

This file contains the parameter estimates of all linear and non-linear models, fitted to each response variable in turn. Only models that converged are shown.

The models are grouped by

- (i) response variable
- (ii) type of model (both separated by dollar signs).

Models per type are numbered consecutively.

Abbreviated model types:

L.....Linear
 M.....Michaelis-Menten models
 E.....Exponential models
 P.....Power models
 AS.....Self-starting asymptotic models
 BIEXP...Self-starting biexponential models
 LG.....Self-starting logistic models

Models contained blocks (B1-B4), grass presence, legume presence and number of plant functional groups in addition to the main explanatory variable (sowndiv, plant species richness).

For a ranking of models, see Table S2.

####

\$`Microbial biomass `L01
 Generalized least squares fit by maximum likelihood
 Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
 Data: DF
 Log-likelihood: 61.26038

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
1.166613956	0.185699231	0.217197034	0.157708731
0.033482250			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
-0.288413458	-0.541249029	-0.528399323	-0.005446655
0.005421499			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.013746113	0.113116715	0.145606663	0.220482784

Variance function:
 Structure: Power of variance covariate
 Formula: ~fitted(.)
 Parameter estimates:
 power
 0.655927

Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.2281479

\$`Microbial biomass `L02
Generalized least squares fit by maximum likelihood
Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
Data: DF
Log-likelihood: 61.9346

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
1.076203913	0.180388317	0.217389470	0.158597014
0.033698018			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
-0.267735228	-0.477924193	-0.481581418	-0.005632530
0.007267982			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.014876138	0.097714359	0.142691024	0.189994151

Variance function:
Structure: Exponential of variance covariate
Formula: ~fitted(.)
Parameter estimates:
expon
2.038393

Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.05295806

\$`Microbial biomass `L011
Generalized least squares fit by maximum likelihood
Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
Data: DF
Log-likelihood: 57.84676

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
1.291682412	0.182847550	0.199292019	0.140312999
0.018740795			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
-0.293453870	-0.535141839	-0.563782438	-0.003333745
0.004909450			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.007305964	0.109432669	0.137695814	0.209942310

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
power
0.04494402

Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.1117926

```
$`Microbial biomass `L021
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 57.76887
```

```
Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  1.407071420      0.180799812      0.195369582      0.134301219
0.015543597
  funcgr      grass      leg sowndiv:funcgr
sowndiv:grass
  -0.314183436      -0.590966569      -0.610526591      -0.002842570
0.004666344
  sowndiv:leg      funcgr:grass      funcgr:leg      grass:leg
  -0.005909582      0.121337183      0.138905351      0.232584327
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
```

```
  expon
-0.002285044
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.1219897
```

```
$`Microbial biomass `L2
```

```
Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

```
Coefficients:
(Intercept)      sowndiv      funcgr      leg
  0.383907      0.002804      0.016636      -0.048376
```

```
$`Microbial biomass `L21
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 39.31563
```

```
Coefficients:
(Intercept)      sowndiv      funcgr      leg
  0.372506932      0.003088426      0.018528600      -0.045070543
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~fitted(.)
  Parameter estimates:
```

```

    power
0.3925366
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2221355

```

```

$`Microbial biomass`$L22
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 39.21234

```

```

Coefficients:
(Intercept)      sowndiv      funcgr      leg
0.37581178  0.00305587  0.01786584 -0.04602664

```

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~fitted(.)
  Parameter estimates:
    expon
0.7428834
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1137764

```

```

$`Microbial biomass`$L211
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 39.16279

```

```

Coefficients:
(Intercept)      sowndiv      funcgr      leg
0.374469011  0.002931848  0.018037502 -0.045684910

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
0.03070032
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1434010

```

```

$`Microbial biomass`$L222
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 39.57724

```

```

Coefficients:
(Intercept)      sowndiv      funcgr      leg
0.395044418  0.002279406  0.016064979 -0.051553441

```

```

Variance function:

```

Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
 expon
 -0.00784338
 Degrees of freedom: 82 total; 78 residual
 Residual standard error: 0.1597333

\$`Microbial biomass`\$M1
 Nonlinear regression model
 model: response ~ a * sowndiv/(b + sowndiv)
 data: DF
 a b
 0.4732 0.8767
 residual sum-of-squares: 1.760

Number of iterations to convergence: 4
 Achieved convergence tolerance: 4.649e-07

\$`Microbial biomass`\$M1a
 Nonlinear regression model
 model: response ~ SSmicmen(sowndiv, Vm, k)
 data: DF
 Vm k
 0.4732 0.8767
 residual sum-of-squares: 1.760

Number of iterations to convergence: 3
 Achieved convergence tolerance: 1.335e-06

\$`Microbial biomass`\$M2
 Nonlinear regression model
 model: response ~ d + a * sowndiv/(b + sowndiv)
 data: DF
 a b d
 0.3463 1.9691 0.1466
 residual sum-of-squares: 1.755

Number of iterations to convergence: 7
 Achieved convergence tolerance: 5.819e-06

\$`Microbial biomass`\$M211
 Generalized nonlinear least squares fit
 Model: response ~ d + a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 41.48849

Coefficients:
 a b d
 0.3595576 1.6806960 0.1273808

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv

Parameter estimates:
 power
 0.058389
 Degrees of freedom: 82 total; 79 residual
 Residual standard error: 0.1362937

\$`Microbial biomass`\$M222
 Generalized nonlinear least squares fit
 Model: response ~ d + a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 41.56385

Coefficients:
 a b d
 0.3313970 2.6705047 0.1761445

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
 expon
 -0.006281512
 Degrees of freedom: 82 total; 79 residual
 Residual standard error: 0.1567270

\$`Microbial biomass`\$M3
 Generalized nonlinear least squares fit
 Model: response ~ a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 42.87916

Coefficients:
 a.(Intercept) a.leg b.(Intercept) b.leg
 0.6333594 -0.1177495 1.7604516 -0.6276455

Degrees of freedom: 82 total; 78 residual
 Residual standard error: 0.1470695

\$`Microbial biomass`\$M311
 Generalized nonlinear least squares fit
 Model: response ~ a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 42.93783

Coefficients:
 a.(Intercept) a.leg b.(Intercept) b.leg
 0.6291894 -0.1150229 1.7156729 -0.6009236

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
 power
 0.02917223

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1407354

\$`Microbial biomass `M321
Generalized nonlinear least squares fit
Model: response ~ a * sowndiv/(b + sowndiv)
Data: DF
Log-likelihood: 43.37478

Coefficients:
a.(Intercept) a.leg b.(Intercept) b.leg
0.6425148 -0.1228591 1.8456693 -0.6730959

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
 expon
-0.007472615

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1558691

\$`Microbial biomass `M4
Generalized nonlinear least squares fit
Model: response ~ a * sowndiv/(b + sowndiv)
Data: DF
Log-likelihood: 41.48285

Coefficients:
a.(Intercept) a.grass b.(Intercept) b.grass
0.40790291 0.05179107 0.63962616 0.20621206

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1495953

\$`Microbial biomass `M411
Generalized nonlinear least squares fit
Model: response ~ a * sowndiv/(b + sowndiv)
Data: DF
Log-likelihood: 41.76829

Coefficients:
a.(Intercept) a.grass b.(Intercept) b.grass
0.39566014 0.05794642 0.51247693 0.26924749

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
 power
0.06290398
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1357841

```

$`Microbial biomass`$M422
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.6134

Coefficients:
a.(Intercept)      a.grass b.(Intercept)      b.grass
  0.42948921      0.04021002      0.84128192      0.10048097

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.004117594
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1547317

```

```

$`Microbial biomass`$M5
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.51328

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.41291925      0.02488170      0.45059642      0.22252802

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1495398

```

```

$`Microbial biomass`$M511
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.6941

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.41639747      0.02303531      0.48508055      0.19884014

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
0.05142434
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1382431

```

```

$`Microbial biomass`$M522
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)

```


Data: DF
Log-likelihood: 41.92676

Coefficients:
a.(Intercept) a.funcgr b.(Intercept) b.funcgr
0.40691037 0.02833383 0.39736464 0.26139975

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
 expon
-0.007048674
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1580696

\$`Microbial biomass `M6
Generalized nonlinear least squares fit
Model: response ~ a * sowndiv/(b + sowndiv)
Data: DF
Log-likelihood: 43.17232

Coefficients:
a.(Intercept) a.funcgr a.leg b.(Intercept) b.funcgr
0.77557872 -0.02632395 -0.16609042 2.49196149 -0.09117077
 b.leg
-0.91014333

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1484604

\$`Microbial biomass `M611
Generalized nonlinear least squares fit
Model: response ~ a * sowndiv/(b + sowndiv)
Data: DF
Log-likelihood: 43.22154

Coefficients:
a.(Intercept) a.funcgr a.leg b.(Intercept) b.funcgr
0.77312414 -0.02681783 -0.16403091 2.46379225 -0.09803511
 b.leg
-0.88862338

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
 power
0.02654467
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.142638

\$`Microbial biomass `M622
Generalized nonlinear least squares fit

Model: response ~ a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 43.63443

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.76222586	-0.02083043	-0.16367523	2.36417645	-0.02997730
	b.leg			
	-0.88461424			

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
 expon
 -0.007277595
 Degrees of freedom: 82 total; 76 residual
 Residual standard error: 0.1571441

\$`Microbial biomass`\$M7
 Generalized nonlinear least squares fit
 Model: response ~ a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 42.4971

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.2167675	0.0460553	0.1061114	-0.4412272	0.3005945
	b.grass			
	0.5006104			

Degrees of freedom: 82 total; 76 residual
 Residual standard error: 0.1496879

\$`Microbial biomass`\$M711
 Generalized nonlinear least squares fit
 Model: response ~ a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 42.62053

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.21998083	0.04430573	0.10616151	-0.41550221	0.27965590
	b.grass			
	0.50357884			

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
 power
 0.04184964
 Degrees of freedom: 82 total; 76 residual
 Residual standard error: 0.1404593

\$`Microbial biomass `M722
 Generalized nonlinear least squares fit
 Model: response ~ a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 42.87197

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.21788866	0.04921181	0.10175733	-0.44729198	0.34037629
	b.grass			
	0.46980628			

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
 expon
 -0.006690928
 Degrees of freedom: 82 total; 76 residual
 Residual standard error: 0.1578152

\$`Microbial biomass `M81
 Generalized nonlinear least squares fit
 Model: response ~ a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 43.19536

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.57101657	0.05231126	-0.12013190	1.55935750	0.25339056
	b.leg			
	-0.69594933			

Degrees of freedom: 82 total; 76 residual
 Residual standard error: 0.1484187

\$`Microbial biomass `M821
 Generalized nonlinear least squares fit
 Model: response ~ a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 43.25356

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.56389921	0.05369995	-0.11693862	1.47992196	0.26671081
	b.leg			
	-0.66199293			

Variance function:
 Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
 power

0.02880191
 Degrees of freedom: 82 total; 76 residual
 Residual standard error: 0.1421053

\$`Microbial biomass`\$M832
 Generalized nonlinear least squares fit
 Model: response ~ a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 43.62374

Coefficients:
 a.(Intercept) a.grass a.leg b.(Intercept) b.grass
 0.59547052 0.04402642 -0.12731519 1.77186657 0.19313709
 b.leg
 -0.76154671

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
 expon
 -0.007035876
 Degrees of freedom: 82 total; 76 residual
 Residual standard error: 0.1568388

\$`Microbial biomass`\$M91
 Generalized nonlinear least squares fit
 Model: response ~ a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 43.24014

Coefficients:
 a.(Intercept) a.funcgr a.grass a.leg b.(Intercept)
 0.656871962 -0.011760065 0.035153055 -0.141493922 1.793927603
 b.funcgr b.grass b.leg
 -0.007281231 0.207308545 -0.766211143

Degrees of freedom: 82 total; 74 residual
 Residual standard error: 0.1503288

\$`Microbial biomass`\$M921
 Generalized nonlinear least squares fit
 Model: response ~ a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 43.29431

Coefficients:
 a.(Intercept) a.funcgr a.grass a.leg b.(Intercept)
 0.64930098 -0.01171344 0.03674372 -0.13832938 1.73299414
 b.funcgr b.grass b.leg
 -0.01138088 0.21833340 -0.73791883

Variance function:
 Structure: Power of variance covariate

Formula: ~sowndiv
 Parameter estimates:
 power
 0.02780186
 Degrees of freedom: 82 total; 74 residual
 Residual standard error: 0.1441552

\$`Microbial biomass`\$M932
 Generalized nonlinear least squares fit
 Model: response ~ a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 43.68027

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.666487281	-0.009098335	0.028501484	-0.143955056	1.800321906
	b.funcgr	b.grass	b.leg	
0.037522135	0.169539328	-0.770210989		

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
 expon
 -0.007136876
 Degrees of freedom: 82 total; 74 residual
 Residual standard error: 0.1589724

\$`Microbial biomass`\$M111
 Generalized nonlinear least squares fit
 Model: response ~ d + a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 42.02787

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass	d.(Intercept)
0.1366246	0.1492708	25.3762544	-11.8437813	0.4785390
	d.grass			
	-0.1925723			

Degrees of freedom: 82 total; 76 residual
 Residual standard error: 0.1505469

\$`Microbial biomass`\$M1132
 Generalized nonlinear least squares fit
 Model: response ~ d + a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 42.43559

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass	d.(Intercept)
0.1317396	0.1553871	26.0499692	-12.2713542	0.4946508
	d.grass			
	-0.2081471			

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
 expon
 -0.006937727
 Degrees of freedom: 82 total; 76 residual
 Residual standard error: 0.1589938

\$`Microbial biomass`\$M131
 Generalized nonlinear least squares fit
 Model: response ~ d + a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 44.33896

Coefficients:

a. (Intercept)	a.funcgr	a.leg	b. (Intercept)	b.funcgr
0.12270701	0.05776488	0.04584730	-93.06234456	27.75784481
b.leg	d. (Intercept)	d.funcgr	d.leg	
41.06748999	0.31711072	0.01684919	-0.02846671	

Degrees of freedom: 82 total; 73 residual
 Residual standard error: 0.1493403

\$`Microbial biomass`\$M1332
 Generalized nonlinear least squares fit
 Model: response ~ d + a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 43.22579

Coefficients:

a. (Intercept)	a.funcgr	a.leg	b. (Intercept)	b.funcgr
-0.1901386	0.1008317	0.1237712	-20.7500219	5.5736804
b.leg	d. (Intercept)	d.funcgr	d.leg	
10.2600737	0.4245506	-0.0216960	-0.0668219	

Variance function:
 Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
 expon
 -0.006965124
 Degrees of freedom: 82 total; 73 residual
 Residual standard error: 0.1607099

\$`Microbial biomass`\$M141
 Generalized nonlinear least squares fit
 Model: response ~ d + a * sowndiv/(b + sowndiv)
 Data: DF
 Log-likelihood: 48.04177

Coefficients:

a. (Intercept)	a.funcgr	a.grass	b. (Intercept)	b.funcgr

0.429753841	0.008390143	-0.219201503	47.900679823	0.213349629
b.grass	d.(Intercept)	d.funcgr	d.grass	
-28.084795424	0.236290151	0.021407537	0.025934334	

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1427467

\$`Microbial biomass`\$M1621
Generalized nonlinear least squares fit
Model: response ~ d + a * sowndiv/(b + sowndiv)
Data: DF
Log-likelihood: 43.82867

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
1.33504316	-0.09457035	-0.18670183	-0.42626870	36.94835850
b.funcgr	b.grass	b.leg	d.(Intercept)	d.funcgr
-2.21002466	-8.72463308	-12.01205779	-0.09245285	0.03928225
d.grass	d.leg			
0.07375816	0.09791911			

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
power
0.02574381
Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.1477045

\$`Microbial biomass`\$E2
Nonlinear regression model
model: response ~ a + b * exp(sowndiv)
data: DF
a b
3.643e-01 1.360e-27
residual sum-of-squares: 2.084

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.222e-08

\$`Microbial biomass`\$E4
Nonlinear regression model
model: response ~ a + exp(sowndiv)
data: DF
a
1
residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.17e-20

\$`Microbial biomass`\$E5
Nonlinear regression model

```
model: response ~ b * exp(sowndiv)
data: DF
      b
4.55e-27
residual sum-of-squares: 12.44
```

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.650e-08

```
$`Microbial biomass`$E21
Generalized nonlinear least squares fit
Model: response ~ a + b * exp(sowndiv)
Data: DF
Log-likelihood: 34.22429
```

Coefficients:

a	b
3.635465e-01	1.366553e-27

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
power
0.00613502
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1599219

```
$`Microbial biomass`$E22
Generalized nonlinear least squares fit
Model: response ~ a + b * exp(sowndiv)
Data: DF
Log-likelihood: 34.84026
```

Coefficients:

a	b
3.696510e-01	1.313098e-27

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
expon
-0.008872625
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1728556

```
$`Microbial biomass`$E31
Generalized nonlinear least squares fit
Model: response ~ a + exp(c * sowndiv)
Data: DF
Log-likelihood: 36.78189
```

Coefficients:


```

          a          c
-0.66341259  0.00369182

```

```

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
0.02756984
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1501559

```

```

$`Microbial biomass `E32
Generalized nonlinear least squares fit
Model: response ~ a + exp(c * sowndiv)
Data: DF
Log-likelihood: 37.16667

```

```

Coefficients:
          a          c
-0.654360178  0.003070372

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
-0.007778773
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1664499

```

```

$`Microbial biomass `E41
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -1729.079

```

```

Coefficients:
          a
-2.462211

```

```

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
15.07020
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.06724473

```

```

$`Microbial biomass `E42
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF

```

Log-likelihood: -800.9884

Coefficients:

 a
-3.099336

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

 expon
1.014765

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.6999242

\$`Microbial biomass `E51

Generalized nonlinear least squares fit

Model: response ~ b * exp(sowndiv)

Data: DF

Log-likelihood: -1656.492

Coefficients:

 b
0.07776686

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

 power
14.43074

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.07169706

\$`Microbial biomass `E52

Generalized nonlinear least squares fit

Model: response ~ b * exp(sowndiv)

Data: DF

Log-likelihood: -38.41257

Coefficients:

 b
4.549951e-27

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

 expon
-0.01258417

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.4333031

\$`Microbial biomass `E61

Generalized nonlinear least squares fit
 Model: response ~ exp(c * sowndiv)
 Data: DF
 Log-likelihood: -25.83710

Coefficients:

 c
 -0.9774835

Variance function:

Structure: Power of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
 power
 0.3505123
 Degrees of freedom: 82 total; 81 residual
 Residual standard error: 0.1982788

\$`Microbial biomass `E62
 Generalized nonlinear least squares fit
 Model: response ~ exp(c * sowndiv)
 Data: DF
 Log-likelihood: -31.04317

Coefficients:

 c
 -0.6919993

Variance function:

Structure: Exponential of variance covariate
 Formula: ~sowndiv
 Parameter estimates:
 expon
 0.01705533
 Degrees of freedom: 82 total; 81 residual
 Residual standard error: 0.3070777

\$`Microbial biomass `Ea10
 Generalized nonlinear least squares fit
 Model: response ~ a + exp(sowndiv)
 Data: DF
 Log-likelihood: -4912.516

Coefficients:

a. (Intercept)	a.leg
-2963126	911706

Degrees of freedom: 82 total; 80 residual
 Residual standard error: 2.553606e+25

\$`Microbial biomass `Ea12
 Generalized nonlinear least squares fit
 Model: response ~ exp(c * sowndiv)
 Data: DF

Log-likelihood: -29.32285

Coefficients:

c.(Intercept)	c.leg
0.5483713	-0.7065756

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.3502891

\$`Microbial biomass `Ea911

Generalized nonlinear least squares fit

Model: response ~ a + exp(c * sowndiv)

Data: DF

Log-likelihood: 38.94326

Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
-0.5325662079	-0.0877833815	-0.0009775838	0.0037441116

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.01055477

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1519019

\$`Microbial biomass `Ea921

Generalized nonlinear least squares fit

Model: response ~ a + exp(c * sowndiv)

Data: DF

Log-likelihood: 39.53611

Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
-0.517567126	-0.094386991	-0.001603329	0.003912477

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.008542137

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.164846

\$`Microbial biomass `Ea1011

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -1728.390

Coefficients:

```
a.(Intercept)      a.leg
-2.38346200      -0.04499927
```

```
Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
15.07342
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.06677758
```

```
$`Microbial biomass `Ea1021
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -800.886
```

```
Coefficients:
a.(Intercept)      a.leg
-3.9000608        0.4616403
```

```
Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
1.014838
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7029687
```

```
$`Microbial biomass `Ea121
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
Data: DF
Log-likelihood: -24.80916
```

```
Coefficients:
c.(Intercept)      c.leg
-0.2173166        -0.4285978
```

```
Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
0.3322020
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2024580
```

```
$`Microbial biomass `Ea1221
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
Data: DF
```


