

**Table S1:** Species list with corresponding numbers of submissions to the ‘Mückenatlas’.

Species	No. of submissions
<i>Ae. aegypti</i>	1
<i>Ae. albopictus</i>	54
<i>Ae. annulipes</i> group	337
<i>Ae. caspius</i>	73
<i>Ae. cataphylla</i>	63
<i>Ae. cinereus/geminus/rossicus</i> group	40
<i>Ae. communis</i>	13
<i>Ae. detritus</i>	13
<i>Ae. dorsalis</i>	1
<i>Ae. flavescens</i>	6
<i>Ae. geniculatus</i>	980
<i>Ae. intrudens</i>	2
<i>Ae. japonicus</i>	858
<i>Ae. koreicus</i>	1
<i>Ae. leucomelas</i>	22
<i>Ae. pullatus</i>	4
<i>Ae. punctor</i>	15
<i>Ae. refiki</i>	1
<i>Ae. rusticus</i>	73
<i>Ae. sticticus</i>	433
<i>Ae. vexans</i>	973
<i>An. claviger</i> complex	45
<i>An. maculipennis</i> complex	396
<i>An. petragnani</i>	1
<i>An. plumbeus</i>	248
<i>Cq. richiardii</i>	360
<i>Cs. alaskaensis</i>	1
<i>Cs. annulata/subochrea</i>	3933
<i>Cs. glaphyroptera</i>	7
<i>Cs. longiareolata</i>	6
<i>Cs. morsitans/fumipennis</i>	76
<i>Cx. hortensis</i>	22
<i>Cx. modestus</i>	16
<i>Cx. pipiens</i> complex	7837
<i>Cx. territans</i>	22

**Table S2.** Total counts of submissions by year and level of urbanisation.

	Urbanisation by sealing				Urbanisation by population			<b>total</b>
	low	moderate	strong	very strong	rural	peri-urban	urban	
2012	863	353	143	33	350	916	126	1392
2013	959	397	193	49	358	1043	197	1598
2014	773	268	118	37	240	819	137	1196
2015	535	213	80	12	180	567	93	840
2016	2720	1348	507	143	723	3307	688	4718
2017	1928	967	514	143	659	2332	561	3552
2018	1207	618	290	87	400	1488	314	2202
2019	824	380	181	50	242	991	202	1435
<b>total</b>	9809	4544	2026	554	3152	11463	2318	<b>16933</b>

**Table S3.** PERMANOVA results based on Bray-Curtis dissimilarities using square-rooted abundance data for indoor mosquito communities grouped by a) soil sealing and b) human population density.

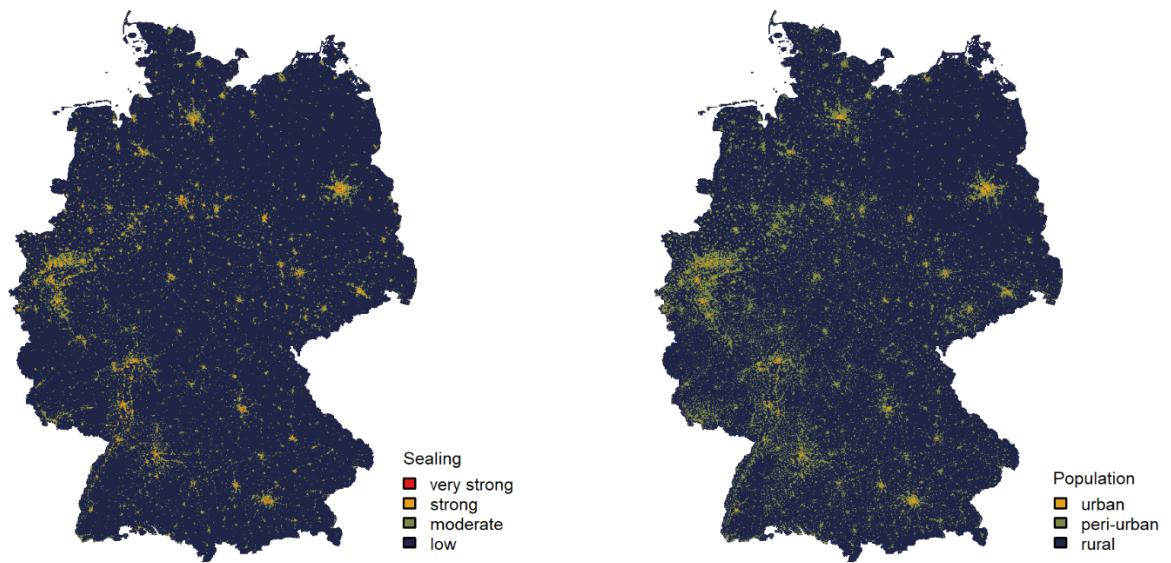
#### PERMANOVA

Urbanisation indicator	Df	SumofSq	Pseudo-F	R <sup>2</sup>	p-value
<b>Sealing</b>					
Groups	3	1.9766	11.29	0.5474	0.001***
Residuals	28	1.6340		0.4526	
Total	31	3.6106		1.0000	
<b>Population</b>					
Groups	2	0.7582	8.248	0.4399	0.001***
Residuals	21	0.9651		0.5601	
Total	23	1.7233		1.0000	

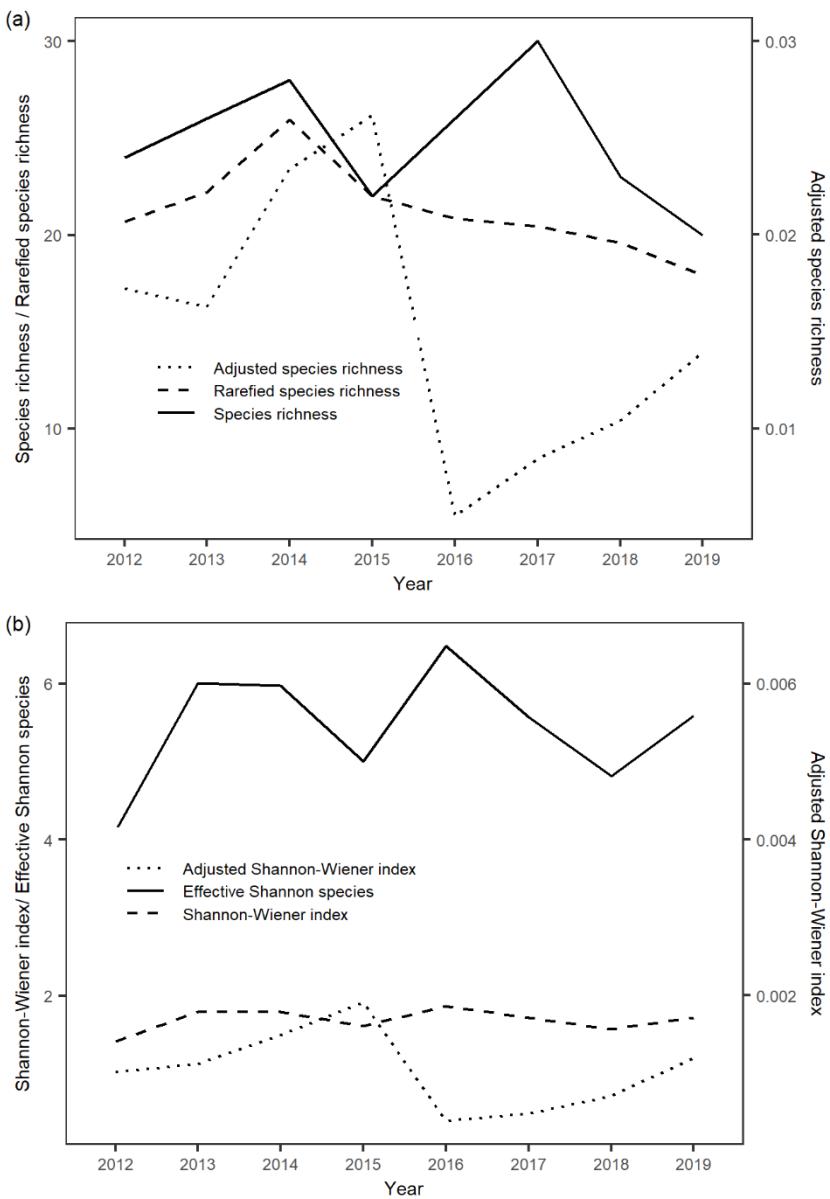
#### PERMDISP

Urbanisation indicator	Df	SumofSq	Mean Sq	Pseudo-F	p-value
<b>Sealing</b>					
Groups	3	0.0411	0.0136	2.9615	0.041*†
Residuals	28	0.1294	0.0046		
<b>Population</b>					
Groups	2	0.0117	0.0059	1.9526	0.159
Residuals	21	0.0631	0.0030		

<sup>1</sup> Df: Degrees of freedom; SumofSq: sum of squares; Pseudo-F: F-value based on 999 permutations; p-val: based on 999 permutations (lowest P-value possible: 0.001), †significant differences in permuted p-values for the soil sealing category pairs 'low'-'very strong' and 'moderate'-'very strong'.



**Figure S1.** Distribution of indicator categories across Germany. Raster grid with cell size of one square kilometre for soil sealing (left) and human population density (right).



**Figure S2.** Differences in the biodiversity indices with or without consideration of the sampling effort across all years, regardless of urbanisation indicator. (a) Species richness, rarefied species richness (based on the smallest sample size of 840 submissions in 2015) and adjusted species richness (species richness divided by the respective number of submissions per year) (b) Shannon-Wiener-Index, effective Shannon diversity and adjusted Shannon-Wiener index (Shannon-Wiener index divided by the respective number of submissions per year). Figure calculation and design based on [44].