

# Conservation value of vanilla agroecosystems for vertebrate diversity in north-east Madagascar

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SUPPLEMENTARY TABLE 1 The presence/absence status of all recorded species at each site surveyed in the Sava region, north east Madagascar. The data are available in a comma separated values file at [doi.org/10.1017/S0030605321001265](https://doi.org/10.1017/S0030605321001265).

SUPPLEMENTARY TABLE 2 The full results of all GLMM analyses performed to compare species diversity among natural forest, forest eco-plantations, non-forest eco-plantations, and intensive plantations in the Sava region, north east Madagascar, for all species, and separately for bird, reptile, frog, mammal, endemic, native (non-endemic), migratory, invasive, Least Concern, threatened and other species.

## All species

<b>Random Effects</b>	<b>Var</b>	<b>SD</b>			
Elevation	8.694	2.949			
TransLength	29.870	5.466			
Precipitation	0.000	0.000			
Temperature	0.000	0.000			
Location	0.000	0.000			
ForestT	23.890	4.887			
Effort	0.000	0.000			
Residual	30.890	5.558			
<b>Fixed Effects</b>	<b>Estimate</b>	<b>SE</b>	<b>df</b>	<b>t</b>	<b>P</b>
Intercept	58.534	4.591	12.613	12.750	0.000
Habitat	-11.118	1.424	20.757	-7.810	0.000
Pairwise					
			1	2	3
	2	0.000			
	3	0.000	1.000		
	4	0.000	0.230	0.440	

## Birds

<b>Random Effects</b>	<b>Var</b>	<b>SD</b>
Elevation	8.881	2.980
TransLength	14.190	3.767
Precipitation	0.000	0.000
Temperature	0.000	0.000
Location	0.000	0.000
ForestT	3.326	1.824

Effort	4.025	2.006			
Residual	9.274	3.045			
<b>Fixed Effects</b>	<b>Estimate</b>	<b>SE</b>	<b>df</b>	<b>t</b>	<b>P</b>
Intercept	28.503	3.291	3.977	8.661	0.001
Habitat	-4.840	1.100	6.395	-4.400	0.004

Pairwise

	1	2	3
2	0.000		
3	0.000	1.000	
4	0.000	1.000	0.595

Reptiles

<b>Random Effects</b>	<b>Var</b>	<b>SD</b>			
Elevation	3.028	1.740			
TransLength	0.000	0.000			
Precipitation	0.000	0.000			
Temperature	0.000	0.000			
Location	0.000	0.000			
ForestT	5.247	2.291			
Effort	0.000	0.000			
Residual	4.884	2.210			
<b>Fixed Effects</b>	<b>Estimate</b>	<b>SE</b>	<b>df</b>	<b>t</b>	<b>P</b>
Intercept	15.855	1.730	6.895	9.167	0.000
Habitat	-2.593	0.519	19.552	-5.000	0.000

Pairwise

	1	2	3
2	0.018		
3	0.001	1.000	
4	0.000	0.732	1.000

Frogs

<b>Random Effects</b>	<b>Var</b>	<b>SD</b>			
Elevation	2.897	1.702			
TransLength	0.000	0.000			
Precipitation	2.123	1.457			
Temperature	0.000	0.000			
Location	0.410	0.640			
ForestT	0.399	0.632			
Effort	0.125	0.354			
Residual	0.000	0.000			
<b>Fixed Effects</b>	<b>Estimate</b>	<b>SE</b>	<b>df</b>	<b>t</b>	<b>P</b>
Intercept	6.883	0.832	1.947	8.277	0.015

Habitat	-1.500	0.000	1.947	528700.000	0.000
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Pairwise

	1	2	3
2	0.370		
3	0.600	1.000	
4	0.130	1.000	1.000

Mammals

Random Effects	Var	SD			
Elevation	2.432	1.559			
TransLength	0.000	0.000			
Precipitation	0.000	0.000			
Temperature	0.000	0.000			
Location	0.013	0.113			
ForestT	0.000	0.000			
Effort	0.000	0.000			
Residual	0.590	0.768			
Fixed Effects	Estimate	SE	df	t	P
Intercept	6.945	0.718	7.178	9.672	0.000
Habitat	-1.572	0.282	21.525	-5.586	0.000

Pairwise

	1	2	3
2	0.000		
3	0.000	1.000	
4	0.000	1.000	1.000

Endemic

Random Effects	Var	SD			
Elevation	26.540	5.152			
TransLength	2.816	1.678			
Precipitation	0.000	0.000			
Temperature	0.000	0.000			
Location	0.000	0.000			
ForestT	0.000	0.000			
Effort	0.000	0.000			
Residual	45.470	6.743			
Fixed Effects	Estimate	SE	df	t	P
Intercept	73.220	3.883	20.855	18.855	0.000
Habitat	-8.256	1.543	23.215	-5.352	0.000

Pairwise

	1	2	3
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2	0.002		
3	0.002	1.000	
4	0.000	0.544	0.511

Native (non-endemic)

<b>Random Effects</b>	<b>Var</b>	<b>SD</b>			
Elevation	52.800	7.266			
TransLength	0.000	0.000			
Precipitation	0.987	0.993			
Temperature	0.000	0.000			
Location	0.000	0.000			
ForestT	0.000	0.000			
Effort	0.000	0.000			
Residual	17.790	4.218			
<b>Fixed Effects</b>	<b>Estimate</b>	<b>SE</b>	<b>df</b>	<b>t</b>	<b>P</b>
Intercept	17.626	3.592	17.062	4.907	0.000
Habitat	7.247	1.417	23.679	5.116	0.000

Pairwise			
	1	2	3
2	0.007		
3	0.540	0.516	
4	0.000	0.128	0.002

Migratory

<b>Random Effects</b>	<b>Var</b>	<b>SD</b>			
Elevation	0.000	0.000			
TransLength	0.178	0.422			
Precipitation	0.000	0.000			
Temperature	0.000	0.001			
Location	8.949	2.992			
ForestT	0.000	0.000			
Effort	5.333	2.309			
Residual	18.580	4.310			
<b>Fixed Effects</b>	<b>Estimate</b>	<b>SE</b>	<b>df</b>	<b>t</b>	<b>P</b>
Intercept	1.968	3.398	7.659	0.579	0.579
Habitat	2.481	1.110	18.913	2.234	0.038

Pairwise			
	1	2	3
2	1.000		
3	0.045	0.271	
4	1.000	1.000	0.043

### Invasive

<b>Random Effects</b>	<b>Var</b>	<b>SD</b>			
Elevation	0.000	0.000			
TransLength	0.000	0.000			
Precipitation	0.000	0.000			
Temperature	0.000	0.000			
Location	0.000	0.000			
ForestT	0.000	0.000			
Effort	0.000	0.000			
Residual	7.618	2.760			
<b>Fixed Effects</b>	<b>Estimate</b>	<b>SE</b>	<b>df</b>	<b>t</b>	<b>P</b>
Intercept	1.470	1.216	24.000	1.209	0.238
Habitat	1.027	0.480	24.000	2.141	0.043

  

Pairwise					
	1	2	3		
2	0.795				
3	0.023	0.841			
4	0.966	1.000	0.914		

### Least Concern

<b>Random Effects</b>	<b>Var</b>	<b>SD</b>			
Elevation	0.000	0.000			
TransLength	0.000	0.000			
Precipitation	0.000	0.000			
Temperature	0.000	0.000			
Location	1.179	1.086			
ForestT	0.000	0.000			
Effort	0.000	0.000			
Residual	10.830	3.290			
<b>Fixed Effects</b>	<b>Estimate</b>	<b>SE</b>	<b>df</b>	<b>t</b>	<b>P</b>
Intercept	77.807	1.706	6.962	45.615	0.000
Habitat	5.609	0.635	14.509	8.835	0.000

  

Pairwise					
	1	2	3		
2	0.002				
3	0.000	0.010			
4	0.000	0.002	1.000		

### Threatened

<b>Random Effects</b>	<b>Var</b>	<b>SD</b>
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Elevation	0.000	0.000				
TransLength	0.000	0.000				
Precipitation	0.253	0.503				
Temperature	0.000	0.000				
Location	5.799	2.408				
ForestT	3.257	1.805				
Effort	0.000	0.000				
Residual	8.032	2.834				
<b>Fixed Effects</b>	<b>Estimate</b>	<b>SE</b>	<b>df</b>	<b>t</b>	<b>P</b>	
Intercept	13.797	2.235	10.847	6.173	0.000	
Habitat	-3.580	0.677	19.931	-5.286	0.000	

Pairwise

	1	2	3	
2	0.043			
3	0.000	0.488		
4	0.000	0.126	1.000	

Other

<b>Random Effects</b>	<b>Var</b>	<b>SD</b>				
Elevation	0.241	0.491				
TransLength	0.000	0.000				
Precipitation	0.427	0.654				
Temperature	0.002	0.042				
Location	0.006	0.080				
ForestT	0.000	0.000				
Effort	0.000	0.000				
Residual	0.000	0.000				
<b>Fixed Effects</b>	<b>Estimate</b>	<b>SE</b>	<b>df</b>	<b>t</b>	<b>P</b>	
Intercept	3.312	0.266	6.152	12.430	0.000	
Habitat	-1.000	0.000	1.399	20982.820	0.000	-

Pairwise

	1	2	3	
2	0.455			
3	0.007	0.618		
4	0.005	0.387	1.000	