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## Appendix 1

Table A1. Repeatability estimates of behavioural variables from repeated release and open-field tests and foraging tests in simple landscapes of food resources and risks of 42 individuals of *Marpissa muscosa*. Shown are repeatability (R), their standard errors (SE), lower and upper 95% confidence intervals (Low-CI and Upper-CI) and p-values from log-likelihood ratio tests, all estimated with the R package *rptR*. For frequencies we give original-scale approximations. \*Variables were log-transformed.

Variable	R	SE	Low-CI	Upper-CI	p
<u>Open-field test</u>					
Latency to enter arena*	0.25	0.10	0.06	0.43	<b>0.004</b>
Cumulative duration in edge zone*	0.01	0.05	0.00	0.16	1.000
Cumulative duration moving*	0.49	0.09	0.30	0.65	<b>&lt;0.001</b>
Percent mean mobility	0.24	0.10	0.04	0.43	<b>0.006</b>
Mean distance to edge	0.25	0.10	0.04	0.43	<b>0.004</b>
Frequency of entries in edge zone	0.24	0.09	0.04	0.40	<b>&lt;0.001</b>
<u>Foraging test</u>					
Latency to approach first food patch*	0.15	0.08	0.02	0.31	<b>0.016</b>
Cumulative duration at food patches	0.65	0.07	0.50	0.75	<b>&lt;0.001</b>
Mean duration at food patch	0.65	0.07	0.50	0.76	<b>&lt;0.001</b>
CV of mean duration at food patch	0.28	0.09	0.11	0.44	<b>&lt;0.001</b>
Frequency of food patch visits	0.21	0.08	0.05	0.35	<b>&lt;0.001</b>
Cumulative duration in arena	0.28	0.08	0.11	0.43	<b>&lt;0.001</b>
Total frequency of arena entries	0.36	0.07	0.20	0.48	<b>&lt;0.001</b>
Cumulative duration moving*	0.47	0.08	0.31	0.61	<b>&lt;0.001</b>

Table A2. Results of PCA with oblimin rotation of repeatable variables quantified during the open-field test. Shown are loadings and correlations for rotated components, Eigenvalues and explained variance. \*Variables were log-transformed.

Variable	PC1		PC2	
	Loadings	Correlation	Loadings	Correlation
Latency to enter arena*	<b>0.61</b>	<b>-0.60</b>		-0.10
Cumulative duration moving*	0.39	0.56	<b>0.65</b>	<b>0.75</b>
Percent mean mobility	<b>0.69</b>	<b>0.80</b>	0.46	0.63
Mean distance to edge	<b>0.89</b>	<b>0.85</b>	0.17	0.07
Frequency of entries in edge zone	0.13	0.11	<b>0.95</b>	<b>0.91</b>
Eigenvalue		<b>1.57</b>		<b>1.02</b>
Explained variance (%)		<b>49</b>		<b>21</b>

Table A3. Results of PCA with oblimin rotation of variables quantified during the foraging test. Shown are loadings and correlations for rotated components, Eigenvalues and explained variance. \*Variables were log-transformed.

Variable	PC1		PC2	
	Loadings	Correlation	Loadings	Correlation
Latency to approach first food patch*	0.54	-0.53	0.25	-0.22
Cumulative duration at food patches	<b>0.93</b>	<b>0.94</b>		-0.12
Mean duration at food patch	<b>0.93</b>	<b>0.94</b>		-0.12
CV of mean duration at food patch	0.47	0.50	<b>0.66</b>	<b>-0.68</b>
Frequency of food patch visits	0.25	-0.23	<b>0.64</b>	<b>0.63</b>
Cumulative duration in arena	<b>0.71</b>	<b>0.69</b>	0.53	0.50
Total frequency of arena entries	<b>-0.69</b>	<b>-0.69</b>	0.15	0.17
Cumulative duration moving*		-0.12	<b>0.84</b>	<b>0.85</b>
Eigenvalue		<b>1.82</b>		<b>1.39</b>
Explained variance (%)		<b>41</b>		<b>24</b>

Table A4. Among-individual covariance between activity/exploration of novel environments and foraging in landscapes of risks and resources of *Marpissa muscosa*. Shown are covariances between pairs of response variables and their 95% credibility intervals based on the posterior distributions of bivariate Bayesian mixed effects models.

Open-field behaviour	Foraging test behaviour	Covariance	Low CI	Upper CI
Boldness	Foraging intensity	0.00	-0.41	0.40
<b>Activity</b>	<b>Foraging intensity</b>	<b>0.36</b>	<b>0.01</b>	<b>0.69</b>
Boldness	Foraging movement	0.01	-0.44	0.46
Activity	Foraging movement	0.24	-0.16	0.65

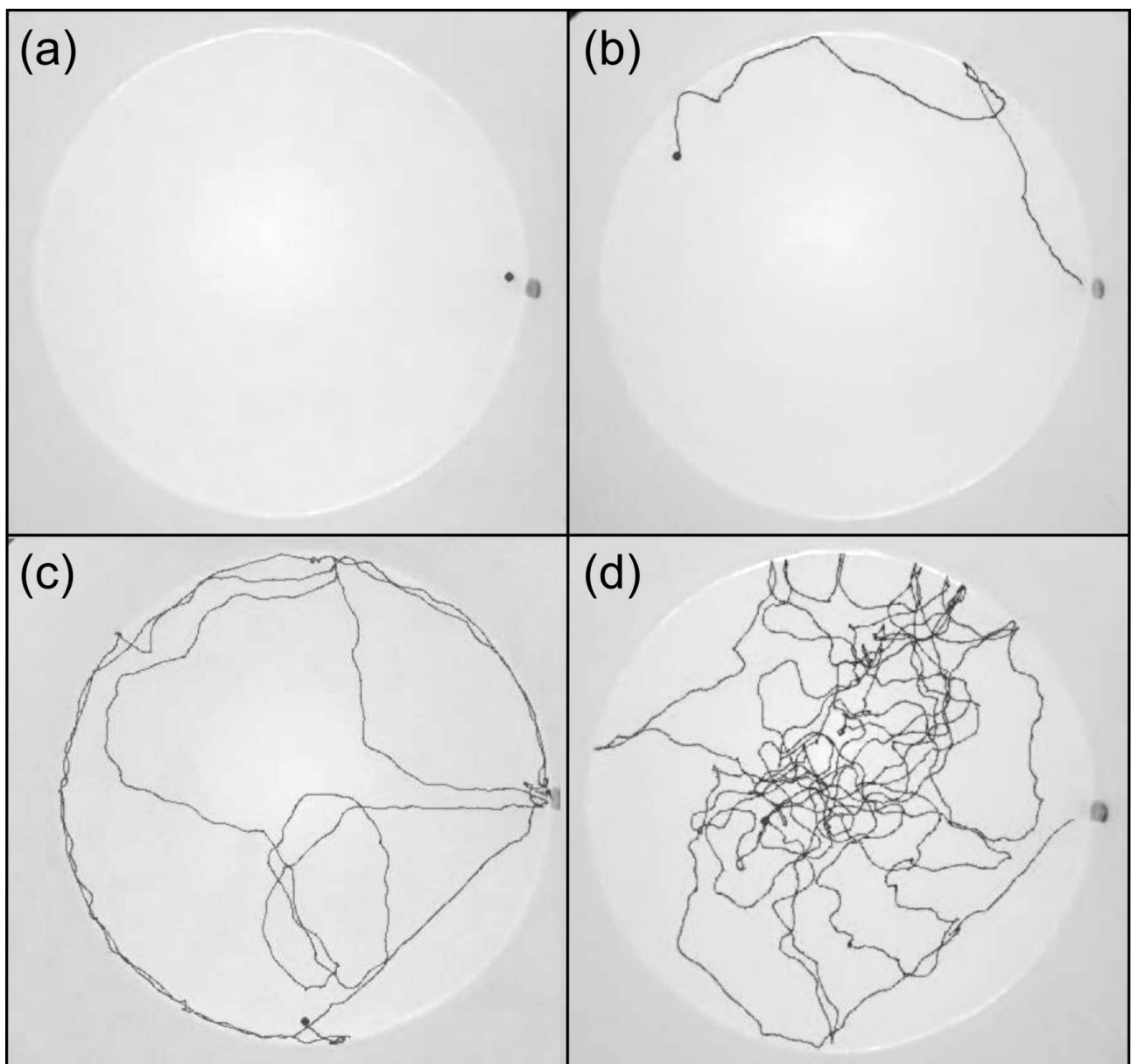


Figure A1. Visualization of tracks of four different individuals of *Marpissa muscosa* in the open-field test. While some individuals did not move at all (a), others stayed close to the rim (b, c) and some moved mostly in the center of the arena (d).

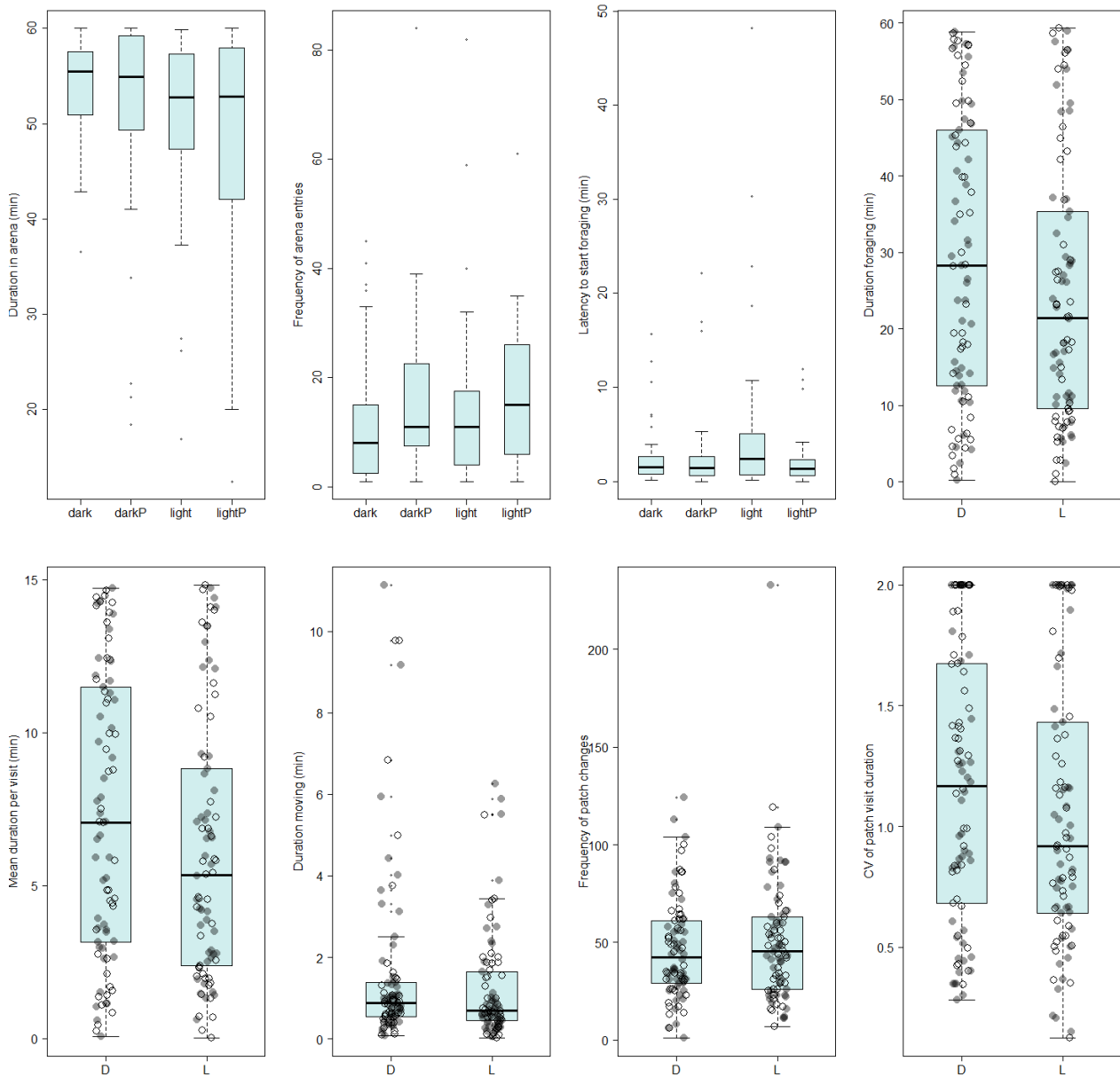


Figure A2. Plots visualizing the effects of the risk treatments on all variables recorded. Where only constant low (D) and constant high (L) risks are given, variable high and low risk is indicated by white and dark dots respectively.

## R<sup>2</sup> conditional and R<sup>2</sup> marginal

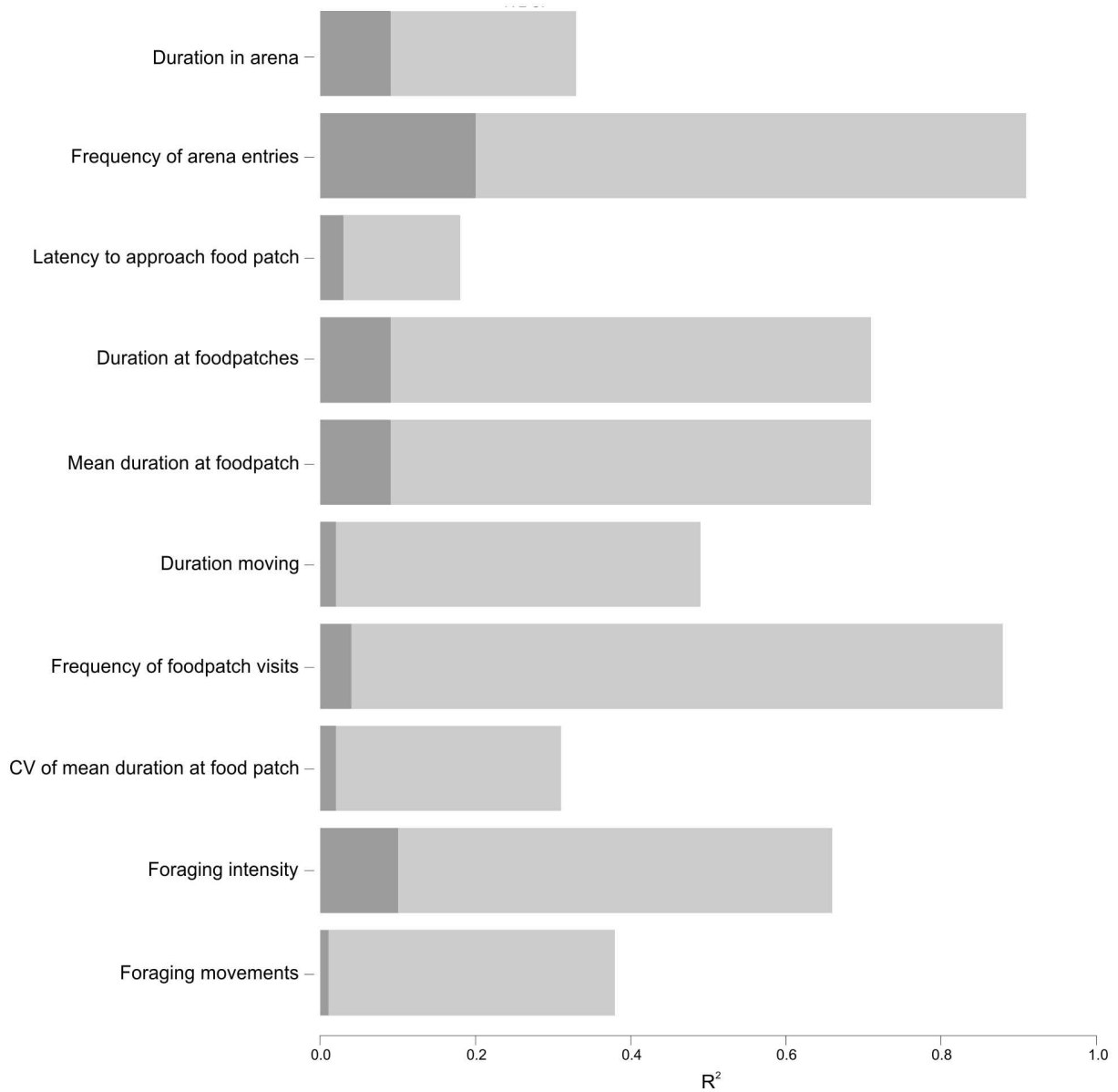


Figure A3. Proportion of variance explained by the model (R<sup>2</sup> conditional = random and fixed factors; light grey) and variance explained by the fixed factors alone (R<sup>2</sup> marginal; dark grey).