OBJETIVO 2A - % DE ESPECIES MIGRANTES

Linear mixed model fit by REML ['lmerMod']

Formula: RiquezadeParasitos ~ migrantes + (1 | RiquezadeHospedeiros) +

(1 | Prevalencia) + (1 | TotaldeAves)

Data: dados

REML criterion at convergence: 473

Scaled residuals:

Min 1Q Median 3Q Max

-0.195217 -0.073766 0.001814 0.043097 0.293199

Random effects:

Groups Name Variance Std.Dev.

Prevalencia (Intercept) 5.014e+01 7.08078

TotaldeAves (Intercept) 8.636e-04 0.02939

RiquezadeHospedeiros (Intercept) 1.083e+02 10.40524

Residual 9.950e-01 0.99748

Number of obs: 62, groups:

Prevalencia, 61; TotaldeAves, 59; RiquezadeHospedeiros, 41

Fixed effects:

Estimate Std. Error t value

(Intercept) 17.14528 2.22643 7.701

migrantes -0.01071 0.13802 -0.078

Correlation of Fixed Effects:

(Intr)

migrantes -0.523

convergence code: 0

Model failed to converge with max|grad| = 0.0175467 (tol = 0.002, component 1)

> parameters::p\_value(model)

Parameter p

1 (Intercept) 1.352153e-14

2 migrantes 9.381233e-01

> summary(model1)

Linear mixed model fit by REML ['lmerMod']

Formula: RiquezadeParasitos ~ migrantes + RiquezadeHospedeiros + Prevalencia +

(1 | TotaldeAves)

Data: dados

REML criterion at convergence: 424.8

Scaled residuals:

Min 1Q Median 3Q Max

-2.3227 -0.5544 -0.1206 0.3197 4.6369

Random effects:

Groups Name Variance Std.Dev.

TotaldeAves (Intercept) 0.00 0.000

Residual 50.68 7.119

Number of obs: 62, groups: TotaldeAves, 59

Fixed effects:

Estimate Std. Error t value

(Intercept) -7.61773 2.56181 -2.974

migrantes -0.06839 0.09866 -0.693

RiquezadeHospedeiros 0.32831 0.03508 9.359

Prevalencia 0.42793 0.07424 5.764

Correlation of Fixed Effects:

(Intr) mgrnts RqzdHs

migrantes -0.218

RiqzdHspdrs -0.675 0.028

Prevalencia -0.592 -0.208 0.046

convergence code: 0

boundary (singular) fit: see ?isSingular

> parameters::p\_value(model1)

Parameter p

1 (Intercept) 2.943574e-03

2 migrantes 4.881521e-01

3 RiquezadeHospedeiros 8.050708e-21

4 Prevalencia 8.193831e-09

% DE AVES MIGRANTES

> model1 <- lmer(RiquezadeParasitos~abundance + RiquezadeHospedeiros + Prevalencia + migrantes + n\_migrants

+ + (1|TotaldeAves) + (1|Temp) + (1|Prec) + (1|Bioma) , dados)

> summary(model1)

Linear mixed model fit by REML ['lmerMod']

Formula: RiquezadeParasitos ~ abundance + RiquezadeHospedeiros + Prevalencia +

migrantes + n\_migrants + (1 | TotaldeAves) + (1 | Temp) +

(1 | Prec) + (1 | Bioma)

Data: dados

REML criterion at convergence: 405.8

Scaled residuals:

Min 1Q Median 3Q Max

-1.03056 -0.30750 0.02092 0.20490 2.33250

Random effects:

Groups Name Variance Std.Dev.

Prec (Intercept) 1.513e+01 3.889413

TotaldeAves (Intercept) 1.135e-06 0.001065

Temp (Intercept) 2.139e+01 4.624969

Bioma (Intercept) 2.360e+00 1.536391

Residual 1.150e+01 3.390590

Number of obs: 61, groups: Prec, 59; TotaldeAves, 58; Temp, 44; Bioma, 7

Fixed effects:

Estimate Std. Error t value

(Intercept) -6.51660 2.53041 -2.575

abundance -33.04767 24.90410 -1.327

RiquezadeHospedeiros 0.30007 0.03251 9.230

Prevalencia 0.43686 0.07178 6.086

migrantes 0.08920 0.30563 0.292

n\_migrants 0.08422 0.02635 3.196

Correlation of Fixed Effects:

(Intr) abndnc RqzdHs Prvlnc mgrnts

abundance -0.159

RiqzdHspdrs -0.552 0.115

Prevalencia -0.549 0.058 -0.041

migrantes 0.015 -0.910 -0.092 -0.078

n\_migrants 0.118 0.091 -0.083 -0.070 -0.307

> parameters::p\_value(model1)

Parameter p

1 (Intercept) 1.001497e-02

2 abundance 1.845097e-01

3 RiquezadeHospedeiros 2.708739e-20

4 Prevalencia 1.158251e-09

5 migrantes 7.703888e-01

6 n\_migrants 1.391084e-03

> (aov <- anova(model1))

Type III Analysis of Variance Table with Satterthwaite's method

Sum Sq Mean Sq NumDF DenDF F value Pr(>F)

abundance 20.24 20.24 1 46.621 1.7609 0.19097

RiquezadeHospedeiros 979.37 979.37 1 20.911 85.1911 8.035e-09 \*\*\*

Prevalencia 425.80 425.80 1 47.256 37.0384 1.957e-07 \*\*\*

migrantes 0.98 0.98 1 47.109 0.0852 0.77167

n\_migrants 117.46 117.46 1 2.599 10.2176 0.06028 .

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

PLASMODIUM

> model2 <- lmer(RiquezaP~abundance + RiquezadeHospedeiros + PrevalenceP + migrantes + n\_migrants

+ + (1|TotaldeAves) + (1|Temp) + (1|Prec) + (1|Bioma) , dados)

Warning messages:

1: In checkConv(attr(opt, "derivs"), opt$par, ctrl = control$checkConv, :

unable to evaluate scaled gradient

2: In checkConv(attr(opt, "derivs"), opt$par, ctrl = control$checkConv, :

Model failed to converge: degenerate Hessian with 2 negative eigenvalues

> summary(model2)

Linear mixed model fit by REML ['lmerMod']

Formula: RiquezaP ~ abundance + RiquezadeHospedeiros + PrevalenceP + migrantes +

n\_migrants + (1 | TotaldeAves) + (1 | Temp) + (1 | Prec) + (1 | Bioma)

Data: dados

REML criterion at convergence: 367.7

Scaled residuals:

Min 1Q Median 3Q Max

-0.028316 -0.014196 -0.002702 0.008903 0.109067

Random effects:

Groups Name Variance Std.Dev.

Prec (Intercept) 2.344e+01 4.8414649

TotaldeAves (Intercept) 6.944e-07 0.0008333

Temp (Intercept) 5.284e+00 2.2987383

Bioma (Intercept) 5.460e-01 0.7389224

Residual 1.252e-02 0.1119065

Number of obs: 61, groups: Prec, 59; TotaldeAves, 58; Temp, 44; Bioma, 7

Fixed effects:

Estimate Std. Error t value

(Intercept) -6.038776 1.572468 -3.840

abundance -11.174305 19.118884 -0.584

RiquezadeHospedeiros 0.235158 0.004431 53.069

PrevalenceP 54.246188 8.374031 6.478

migrantes 0.037831 0.238378 0.159

n\_migrants 0.015763 0.006776 2.326

Correlation of Fixed Effects:

(Intr) abndnc RqzdHs PrvlnP mgrnts

abundance -0.289

RiqzdHspdrs -0.153 0.756

PrevalenceP -0.730 0.182 0.127

migrantes 0.122 -0.937 -0.796 -0.164

n\_migrants -0.339 0.963 0.751 0.335 -0.946

convergence code: 0

unable to evaluate scaled gradient

Model failed to converge: degenerate Hessian with 2 negative eigenvalues

> (aov <- anova(model2))

Analysis of Variance Table

Df Sum Sq Mean Sq F value

abundance 1 3.427 3.427 273.6599

RiquezadeHospedeiros 1 97.108 97.108 7754.3767

PrevalenceP 1 0.094 0.094 7.5015

migrantes 1 0.668 0.668 53.3477

n\_migrants 1 0.068 0.068 5.4117

> parameters::p\_value(model2)

Parameter p

1 (Intercept) 1.228749e-04

2 abundance 5.589080e-01

3 RiquezadeHospedeiros 0.000000e+00

4 PrevalenceP 9.300412e-11

5 migrantes 8.739033e-01

6 n\_migrants 2.000274e-02

HAEMOPROTEUS

> model3 <- lmer(RiquezaH~abundance + RiquezadeHospedeiros + PrevalenceH + migrantes + n\_migrants

+ + (1|TotaldeAves) + (1|Temp) + (1|Prec) + (1|Bioma) , dados)

boundary (singular) fit: see ?isSingular

> summary(model3)

Linear mixed model fit by REML ['lmerMod']

Formula: RiquezaH ~ abundance + RiquezadeHospedeiros + PrevalenceH + migrantes +

n\_migrants + (1 | TotaldeAves) + (1 | Temp) + (1 | Prec) + (1 | Bioma)

Data: dados

REML criterion at convergence: 281.5

Scaled residuals:

Min 1Q Median 3Q Max

-1.6591 -0.5621 -0.1442 0.2696 3.4752

Random effects:

Groups Name Variance Std.Dev.

Prec (Intercept) 1.276e-07 0.0003573

TotaldeAves (Intercept) 4.709e-06 0.0021699

Temp (Intercept) 6.846e-01 0.8274204

Bioma (Intercept) 0.000e+00 0.0000000

Residual 5.143e+00 2.2677950

Number of obs: 61, groups: Prec, 59; TotaldeAves, 58; Temp, 44; Bioma, 7

Fixed effects:

Estimate Std. Error t value

(Intercept) -1.66198 0.76186 -2.181

abundance 0.58826 8.77807 0.067

RiquezadeHospedeiros 0.07524 0.01246 6.038

PrevalenceH 66.61219 8.00243 8.324

migrantes -0.12120 0.10589 -1.145

n\_migrants 0.05012 0.01215 4.125

Correlation of Fixed Effects:

(Intr) abndnc RqzdHs PrvlnH mgrnts

abundance -0.171

RiqzdHspdrs -0.718 0.092

PrevalenceH -0.282 0.103 -0.141

migrantes -0.026 -0.898 -0.017 -0.111

n\_migrants 0.232 -0.065 -0.130 -0.236 -0.228

convergence code: 0

boundary (singular) fit: see ?isSingular

> (aov <- anova(model3))

Analysis of Variance Table

Df Sum Sq Mean Sq F value

abundance 1 18.26 18.26 3.5514

RiquezadeHospedeiros 1 382.31 382.31 74.3380

PrevalenceH 1 481.49 481.49 93.6221

migrantes 1 0.22 0.22 0.0434

n\_migrants 1 87.52 87.52 17.0174

> parameters::p\_value(model3)

Parameter p

1 (Intercept) 2.914810e-02

2 abundance 9.465700e-01

3 RiquezadeHospedeiros 1.557907e-09

4 PrevalenceH 8.504693e-17

5 migrantes 2.523906e-01

6 n\_migrants 3.703898e-05