

Čuda J., Hadincová V., Petřík P., Hummel J., Sejfová Z., Borovec J., Bureš L., Wild J. & Hradecký J. (2024) Environmental factors shape the relationship between seed bank and vegetation on periodically emerged alluvial gravel bars of the Elbe river. – *Preslia* 96: 223–246.

Supplementary Data S1. R code for univariate and multivariate analyses.

```
metaMDS (male.spe.vegdist, distance="bray", k=2, maxit=999, trymax=500, wascores=TRUE)
```

```
male.rep<-gl (60, 3)
```

```
envfit (male.spe.NMDS, male.env.sc[, c (5, 11, 29, 46) ], permutations=999, strata=male.rep)
```

```
envfit (male.spe.NMDS, male.spe, permutations=999, strata=male.rep)
```

```
envfit (male.spe.NMDS, male.env.sc[, c (14:16, 48:57, 59, 61, 77) ], permutations=999, na.rm = TRUE, strata=male.rep)
```

The NMDS for vegetation species composition and fitting of environmental variables, species and traits using the *envfit* function. Analogous code with modified permutation scheme was used for seed bank community composition.

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```
sbmale.rep<-gl (119, 2)
```

```
dbrda (sbmale.spe~type, data=sbmale.env, distance="bray", strata=sbmale.rep)
```

```
envfit (malesb.dbrda, sbmale.spe, permutations=999, na.rm=TRUE, strata=sbmale.rep)
```

The dbRDA testing the difference between vegetation and seed bank species composition and fitting the species using the *envfit* function.

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```
glmer (meanw_seed~scale (trans)+scale (unfl.1)+I (scale (unfl.1) ^2)+scale (sand)+I (scale (sand) ^2)+(1|locality/transect)+(1|year) , family=Gamma, data=seedmass_test)
```

The GLMM testing the effect of transversal position of the transect (transversal), the duration of the gravel bar emergence in the preceding vegetation season and its quadratic term (unfl.1), the sand proportion and its quadratic term (sand).

Random factors were locality, transect (nested in locality) and year.

.....

```
lmer (vegdist~scale (trans)+scale (unfl0)+scale (veg_ rich)+scale (sb_ rich)+(1|locality/transect)+(1|year) , data=sorensen2)
```

The LMM model testing the effect of transversal position of the transect (trans), the duration of the gravel bar emergence in the vegetation season (unfl0), vegetation (veg_ rich) and seed bank species richness (sb_ rich) were predictors.

Random factors were locality, transect (nested in locality) and year.