Supplementary material

Generalized Linear Mixed-Effects models (GLMM) were used for analyses, allowing the incorporation of time (session and day) and space (grid) dependence through the use of random effects factors. Species were considered a random factor since differences among species were not the main focus of our study. However, different species may present different within-group variances, and may be differently affected by the independent variables included in our models. Thus we computed dependent variables considering the data from the six most common species and we considered the categorical variable "species" as a random intercept and slope factor in all models, excepting those for richness (Zuur et al. 2009).

R Script:
# Richness
attach(richness)
ric.cte=lmer (formula= n.species ~ 1 + (1|grid) + (1|session), family=poisson)
ric.trap=lmer (formula= n.species ~ trap + (1|grid) + (1|session), family=poisson)

# Number of individuals
attach(indiv.)
Ind.cte = lmer (formula=n.individuals ~1 + (1|grid) + (1|session) + (1|obs)+ (1+trap|species), family=poisson)
Ind.trap = lmer (formula=n.individuals~trap + (1|grid) + (1|session) +(1|obs)+ (1+trap|species), family=poisson)

# Number of recaptures
attach(recapt)
Recap.cte = lmer (formula = n.recap ~ 1 + (1|grid) + (1|session) + (1|tag) + (1+trap|species), family=poisson)
Recap.trap = lmer (formula = n.recap ~ trap + (1|grid) + (1|session) + (1|tag) + (1+trap|species), family=poisson)

# Individual traits
attach(age.sex)
trap = lmer (n.capt ~ trap + (1|grid) + (1|session) + (1|obs)+ (1+trap|species), family=poisson)
age = lmer (n.capt ~ age + (1|grid) + (1|session) +(1|obs)+ (1+trap|species), family=poisson)
sex = lmer (n.capt ~ sex + (1|grid) (1|session) + (1|obs)+ (1+trap|species), family=poisson)
sex_plus_age = lmer (n.capt ~ sex + age + (1|grid) + (1|session) +(1|obs)+ (1 + age + sex|species), family=poisson)
trap_plus_age = lmer (n.capt ~ trap + age + (1|grid) + (1|session) + (1|obs) + (1 + trap + age|species), family=poisson)
trap_plus_sex = lmer (n.capt ~ trap + sex + (1|grid) + (1|session) + (1|obs) + (1 + trap + sex|species), family=poisson)
trap_plus_sex_plus_age = lmer (n.capt ~ trap + sex + age + (1|grid) + (1|session) + (1|obs) + (1 + trap + age + sex|species), family=poisson)
trap_int_sex = lmer (n.capt ~ trap * sex + (1|grid) + (1|session) + (1|obs) + (1 + trap + sex + trap:sex|species), family=poisson)
trap_int_age = lmer (n.capt ~ trap * age + (1|grid) + (1|session) + (1|obs) + (1 + trap + age + trap:age|species), family=poisson)
age_int_sex = lmer (n.capt ~ age * sex + (1|grid) + (1|session) + (1|obs) + (1 + age + sex + age:sex|species), family=poisson)
add_int_sex = lmer (n.capt ~ trap + sex + age + trap:sex + (1|grid) + (1|session) + (1|obs) + (1 + trap + age + sex + trap:sex|species), family=poisson)
add_int_age = lmer (n.capt ~ trap + sex + age + trap:age + (1|grid) + (1|session) + (1|obs) + (1 + trap + age + sex + trap:age|species), family=poisson)
add_int_age_age = lmer (n.capt ~ trap + sex + age + trap:age + trap:sex + (1|grid) + (1|session) + (1|obs) + (1 + trap + age + sex + trap:age + trap:sex|species), family=poisson)

# Weather condition
attach(rain.temp)
cte = lmer (n.capt ~ 1 + (1|data) + (1|grid) + (1|session) + (1|obs) + (1|species), family=poisson)
trap = lmer (n.capt ~ trap + (1|data) + (1|grid) + (1|session) + (1|obs) + (1 + trap|species), family=poisson)
rain = lmer (n.capt ~ rain + (1|data) + (1|grid) + (1|session) + (1|obs) + (1 + rain|species), family=poisson)
temp = lmer (n.capt ~ temp + (1|data) + (1|grid) + (1|session) + (1|obs) + (1 + temp|species), family=poisson)
temp_plus_rain = lmer (n.capt ~ rain + temp + (1|data) + (1|grid) + (1|session) + (1|obs) + (1 + rain + temp|species), family=poisson)
trap_plus_rain = lmer (n.capt ~ trap + rain + (1|data) + (1|grid) + (1|session) + (1|obs) + (1 + trap + rain|species), family=poisson)
trap_plus_temp = lmer (n.capt ~ trap + temp + (1|data) + (1|grid) + (1|session) + (1|obs) + (1 + trap + temp|species), family=poisson)
trap_plus_temp_temp = lmer (n.capt ~ trap + temp + (1|data) + (1|grid) + (1|session) + (1|obs) + (1 + trap + temp + temp|species), family=poisson)
trap_int_rain = lmer (n.capt ~ trap * rain + (1|data) + (1|grid) + (1|session) + (1|obs) + (1 + trap * rain + trap:rain|species), family=poisson)
trap_int_temp = lmer (n.capt ~ trap*temp + (1|data) + (1|grid) + (1|session) + (1|obs) + (1 + trap + temp + trap:temp|species), family=poisson)

rain_int_temp = lmer (n.capt ~ rain*temp + (1|data) + (1|grid) + (1|session) + (1|obs) + (1 + rain + temp + rain:temp|species), family=poisson)

add_int_rain = lmer (n.capt ~ trap + rain + temp + trap:rain + (1|data) + (1|grid) + (1|session) + (1|obs) + (1 + trap + rain + temp + trap:rain|species), family=poisson)

add_int_temp = lmer (n.capt ~ trap + rain + temp + trap: + (1|data) + (1|grid) + (1|session) + (1|obs) + (1 + trap + rain + temp + trap:temp|species), family=poisson)

add_int_temp_rain = lmer (n.capt ~ trap + rain + temp + trap:rain + trap:temp + (1|data) + (1|grid) + (1|session) + (1|obs) + (1 + trap + rain + temp + trap:rain + trap:temp|species), family=poisson)