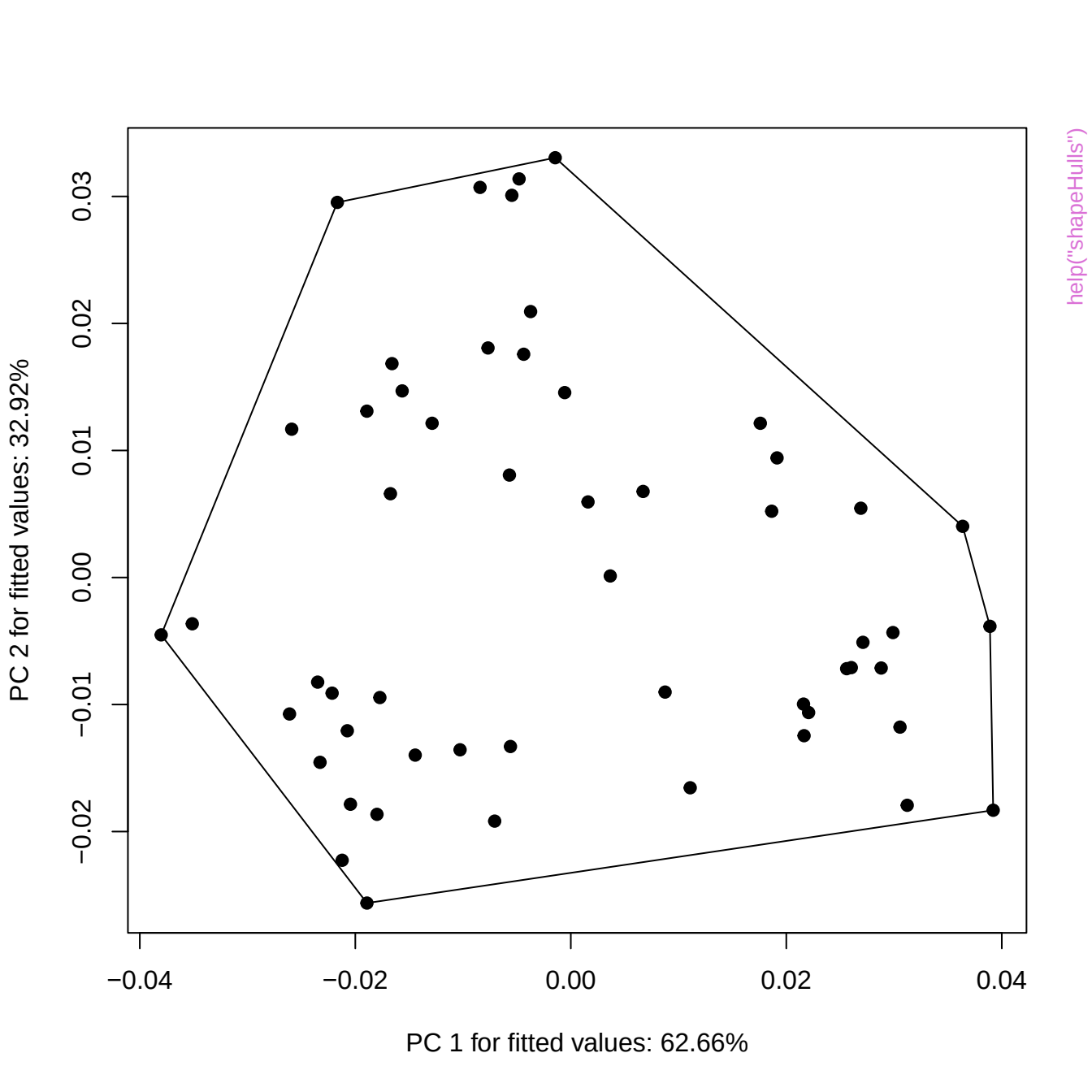
0.4
0.2
0.0
−0.2
−0.4
Y
−0.2
0.0
0.2
0.4
X
help("rotate.coords")

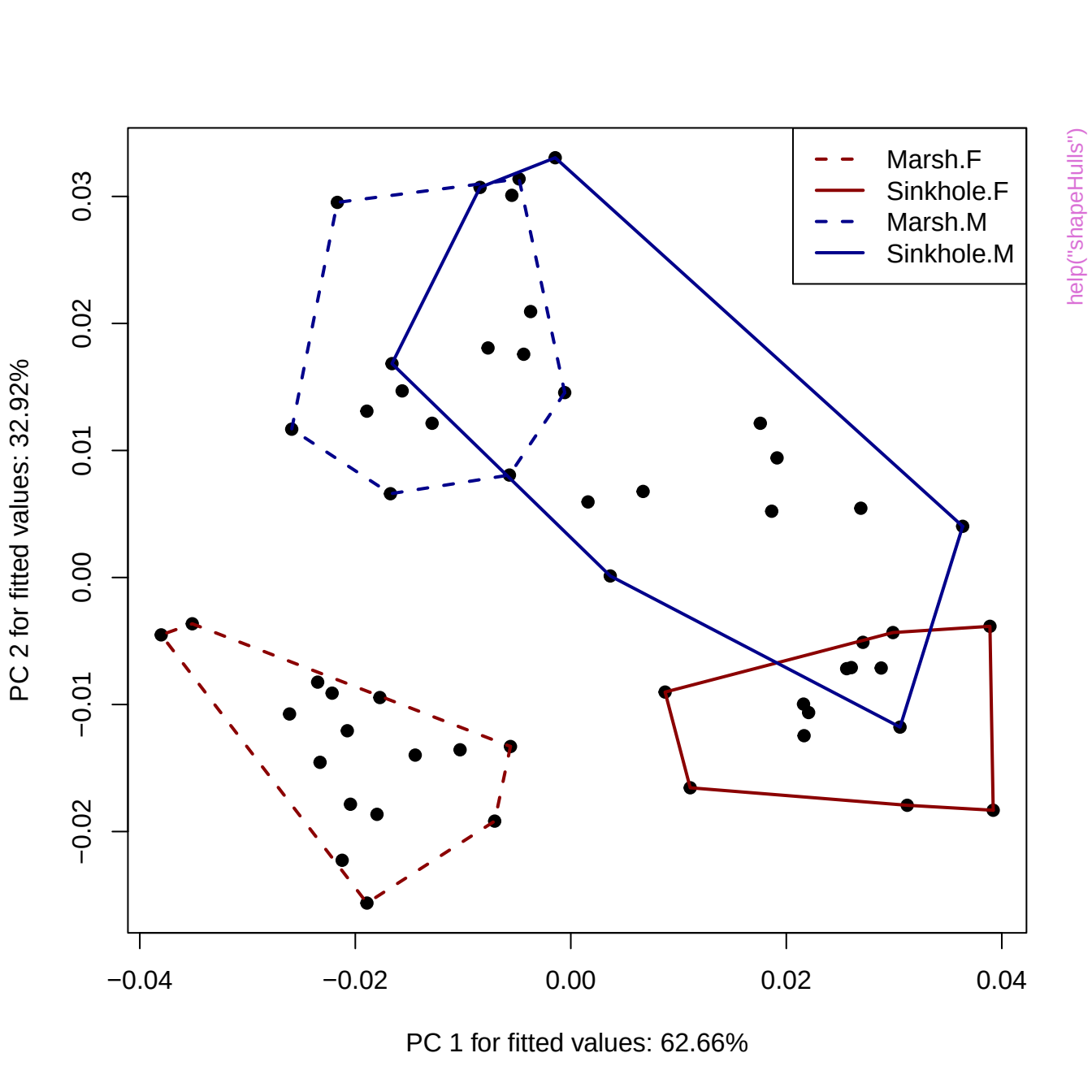
0.4
0.2
0.0
−0.2
−0.4
Y
−0.2
0.0
0.2
0.4
X
help("rotate.coords")

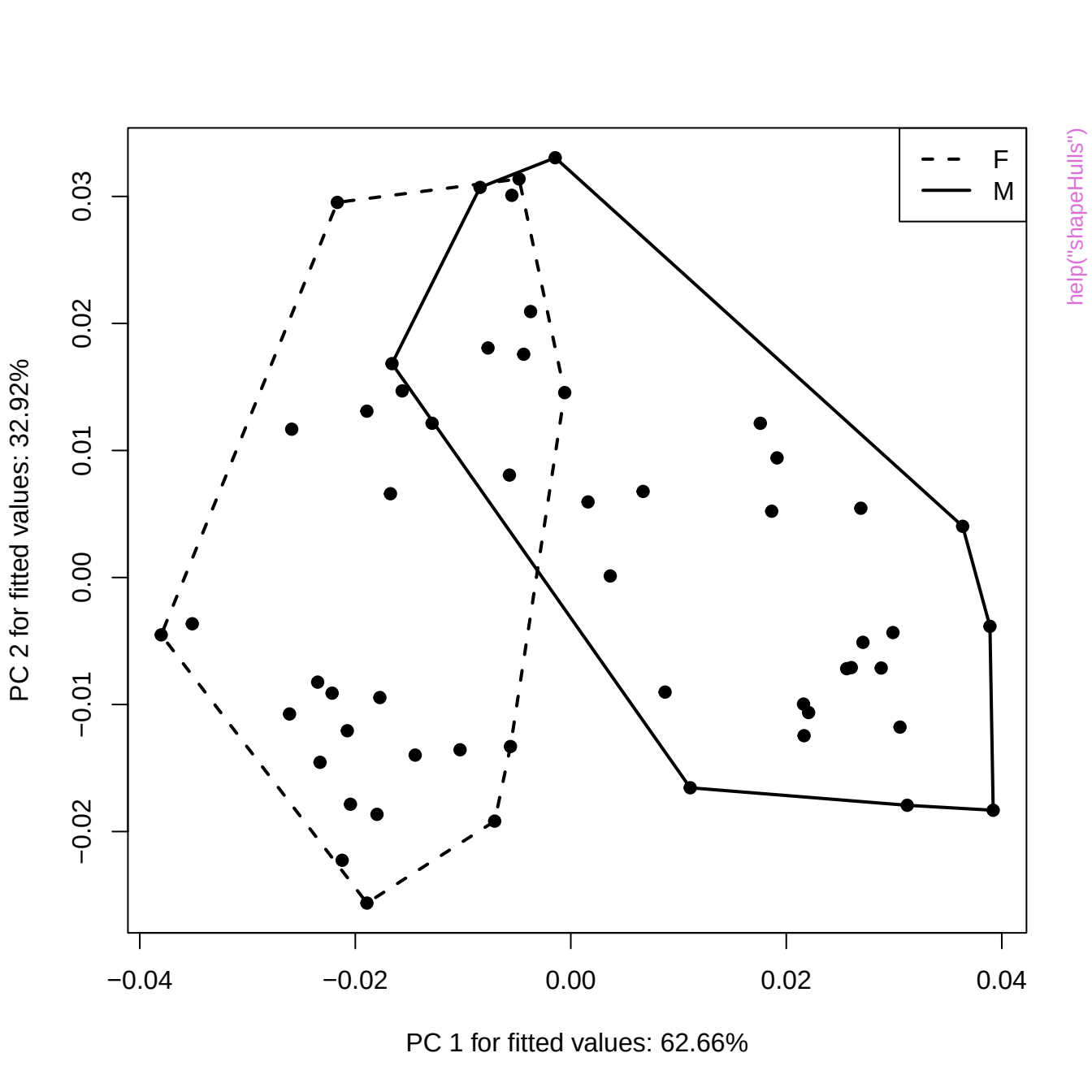


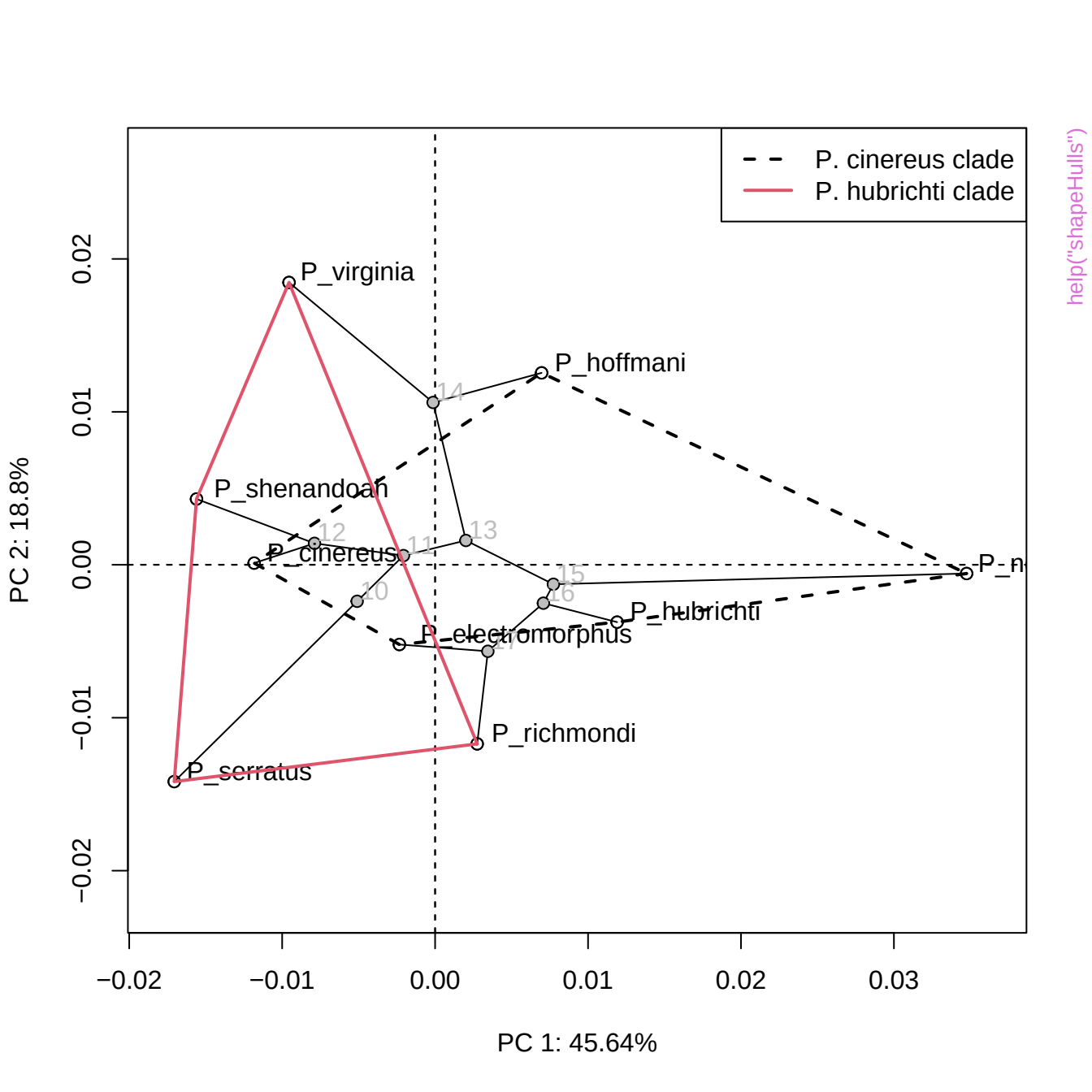
help("rotate.coords")

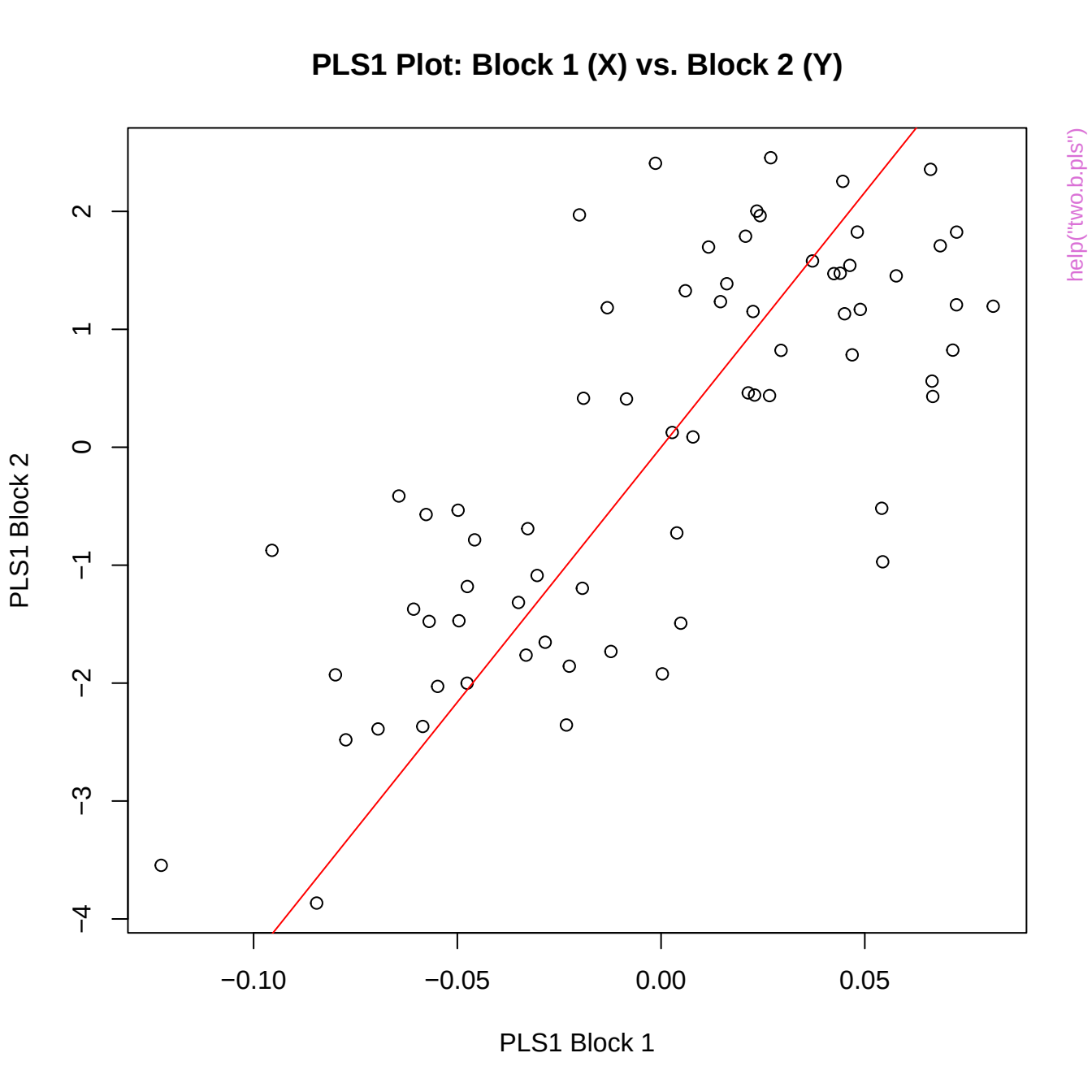
0.2
0.0
−0.2
−0.4
y
−0.4
−0.2
0.0
0.2
0.4
x
help("rotate.coords")

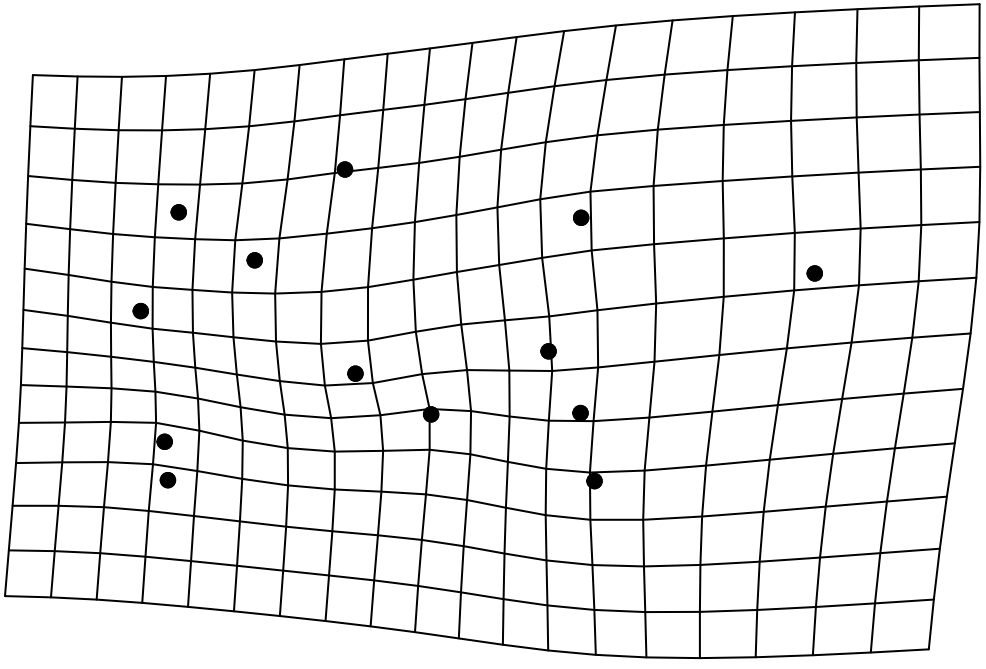

help("shapeHulls")
PC 2 for fitted values: 32.92%
0.03
0.02
0.01
0.00
−0.01
−0.02
−0.04
−0.02
0.00
0.02
0.04
PC 1 for fitted values: 62.66%


Marsh.F
Sinkhole.F
Marsh.M
Sinkhole.M
help("shapeHulls")
PC 2 for fitted values: 32.92%
PC 1 for fitted values: 62.66%
0.03
0.02
0.01
0.00
−0.01
−0.02
−0.04
−0.02
0.00
0.02
0.04

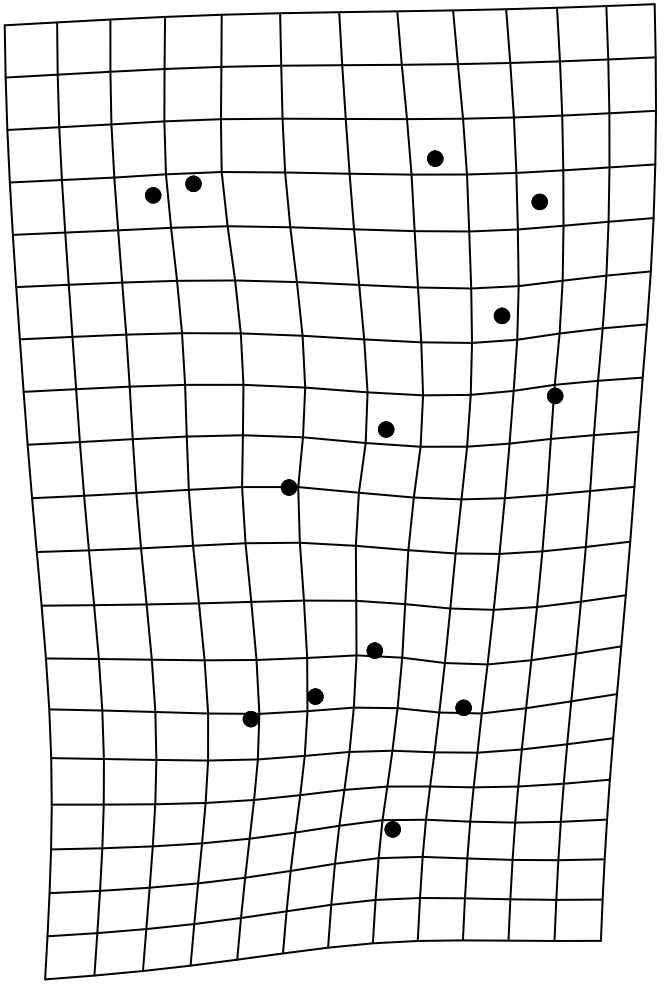

F
M
PC 2 for fitted values: 32.92%
PC 1 for fitted values: 62.66%
0.03
0.02
0.01
0.00
−0.01
−0.02
−0.04
−0.02
0.00
0.02
0.04
help("shapeHulls")


P. cinereus clade
P. hubrichti clade
P_virginia
P_hoffmani
P_shenandoah
P_cinereus
P_hubrichti
P_electromorphus
P_richmondi
P_serratus
10
11
12
13
14
15
16
17
PC 1: 45.64%
PC 2: 18.8%
−0.02
−0.01
0.00
0.01
0.02
0.03
help("shapeHulls")


PLS1 Plot: Block 1 (X) vs. Block 2 (Y)
PLS1 Block 2
PLS1 Block 1
2
1
0
−1
−2
−3
−4
−0.10
−0.05
0.00
0.05
help("two.b.pls")



help("two.b.pls")



help("two.b.pls")