Ecography

ECOG-05162
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Supplementary material

Appendix 1

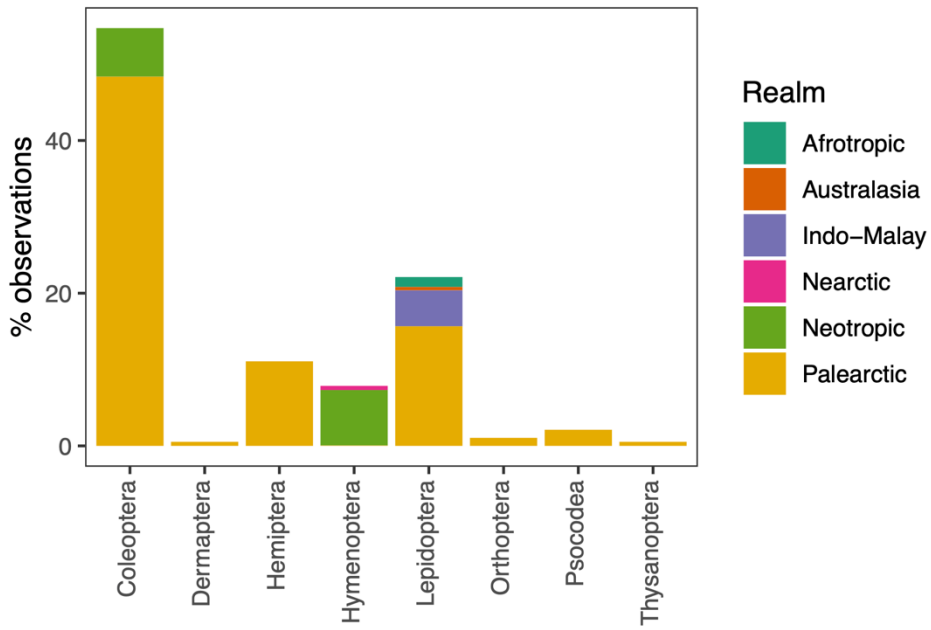

Figure A1. Class and realm breakdown as a percentage of total observations (one observation is a species presence/absence at a site).

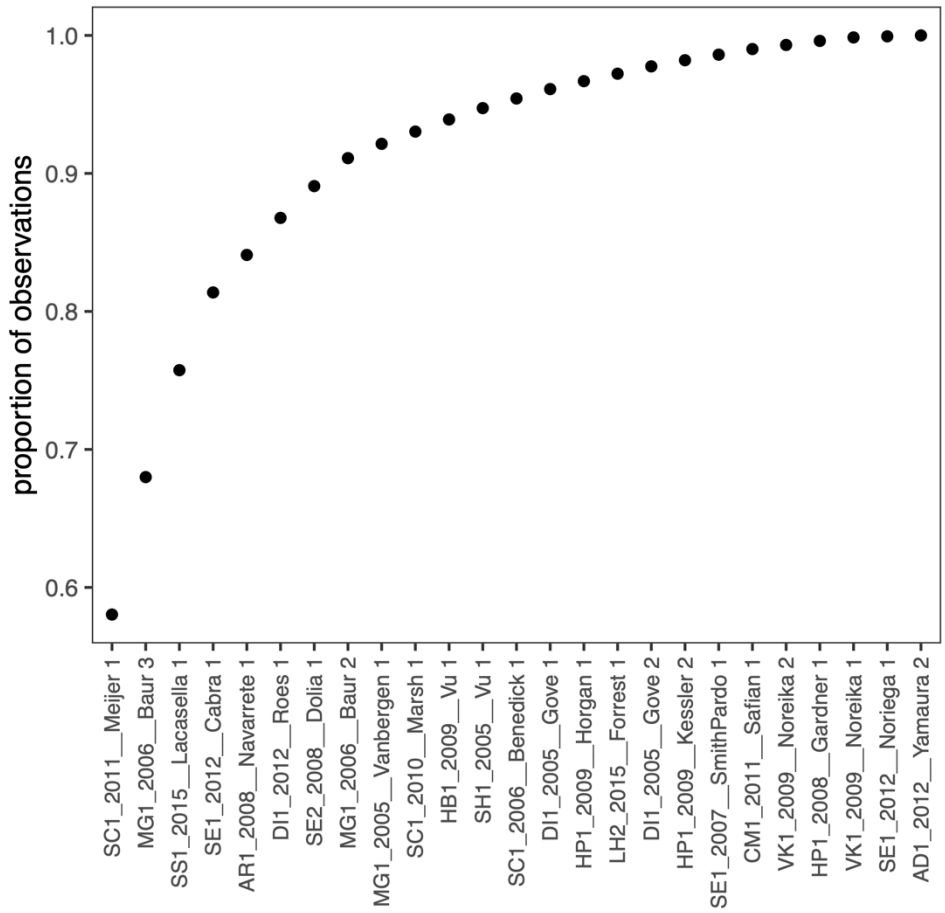

Figure A2. Cumulative proportion of observations per study.

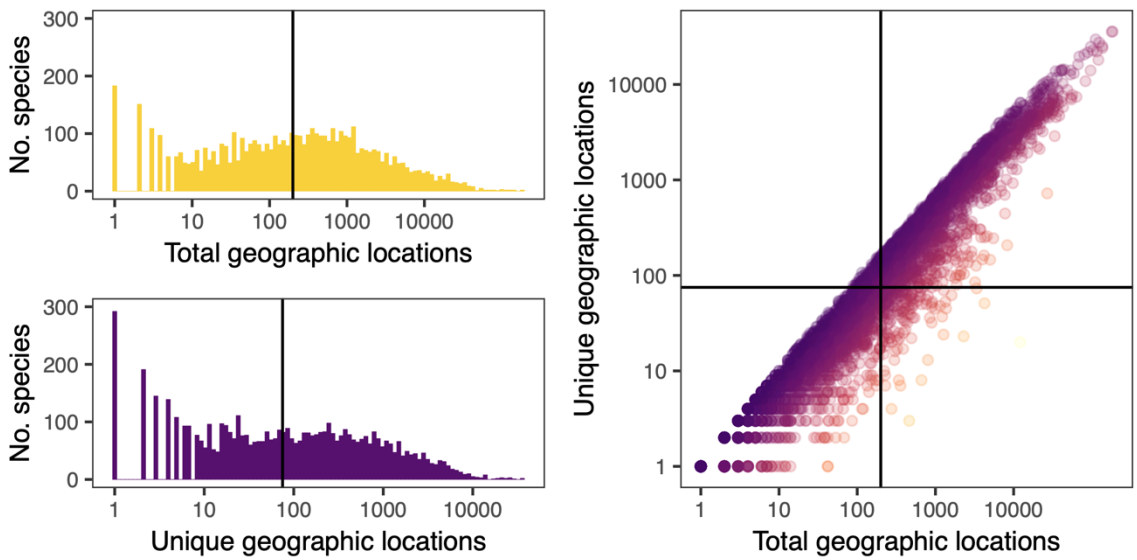

Figure A3. Comparison total number of occurrences from GBIF with number of occurrences formed from unique latitude and longitudes at within 0.01° for all insect species in the full PREDICTs dataset extract. Histograms show that the distribution of occurrences is not strongly altered by focusing on only unique occurrence locations. The number of unique records are therefore strongly related to the number of total records, thus repeated sampling is unlikely to strongly affect our results. In the main manuscript we use species with >20 unique records.

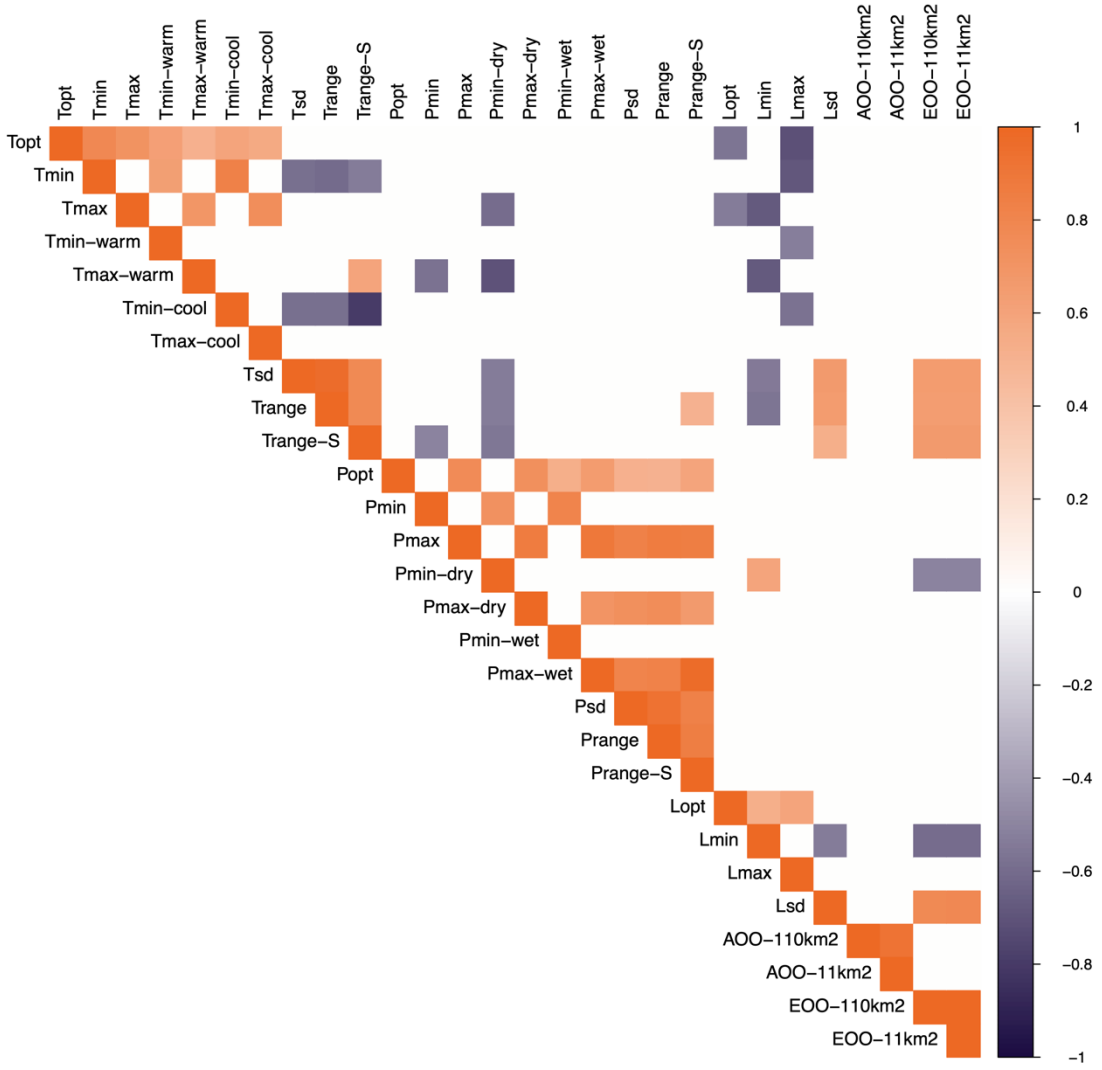

Figure A4. Pearson correlations (*r*) between all variables showing only correlations >0.5 or <-0.5. Each variable is rescaled within studies.

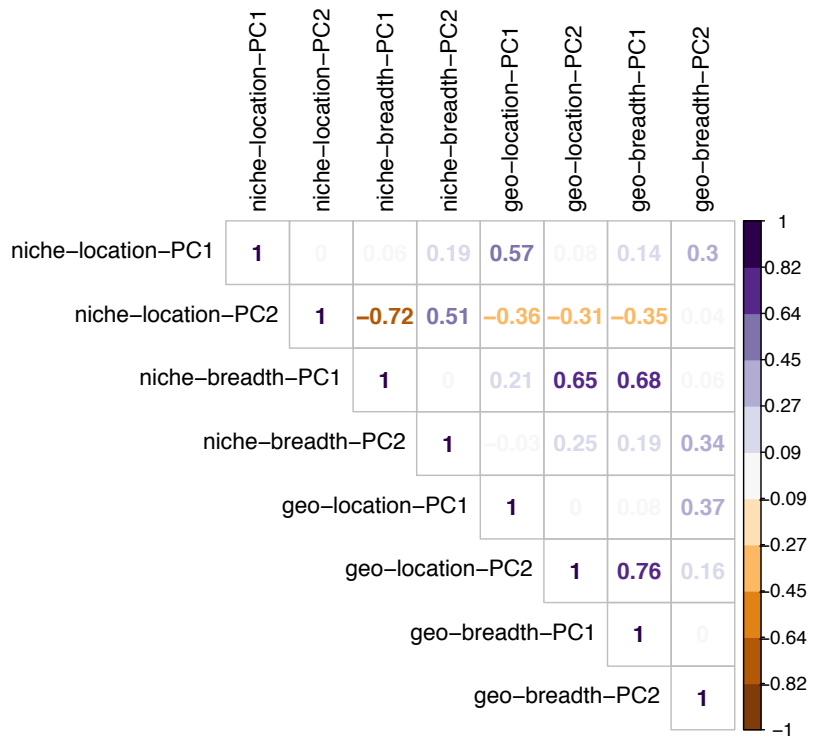

Figure A5. Pearson correlations (*r*) between the first two principal components of all variables used in our main analysis.

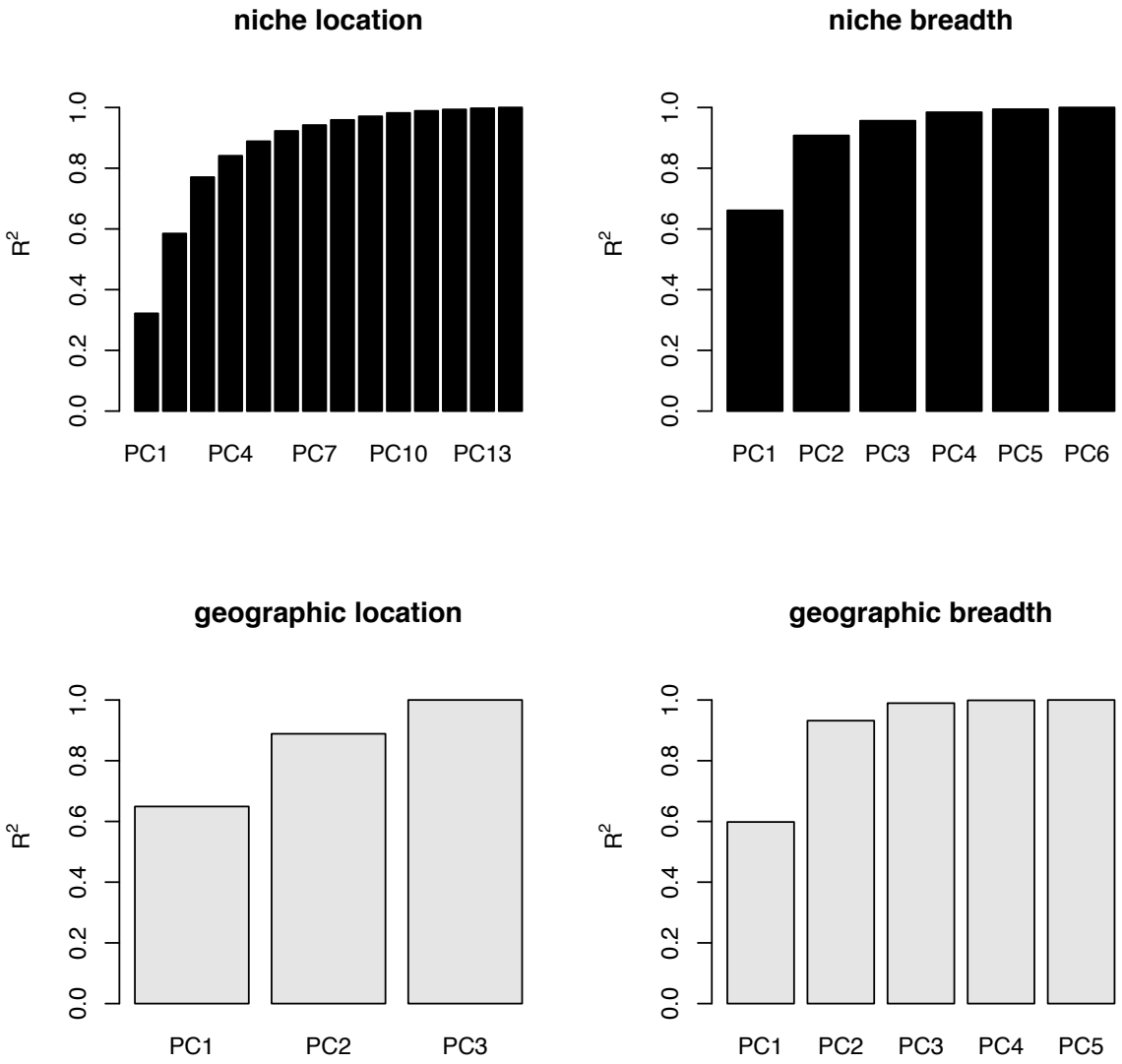

Figure A6. Scree plots of variance explained by each principal component for each niche and range property.

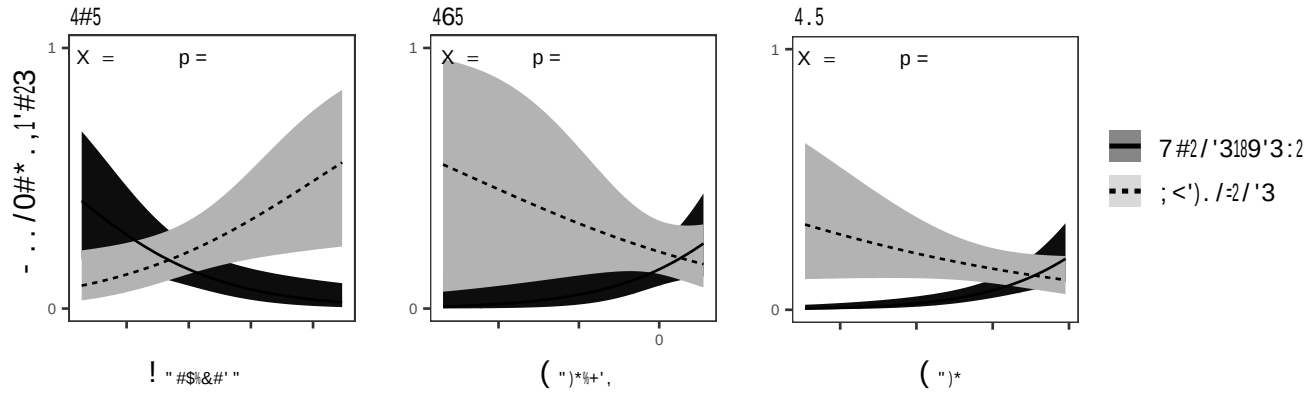

Figure A9. Fitted relationship showing how the relationship between occupancy and land-use depends on particular metrics of species' realized niche. The first round of models suggested occupancy rates in different land-use types depend on species (a) $T_{max\text{-}warm}$ and (b) $P_{min\text{-}dry}$, which both showed a significant reduction in log-likelihood when interaction terms were removed from the full model. (c) After excluding influential studies identified through sensitivity tests P_{min} was the most important realized niche metric. X^2 statistics with 1-degree of freedom. *p*-values indicate significance of trait-environment interaction terms. Effects shown are marginal effects, holding all other variables in the models at their mean values. Shaded regions are 95% confidence intervals.

Table A1. 28 metrics of geographic range and realized niches with hypothesised direction of effects in agroecosystems.

	Group	Metric	Method	Direction in agroecosystems
Geographic	Breadth	AOO_{11}	Sum of occupied 11km x 11km grid cells*	+
	Breadth	AOO_{110}	Sum of occupied 110km x 110km grid cells*	+
	Breadth	EOO_{11}	Sum of 11km x 11km grid cells between continentally constrained latitudinal limits*	+
	Breadth	EOO_{110}	Sum of 110km x 110km grid cells between continentally constrained latitudinal limits*	+
	Breadth	L_{sd}	Standard deviation of latitudes of occurrences	+
	Location	L_{opt}	Mean latitude of occurrences	+
	Location	L_{min}	5th percentile absolute latitude of occurrences	-
	Location	L_{max}	95th percentile absolute latitude of occurrences	+
Thermal	Location	T_{opt}	Mean annual temperature	+
	Location	T_{min}	5th percentile of annual temperature	-
	Location	T_{max}	95th percentile of annual temperature	+
	Location	$T_{min\text{-}cool}$	5th percentile of minimum monthly temperature	-
	Location	$T_{max\text{-}cool}$	95th percentile of minimum monthly temperature	+
	Location	$T_{min\text{-}warm}$	5th percentile of maximum monthly temperature	-
	Location	$T_{max\text{-}warm}$	95th percentile of maximum monthly temperature	+
	Breadth	T_{sd}	Standard deviation of annual temperature	+
	Breadth	T_{range}	$T_{max} - T_{min}$	+
	Breadth	$T_{range\text{-}seasonal}$	$T_{max\text{-}wet} - T_{min\text{-}dry}$	+
Precipitation	Location	P_{opt}	Mean annual precipitation	-
	Location	P_{min}	5th percentile of annual precipitation	-
	Location	P_{max}	95th percentile of annual precipitation	+
	Location	$P_{min\text{-}dry}$	5th percentile of minimum monthly precipitation	-
	Location	$P_{max\text{-}dry}$	95th percentile of minimum monthly precipitation	+
	Location	$P_{min\text{-}wet}$	5th percentile of maximum monthly precipitation	-
	Location	$P_{max\text{-}wet}$	95th percentile of maximum monthly precipitation	+
	Breadth	P_{sd}	Standard deviation of annual precipitation	+
	Breadth	P_{range}	$P_{max} - P_{min}$	+
	Breadth	$P_{range\text{-}seasonal}$	$P_{max\text{-}wet} - P_{min\text{-}dry}$	+

*see Newbold et al 2018 for full details on estimating these metrics.

Table A2. Model summaries for the first two principal components of species realized niches and geographic range properties for all studies before excluding influential studies. See Table 1 in the main manuscript for statistical details.

	Mature forest		Agriculture		LRT		
Terms	**β**	**se**	**β**	**se**	**χ2**	**p-value**	**p-adjust**
Univariate models:							
Niche location PC1	**-0.16**	**0.05**	**0.07**	**0.07**	**11.71**	**<0.001**	**<0.01**
Niche location PC2	-0.12	0.05	-0.05	0.07	0.90	0.34	0.59
Niche breadth PC1	0.05	0.05	0.11	0.08	0.82	0.37	0.59
Niche breadth PC2	**-0.24**	**0.07**	**0.02**	**0.10**	**6.25**	**<0.01**	**<0.05**
Range location PC1	-0.04	0.07	-0.01	0.09	0.11	0.74	0.83
Range location PC2	0.04	0.12	0.09	0.17	0.10	0.76	0.83
Range breadth PC1	0.07	0.05	0.08	0.08	0.05	0.83	0.83
Range breadth PC2	-0.22	0.08	-0.35	0.12	1.19	0.28	0.59
Multivariate models:							
Niche location PC1	**-0.16**	**0.05**	**0.07**	**0.07**	**11.2388**	**<0.001**	
Niche breadth PC2	**-0.24**	**0.07**	**0.01**	**0.10**	**5.5102**	**<0.05**	

Table A3. Model summaries for the first two principal components of species realized niches and geographic range properties for non-influential studies only, and where each species range property has > 100 unique locations within a 0.1° by 0.1° grid. See Table 1 in the main manuscript for statistical details.

	Mature forest		Agriculture		LRT		
Terms	**β**	**se**	**β**	**se**	**χ2**	**p-value**	**p-adjust**
Univariate models:							
Niche location PC1	**-0.32**	**0.06**	**0.31**	**0.08**	**25.02**	**<0.001**	**<0.001**
Niche location PC2	**-0.25**	**0.06**	**0.18**	**0.08**	**7.77**	**<0.05**	**0.057**
Niche breadth PC1	0.10	0.07	0.03	0.09	0.13	0.70	0.80
Niche breadth PC2	**-0.45**	**0.10**	**0.41**	**0.12**	**10.28**	**<0.001**	**<0.01**
Range location PC1	**0.08**	**0.08**	**-0.22**	**0.10**	**3.95**	**<0.05**	**0.07**
Range location PC2	0.02	0.15	-0.05	0.20	0.04	0.80	0.80
Range breadth PC1	-0.06	0.08	0.04	0.10	1.27	0.65	0.80
Range breadth PC2	-0.11	0.12	-0.26	0.16	4.58	0.0999	0.16
Multivariate models:							
Niche location PC1	**-0.38**	**0.07**	**0.12**	**0.10**	**27.65**	**<0.001**	
Niche location PC2	-0.06	0.08	-0.16	0.10	0.88	0.35	
Niche breadth PC2	-0.30	0.12	0.00	0.16	3.78	0.05	
Range location PC1	**0.21**	**0.10**	**-0.30**	**0.14**	**14.27**	**<0.001**	

Table A4. Model summaries for the principal components of species realized niches and geographic range properties for each case study. Summaries of case studies are presented in the table header. See Table 1 in the main manuscript for statistical details. Blank cells are given where models did not converge.

	Baur et al. 2006						**Meijer et al. 2011**						**Vu et al. 2005**						**Baur et al. 2006**					
Order	Lepidoptera (night)						Multiple						Lepidoptera						Lepidoptera (day)					
Region	Romania						Azores						Vietnam						Romania					
N-observations	2360						13750						195						480					
N-sites	8						125						3						8					
N-species	294						110						63						60					
Locations per species	2847						875						111						8120					
	Mature forest		Agriculture		LRT		Mature forest		Agriculture		LRT		Mature forest		Agriculture		LRT		Mature forest		Agriculture		LRT	
Individual terms:	**Coef.**	**s.e.**	**Coef.**	**s.e.**	**χ2**	***p***	**Coef.**	**s.e.**	**Coef.**	**s.e.**	**χ2**	***p***	**Coef.**	**s.e.**	**Coef.**	**s.e.**	**χ2**	***p***	**Coef.**	**s.e.**	**Coef.**	**s.e.**	**χ2**	***p***
Niche location PC1	0.09	0.12	0.02	0.2	0.2	0.716	-0.15	0.09	0.06	0.12	3	0.089	-0.65	0.41	-0.07	0.33			-0.24	0.18	0.01	0.27	0.9	0.35
Niche location PC2	0.18	0.14	-0.12	0.24	1.7	0.199	**-0.22**	**0.1**	**0.19**	**0.13**	**9.6**	**0.00**	-0.79	0.47	-0.36	0.38			0	0.16	-0.31	0.24	1.7	0.194
Niche breadth PC1	-0.13	0.14	0.13	0.23	1.2	0.274	**0.23**	**0.1**	**-0.09**	**0.13**	**5.8**	**0.017**	6.3	4.12	0.64	3.77	3.1	0.084	-0.26	0.16	0.17	0.24	3.4	0.068
Niche breadth PC2	0.03	0.19	0.14	0.32	0.2	0.736	**-0.13**	**0.18**	**0.41**	**0.24**	**5**	**0.026**	-0.5	0.53	-0.24	0.42			-0.41	0.28	-0.64	0.42	0.4	0.58
Range location PC1	-0.49	0.17	0.39	0.29			-0.11	0.15	0.05	0.19	0.8	0.381	-1.38	3.73	-0.16	3.44			0.03	0.22	0.07	0.31	0.1	0.906
Range location PC2	-0.31	0.33	0.32	0.55	1.4	0.246	0.37	0.26	-0.21	0.35	2.8	0.097	5.72	7.53	0.52	6.99			**-0.92**	**0.44**	**0.81**	**0.67**	**6.7**	**0.01**
Range breadth PC1	0.1	0.14	0.08	0.24	0.1	0.921	0.23	0.13	-0.06	0.17	2.8	0.097	3.43	3.17	0.35	2.99			**-0.41**	**0.17**	**0.15**	**0.25**	**5**	**0.026**
Range breadth PC2	-0.66	0.23	-0.46	0.38	0.3	0.599	0	0.15	-0.13	0.19	0.5	0.497	-1	0.78	-1.51	0.59			-0.49	0.32	-0.17	0.45	0.6	0.47
Multiple terms:																								
							Niche location PC2				**5.6**	**0.018**							**Range location PC2**				**6.7**	**0.01**
							Niche breadth PC2				1.2	0.271							(highly correlated with Range breadth PC1)					

	Vu et al. 2009						**Cabra et al. 2012**						**Dolia et al. 2008**						**Vanbergen et al. 2005**					
Order	Lepidoptera						Hymenoptera						Lepidoptera						Coleoptera					
Region	Vietnam						Colombia						India						Scotland					
N-observations	208						1334						546						246					
N-sites	4						29						13						6					
N-species	52						46						42						41					
Locations per species	479						231						162						1691					
	Mature forest		Agriculture		LRT		Mature forest		Agriculture		LRT		Mature forest		Agriculture		LRT		Mature forest		Agriculture		LRT	
Individual terms:	**Coef.**	**s.e.**	**Coef.**	**s.e.**	**χ2**	***p***	**Coef.**	**s.e.**	**Coef.**	**s.e.**	**χ2**	***p***	**Coef.**	**s.e.**	**Coef.**	**s.e.**	**χ2**	***p***	**Coef.**	**s.e.**	**Coef.**	**s.e.**	**χ2**	***p***
Niche location PC1	-0.13	0.16	0.32	0.27	3	0.084	**-0.3**	**0.17**	**0.17**	**0.19**	**6.1**	**0.014**	0.09	0.25	0.17	0.22			-0.2	0.17	-0.13	0.18		
Niche location PC2	-0.16	0.11	-0.07	0.17	0.3	0.607	0	0.2	-0.05	0.22	0.1	0.822	-0.04	0.21	-0.08	0.19			-0.35	0.21	-0.32	0.23	0.1	0.893
Niche breadth PC1	0.13	0.14	0.21	0.24	0.2	0.75	-0.22	0.18	0.15	0.2	3.5	0.063	0.3	0.26	0.44	0.23			0.22	0.18	0.07	0.19		
Niche breadth PC2	-0.12	0.17	-0.15	0.28	0.1	0.903	-0.18	0.21	0.16	0.24	2	0.165	0.24	0.34	0.17	0.3			-0.18	0.27	-0.61	0.29		
Range location PC1	0.14	0.16	0.08	0.26	0.1	0.814	-0.45	0.35	0.02	0.41	1.3	0.257	0	0.41	-0.02	0.37			0.02	0.25	-0.22	0.27	0.9	0.358
Range location PC2	-0.45	0.48	0.72	0.81	2.3	0.133	-0.32	0.28	0.22	0.33	2.6	0.108	1.25	0.73	1.02	0.69			0.46	0.42	-0.59	0.43		
Range breadth PC1	**-0.31**	**0.15**	**0.54**	**0.3**	**11.3**	**0.001**	**-0.2**	**0.17**	**0.2**	**0.19**	**4.4**	**0.036**	0.34	0.23	0.3	0.21	0.1	0.853	0.36	0.21	-0.01	0.22	3	0.087
Range breadth PC2	0.02	0.22	0.25	0.36	0.5	0.524	**-0.18**	**0.31**	**-1.11**	**0.36**	**6.6**	**0.011**	-0.57	0.56	-0.63	0.49			-0.66	0.33	-0.95	0.39	0.6	0.457
Multiple terms:	(model convergence issues in performing LRT)																							
							Niche location PC1				**4.1**	**0.042**												
							Range breadth PC1				0.5	0.487												
							Range breadth PC2				**5.4**	**0.02**												

Table A5. Model summaries for the individual species realized niches and geographic range properties for all studies before excluding influential studies. See Table 1 in the main manuscript for statistical details.

	Mature forest		Agriculture		LRT		
Terms	**β**	**se**	**β**	**se**	**χ2**	**p-value**	**p-adjust**
Univariate models:							
Topt	0.04	0.09	0.15	0.13	0.70	0.40	0.59
Tmin	0.05	0.10	-0.08	0.14	0.83	0.36	0.59
Tmax	-0.17	0.09	-0.02	0.12	1.61	0.20	0.41
Tmin-warm	0.14	0.10	-0.11	0.14	3.40	0.07	0.17
Tmax-warm	**-0.43**	**0.09**	**0.30**	**0.13**	**30.99**	**<0.001**	**<0.001**
Tmin-cool	-0.08	0.09	-0.07	0.14	0.01	0.91	0.94
Tmax-cool	0.01	0.09	0.11	0.13	0.56	0.45	0.64
Tsd	-0.08	0.10	0.18	0.14	3.41	0.06	0.17
Trange	-0.09	0.10	0.18	0.14	3.76	0.05	0.17
Trange-S	**-0.19**	**0.09**	**0.15**	**0.13**	**6.65**	**<0.05**	0.06
Popt	**0.28**	**0.09**	**-0.01**	**0.13**	**4.85**	**<0.05**	0.11
Pmin	**0.38**	**0.10**	**-0.15**	**0.13**	**16.01**	**<0.001**	**<0.001**
Pmax	0.37	0.09	0.11	0.14	3.66	0.06	0.17
Pmin-dry	**0.40**	**0.10**	**-0.24**	**0.14**	**23.16**	**<0.001**	**<0.001**
Pmax-dry	**0.37**	**0.09**	**0.01**	**0.13**	**7.15**	**<0.01**	0.05
Pmin-wet	**0.20**	**0.09**	**-0.11**	**0.13**	**5.24**	**<0.05**	0.10
Pmax-wet	0.24	0.09	0.02	0.14	2.54	0.11	0.26
Psd	0.31	0.09	0.22	0.14	0.43	0.51	0.68
Prange	0.18	0.09	0.20	0.14	0.01	0.94	0.94
Prange-S	0.19	0.09	0.05	0.14	1.03	0.31	0.58
Lopt	0.12	0.09	0.01	0.13	0.72	0.40	0.59
Lmin	0.00	0.09	-0.02	0.13	0.02	0.88	0.94
Lmax	0.02	0.09	0.05	0.13	0.07	0.79	0.88
Lsd	-0.07	0.10	0.05	0.14	0.79	0.37	0.59
AOO-110km2	0.19	0.10	0.41	0.14	2.43	0.12	0.26
AOO-11km2	0.31	0.10	0.36	0.14	0.11	0.74	0.86
EOO-110km2	0.07	0.10	-0.01	0.14	0.31	0.58	0.70
EOO-11km2	0.08	0.10	0.00	0.14	0.34	0.56	0.70
Multivariate models:							
Tmax-warm	**-0.32**	**0.11**	**0.25**	**0.16**	**12.91**	**<0.001**	
Pmin-dry	**0.23**	**0.11**	**-0.11**	**0.16**	**4.49**	**<0.05**	

Table A6. Model summaries for the individual species realized niches and geographic range properties for all studies after excluding influential studies. See Table 1 in the main manuscript for statistical details.

	Mature forest:		Agriculture:		LRT:		
Terms	**β**	**se**	**β**	**se**	**χ2**	**p-value**	**p-adjust**
Univariate models:							
Topt	-0.04	0.10	-0.07	0.13	0.05	0.83	0.83
Tmin	-0.04	0.11	-0.15	0.13	0.81	0.37	0.52
Tmax	-0.16	0.10	-0.13	0.12	0.05	0.82	0.83
Tmin-warm	-0.16	0.11	-0.09	0.13	0.25	0.61	0.76
Tmax-warm	**-0.37**	**0.11**	**0.00**	**0.13**	**8.40**	**<0.01**	**<0.05**
Tmin-cool	0.01	0.11	-0.21	0.13	2.98	0.08	0.15
Tmax-cool	-0.07	0.10	0.00	0.13	0.24	0.63	0.76
Tsd	-0.03	0.11	0.15	0.13	1.92	0.17	0.26
Trange	-0.04	0.11	0.15	0.13	2.06	0.15	0.25
Trange-S	**-0.16**	**0.11**	**0.16**	**0.13**	**6.73**	**<0.01**	**<0.05**
Popt	**0.46**	**0.10**	**-0.10**	**0.12**	**20.91**	**<0.001**	**<0.001**
Pmin	**0.46**	**0.11**	**-0.16**	**0.13**	**23.78**	**<0.001**	**<0.001**
Pmax	**0.58**	**0.10**	**0.08**	**0.13**	**15.58**	**<0.001**	**<0.001**
Pmin-dry	**0.29**	**0.11**	**-0.17**	**0.13**	**12.52**	**<0.001**	**<0.01**
Pmax-dry	**0.51**	**0.11**	**0.06**	**0.13**	**12.65**	**<0.001**	**<0.01**
Pmin-wet	**0.40**	**0.11**	**-0.14**	**0.12**	**19.25**	**<0.001**	**<0.001**
Pmax-wet	**0.34**	**0.10**	**-0.02**	**0.13**	**8.09**	**<0.01**	**<0.05**
Psd	0.42	0.11	0.26	0.13	1.50	0.22	0.33
Prange	0.40	0.11	0.17	0.13	3.05	0.08	0.15
Prange-S	**0.31**	**0.10**	**-0.01**	**0.13**	**6.17**	**<0.05**	**<0.05**
Lopt	0.03	0.10	0.08	0.12	0.19	0.66	0.77
Lmin	-0.17	0.10	0.04	0.12	2.90	0.09	0.15
Lmax	**-0.14**	**0.11**	**0.15**	**0.13**	**5.35**	**<0.05**	**<0.05**
Lsd	-0.07	0.11	0.01	0.13	0.39	0.53	0.71
AOO-110km2	**0.09**	**0.11**	**0.44**	**0.13**	**6.69**	**<0.01**	**<0.05**
AOO-11km2	**0.18**	**0.11**	**0.46**	**0.13**	**4.52**	**<0.05**	**<0.05**
EOO-110km2	0.01	0.11	0.06	0.13	0.10	0.75	0.83
EOO-11km2	0.04	0.11	0.07	0.13	0.08	0.77	0.83
Multivariate models:							
Tmax-warm	-0.46	0.14	-0.21	0.18	1.85	0.17	
Trange-S	0.24	0.15	0.17	0.18	0.13	0.72	
Pmin	**0.30**	**0.14**	-0.14	**0.17**	**6.90**	**<0.01**	
Prange-S	**0.33**	**0.11**	-0.06	**0.13**	**8.30**	**<0.01**	
Lmax	-0.26	0.15	-0.20	0.18	0.14	0.70	
AOO-110km2	0.21	0.12	0.48	0.15	3.19	0.07	

Table A7. Model summaries for the individual species realized niches and geographic range properties for each case study. Summaries of case studies are presented in the table header. See Table 1 in the main manuscript for statistical details. Blank cells are given where models did not converge.

		Baur et al. 2006			Meijer et al. 2011			Baur et al. 2006			Vu et al. 2009			Cabra et al. 2012			Dolia et al. 2008			Vanbergen et al. 2005		
Order		Lepidoptera			Multiple			Lepidoptera			Lepidoptera			Hymenoptera			Lepidoptera			Coleoptera		
Region		Romania			Azores			Romania			Vietnam			Colombia			India			Scotland		
N-observations		2360			13750			480			208			1334			546			246		
N-sites		8			125			8			4			29			13			6		
N-species		294			110			60			52			46			42			41		
Locations per species		2847			875			8120			479			231			162			1691		
		Coef.	**s.e.**	***p***	**Coef.**	**s.e.**	***p***	**Coef.**	**s.e.**	***p***	**Coef.**	**s.e.**	***p***	**Coef.**	**s.e.**	***p***	**Coef.**	**s.e.**	***p***	**Coef.**	**s.e.**	***p***
T-location	**Topt**	-0.04	0.44	1.00	0.40	0.26	1.00	-0.01	0.50	1.00	0.08	0.40	1.00	0.11	0.39	1.00	-0.06	0.41		0.51	0.38	1.00
	Tmin	-0.47	0.44	1.00	0.37	0.27	1.00	-0.20	0.48	1.00	0.00	0.40	1.00	-0.44	0.36	1.00	0.07	0.42		0.46	0.37	
	Tmax	-0.11	0.45	1.00	-0.06	0.27	1.00	0.68	0.51	1.00	0.09	0.39	1.00	**1.19**	**0.33**	**0.02**	0.00	0.47		-0.03	0.40	1.00
	Tmin-warm	**-1.45**	**0.44**	**0.02**	0.51	0.26	1.00	-0.01	0.49	1.00	0.20	0.40	1.00	-0.20	0.36	1.00	0.05	0.37		0.19	0.36	
	Tmax-warm	**1.43**	**0.43**	**0.02**	0.08	0.27	1.00	0.54	0.54	1.00	0.22	0.40	1.00	0.99	0.37	0.16	0.53	0.44		-0.45	0.36	
	Tmin-cool	0.24	0.44	1.00	0.31	0.28	1.00	-0.20	0.48	1.00	-0.09	0.40	1.00	-0.78	0.34	0.50	-0.15	0.42		0.51	0.37	
	Tmax-cool	-0.43	0.45	1.00	-0.22	0.28	1.00	0.69	0.53	1.00	0.11	0.39	1.00	0.64	0.36	1.00	-0.02	0.48		-0.19	0.39	1.00
T-breadth	**Tsd**	0.30	0.44	1.00	-0.31	0.28	1.00	0.75	0.49	1.00	-0.13	0.42	1.00	0.70	0.35	0.87	0.12	0.44	1.00	-0.56	0.37	
	Trange	0.40	0.44	1.00	-0.31	0.28	1.00	0.58	0.49	1.00	0.12	0.41	1.00	0.69	0.34	0.87	-0.06	0.43	1.00	-0.51	0.37	1.00
	Trange-s	0.62	0.44	1.00	-0.15	0.28	1.00	0.44	0.48	1.00	0.21	0.41	1.00	0.93	0.34	0.16	0.33	0.42	1.00	-0.58	0.37	
P-location	**Popt**	0.97	0.44	0.71	**-0.82**	**0.26**	**0.04**	-0.14	0.48	1.00	-0.49	0.41	1.00	-0.63	0.36	1.00	-0.09	0.40		-0.03	0.39	
	Pmin	-0.27	0.44	1.00	-0.10	0.27	1.00	-0.96	0.51	1.00	-0.96	0.46	0.65	**-1.22**	**0.42**	**0.04**	-0.24	0.42		-0.21	0.43	1.00
	Pmax	0.42	0.44	1.00	**-0.96**	**0.27**	**0.01**	0.79	0.51	1.00	-0.29	0.40	1.00	-0.15	0.35	1.00	0.05	0.40	1.00	0.10	0.38	
	Pmin-dry	-0.39	0.42	1.00	0.06	0.27	1.00	-0.67	0.60	1.00	-0.70	0.46	1.00	-0.91	0.35	0.24	0.17	0.43		0.16	0.36	
	Pmax-dry	0.05	0.44	1.00	**-0.99**	**0.26**	**0.01**	0.87	0.50	1.00	-0.32	0.41	1.00	0.14	0.34	1.00	-0.06	0.42	1.00	0.03	0.38	
	Pmin-wet	0.44	0.44	1.00	-0.41	0.27	1.00	-0.84	0.48	1.00	-0.67	0.44	1.00	-1.05	0.38	0.10	-0.24	0.41		-0.42	0.41	
	Pmax-wet	0.30	0.45	1.00	-0.76	0.27	0.13	0.78	0.51	1.00	-0.15	0.42	1.00	-0.31	0.36	1.00	0.45	0.42	1.00	0.00	0.38	
P-breadth	**Psd**	-0.01	0.44	1.00	**-0.87**	**0.28**	**0.04**	1.05	0.51	0.97	0.23	0.41	1.00	0.38	0.34	1.00	0.28	0.40		0.00	0.38	
	Prange	0.54	0.44	1.00	**-0.93**	**0.28**	**0.02**	1.03	0.54	1.00	0.19	0.41	1.00	0.29	0.33	1.00	0.06	0.42	1.00	0.11	0.38	
	Prange-s	0.39	0.45	1.00	-0.75	0.27	0.14	0.83	0.50	1.00	-0.11	0.42	1.00	-0.18	0.36	1.00	0.41	0.41	1.00	-0.03	0.38	1.00
L-location	**Lopt**	**-1.37**	**0.44**	**0.04**	-0.33	0.28	1.00	0.22	0.49	1.00	-0.11	0.40	1.00	**-1.25**	**0.40**	**0.03**	-0.33	0.42	1.00	-0.08	0.38	1.00
	Lmin	-1.23	0.44	0.11	0.13	0.27	1.00	-0.88	0.50	1.00	-0.05	0.39	1.00	-0.22	0.36	1.00	0.31	0.53	1.00	1.08	0.40	
	Lmax	-0.73	0.44	1.00	-0.36	0.27	1.00	0.34	0.47	1.00	0.43	0.41	1.00	0.82	0.37	0.50	0.19	0.44	1.00	-0.06	0.37	1.00
L-breadth	**Lsd**	0.41	0.44		-0.35	0.27	1.00	1.17	0.45	0.32	1.45	0.59	0.05	0.67	0.37	1.00	-0.36	0.41		-0.47	0.38	
	AOO110	-0.06	0.44	1.00	-0.09	0.28	1.00	0.46	0.47	1.00	0.66	0.43	1.00	**1.06**	**0.35**	**0.09**	0.00	0.42		-0.28	0.42	
	AOO11	-0.37	0.43	1.00	-0.04	0.28	1.00	0.28	0.47	1.00	0.41	0.41	1.00	**1.06**	**0.34**	**0.08**	-0.04	0.42		-0.09	0.44	
	EOO110	-0.12	0.45	1.00	-0.49	0.28	1.00	0.98	0.46	0.97	**1.68**	**0.60**	**0.01**	0.43	0.36	1.00	0.02	0.43		-0.83	0.39	
	EOO11	-0.14	0.45	1.00	-0.50	0.28	1.00	0.97	0.46	0.99	**1.67**	**0.67**	**0.01**	0.48	0.37	1.00	0.04	0.42		-0.82	0.38	0.89