

1 **Predictors and immunological correlates of sublethal mercury exposure in vampire bats:**
2 **Online Supplemental Information**

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7 **S1. Model comparison and averaging**

8 **S2. Site and year effects on THg**

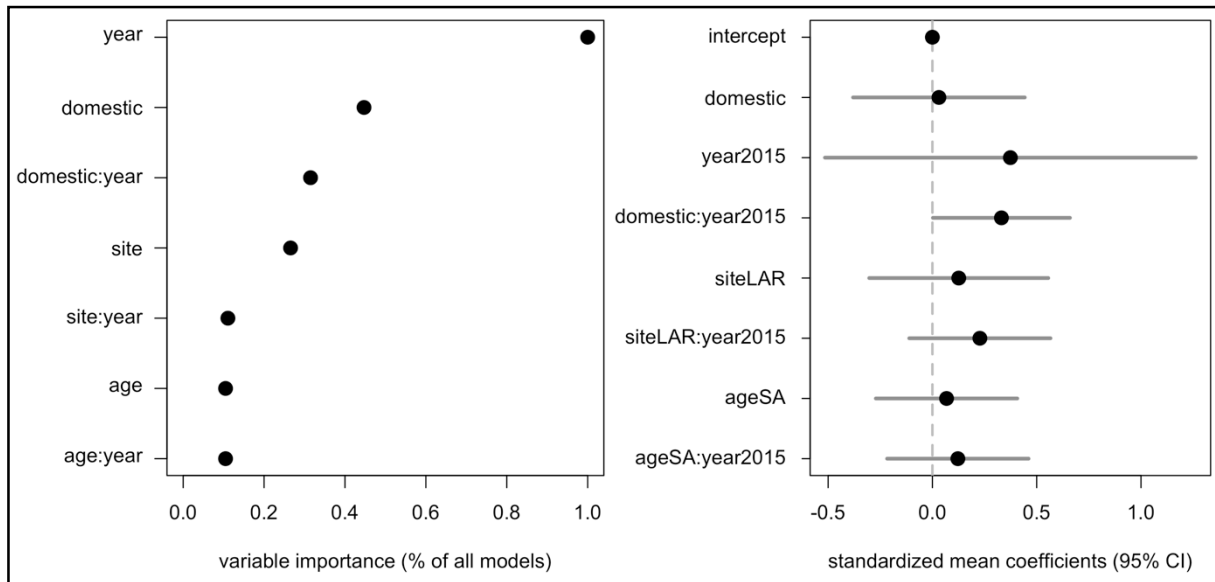
9 **S3. Immunity and year relationships**

10 **S4. Temporal patterns in rainfall**

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13 **S1. Model comparison and averaging**
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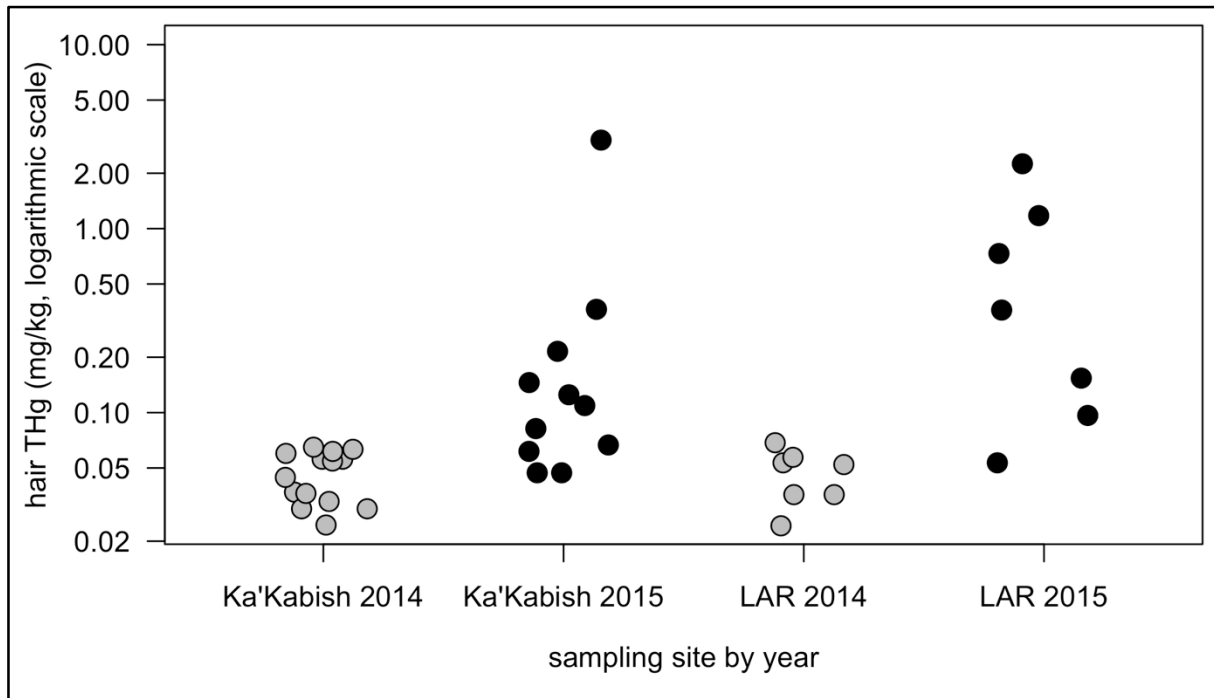
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16 Figure S1. Relative importance of variables considered in model comparison, with log THg
17 (mg/kg) as the dependent variable in linear regressions (A). Averaged coefficients and 95%
18 confidence intervals for all terms considered, standardized by the ratio of standard deviations of
19 log THg and each dependent variable (B). The dashed line represents $\beta=0$ (no effect on THg).
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21 Table S1. All candidate linear models predicting log hair THg concentrations (mg/kg).
 22 Competing models are ranked by ΔAICc along with the number of estimated coefficients (k), the
 23 Akaike weights (w_i), and the adjusted R^2 statistic.
 24

Log hair THg model	k	ΔAICc	w_i	R^2
~ domestic + year + domestic:year	4	0.00	0.31	0.44
~ year	2	1.09	0.18	0.36
~ year + site	3	1.42	0.15	0.38
~ domestic + year	3	1.74	0.13	0.38
~ year + site + year:site	4	2.09	0.11	0.40
~ year + age + year:age	4	2.20	0.10	0.40
~ age + site + age:site	4	8.96	<0.01	0.27
~ domestic + age	3	8.99	<0.01	0.24
~ domestic + age + site	4	9.91	<0.01	0.25
~ domestic + age + domestic:age	4	10.54	<0.01	0.24
~ domestic + age + sex	4	11.45	<0.01	0.22
~ age	2	12.00	<0.01	0.13
~ age + site	3	12.06	<0.01	0.17
~ domestic + site	3	13.63	0.00	0.13
~ site	2	13.79	0.00	0.09
~ age + sex + age:sex	4	14.25	0.00	0.15
~ age + sex	3	14.53	0.00	0.10
~ domestic + site + domestic:site	4	14.72	0.00	0.14
~ domestic	2	14.85	0.00	0.06
~ 1	1	15.56	0.00	0/00
~ domestic + site + sex	4	16.35	0.00	0.10
~ domestic + sex + domestic:sex	4	16.69	0.00	0.09
~ domestic + sex	3	17.29	0.00	0.03
~ sex	2	17.95	0.00	0.00

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27 **S2. Site and year effects on THg**
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30 Figure S2. Relationship between sampling site, year, and log bat THg. Points are jittered to avoid
31 overlap; bats sampled in 2014 are shown in grey and those sampled in 2015 are shown in black.
32 A linear regression showed no significant interaction between site and year ($F_{1,31}=1.88, p=0.18$).
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34 **S3. Immunity and year relationships**

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36 Table S2. Relationships between sampling year and vampire bat immune function.

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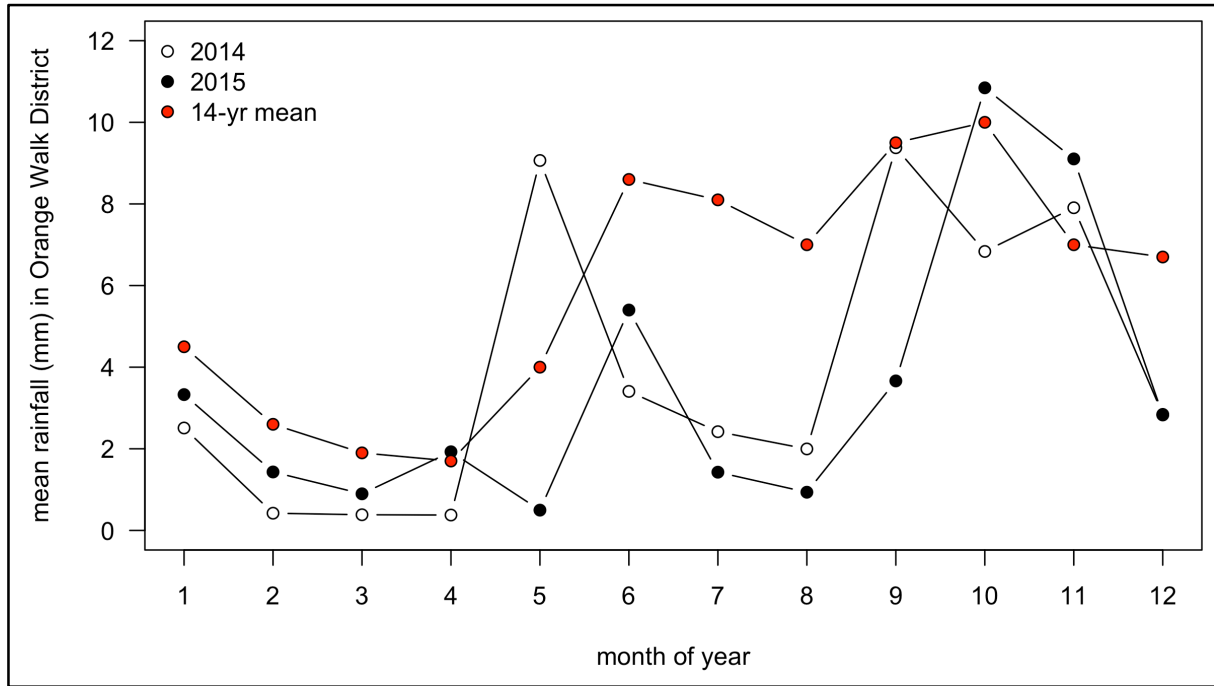
Immune models	Test statistic	<i>p</i> value
Absolute neutrophils ~ year	0.2137*	0.0048
Absolute lymphocytes ~ year	0.1053*	0.2355
Absolute monocytes ~ year	-21.5625*	0.9923
Absolute eosinophils ~ year	-2.2012*	<0.001
Absolute basophils ~ year	-0.9966*	0.0677
NL ratio ~ year	1.2013*	0.0219
Bacterial killing ability ~ year	-1.2504*	<0.001
Immunoglobulin G OD ~ year	0.2283*	0.1242
PERMANOVA ~ year	0.1433**	0.0302
Immune PC1 ~ year	0.4372*	0.6209
Immune PC2 ~ year	-2.2012*	<0.001

38 * Test statistic is β coefficient from linear model, GLM, beta regression, or LMM

39 ** Test statistic is R^2 from PERMANOVA

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41 **S4. Temporal patterns in rainfall**
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44 Figure S3. Temporal patterns of rainfall in Orange Walk District, Belize during 2014 and 2015.
45 Data are available from the National Meteorological Service of Belize.
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