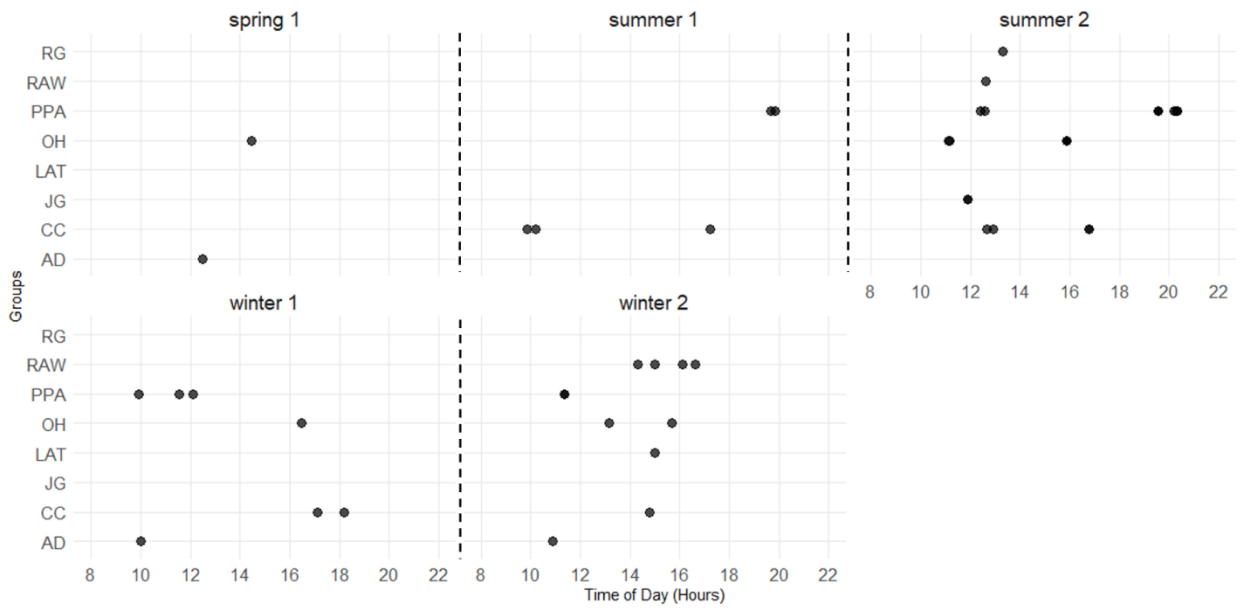
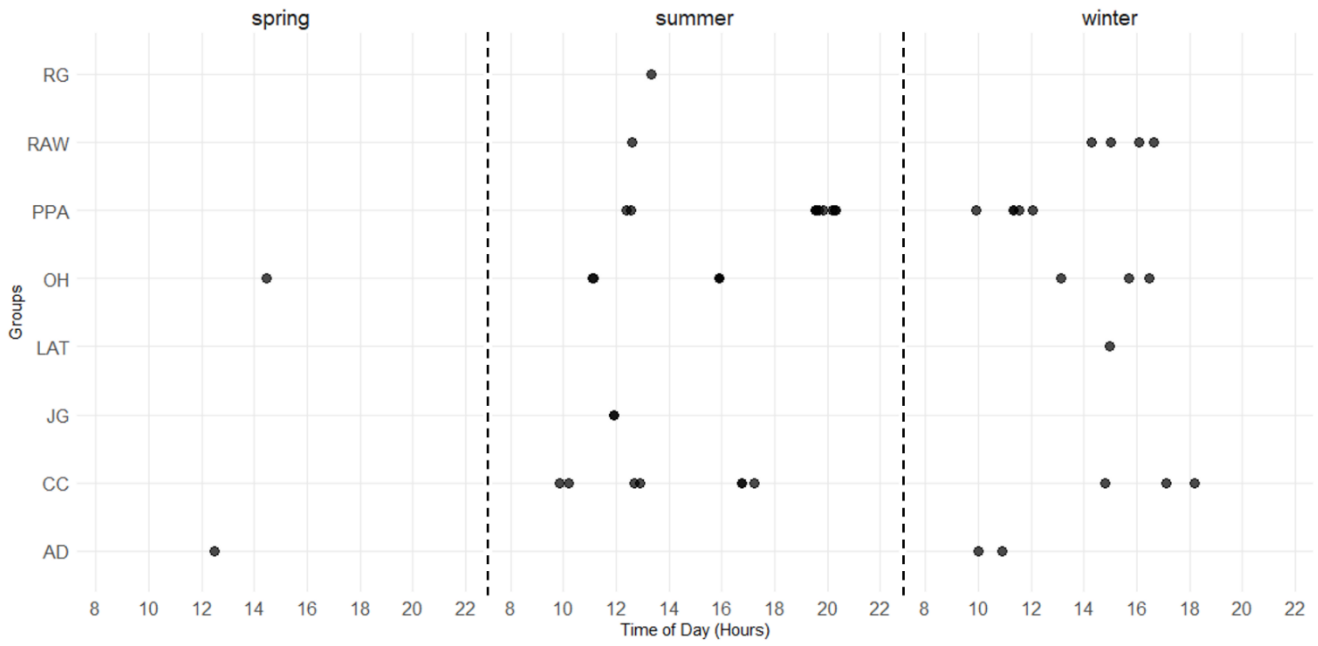


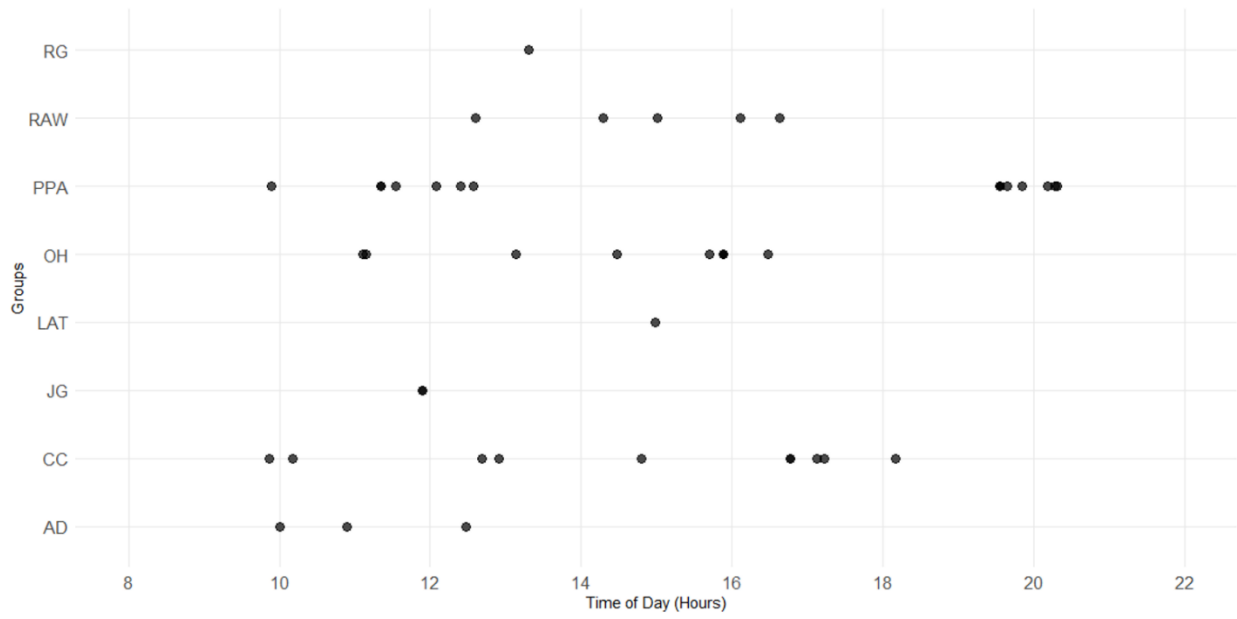
**Supplementary Information:**



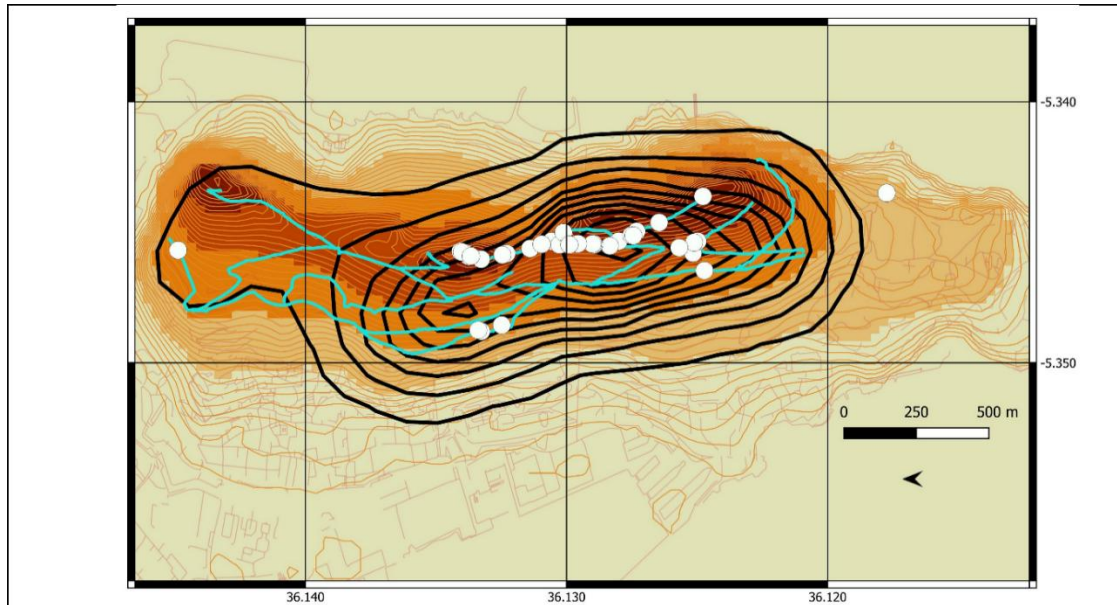
**Fig. S1. Distribution of geophagy events across the various field seasons, for each group, as function of the time of the day.** AD: Apes Den; CC: Cable Car; JG: Jew's Gate; LAT: Lathbury Barracks; OH: O'Hara; PPA: Prince Phillip's Arch; RAW: Royal Anglian Way; RG: Rock Gun.



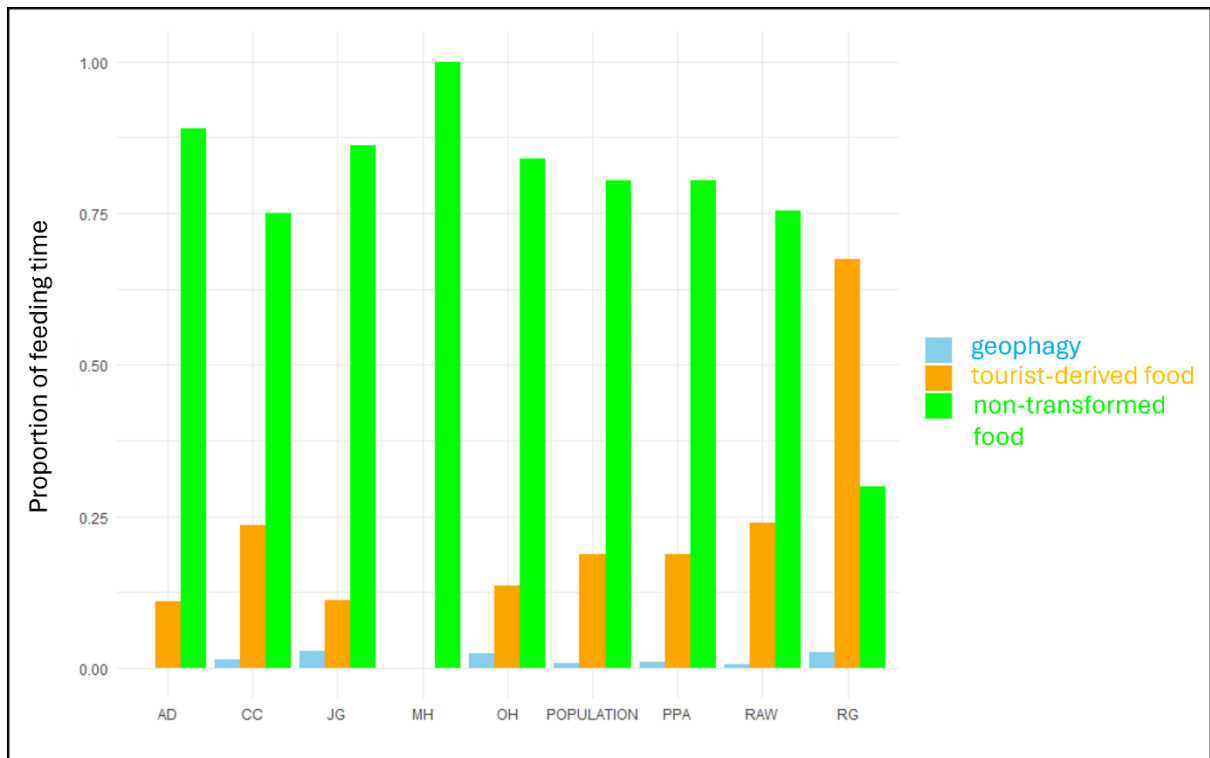
**Fig. S2. Distribution of geophagy events across the pooled field seasons, for each group, as function of the time of the day.** AD: Apes Den; CC: Cable Car; JG: Jew's Gate; LAT: Lathbury Barracks; OH: O'Hara; PPA: Prince Phillip's Arch; RAW: Royal Anglian Way; RG: Rock Gun.



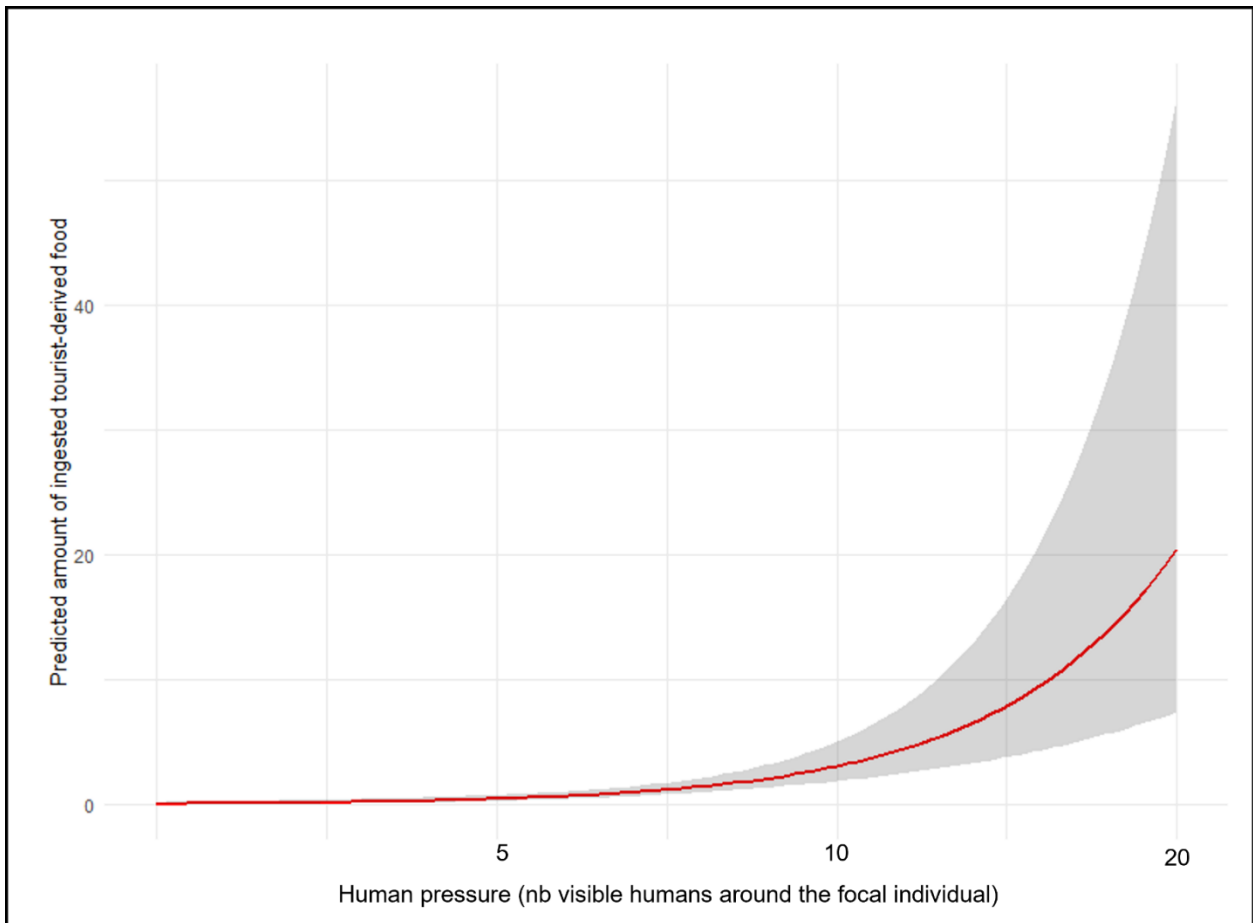
**Fig. S3. Distribution of geophagy events for each group, as function of the time of the day.** AD: Apes Den; CC: Cable Car; JG: Jew's Gate; LAT: Lathbury Barracks; OH: O'Hara; PPA: Prince Phillip's Arch; RAW: Royal Anglian Way; RG: Rock Gun.



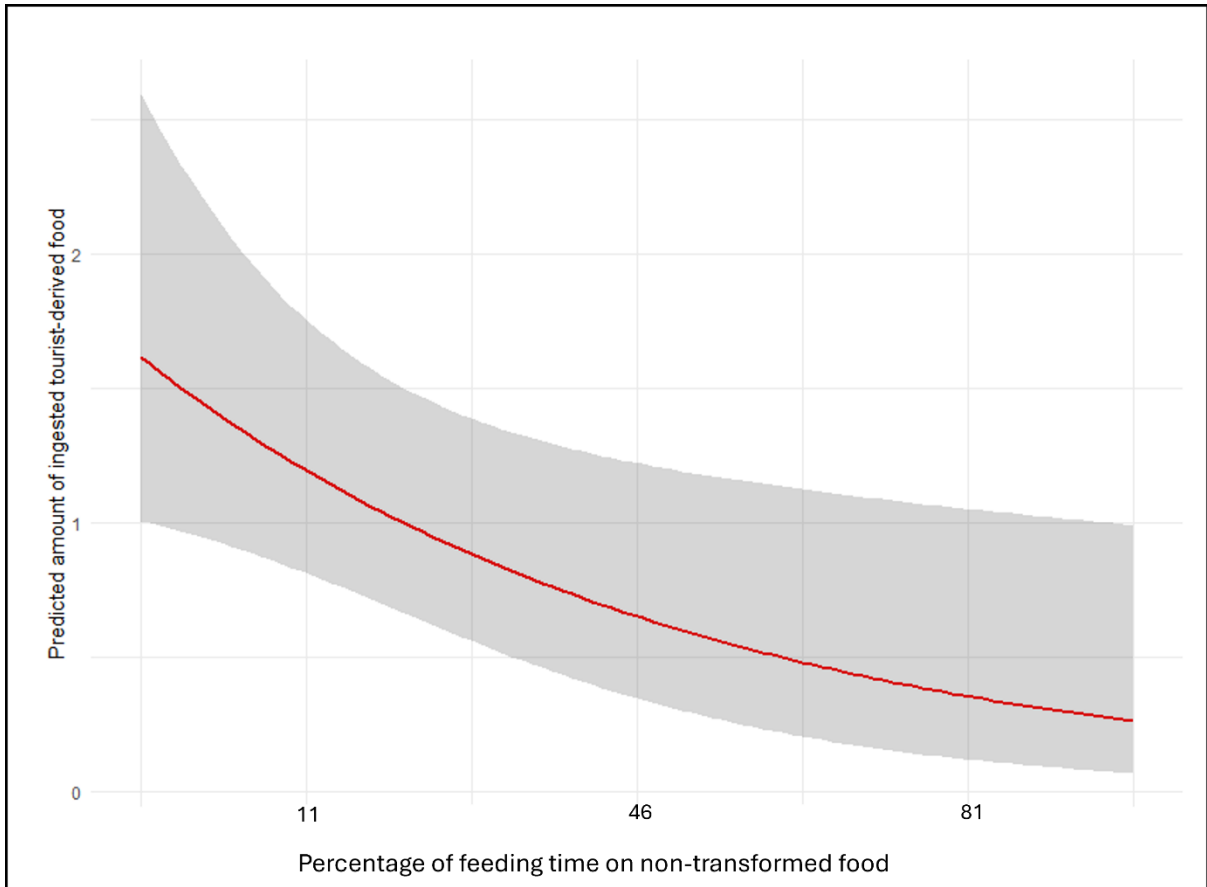
**Fig. S4. Kernel distributions of terra rossa outcrops across the landscape, depicted with black lines, with higher outcrop density in the central areas.** The elevation gradient appears in shades of orange (darker colors are higher); light blue lines correspond to the trails and paths used to survey outcrops; white dots correspond to the recorded events of geophagy.



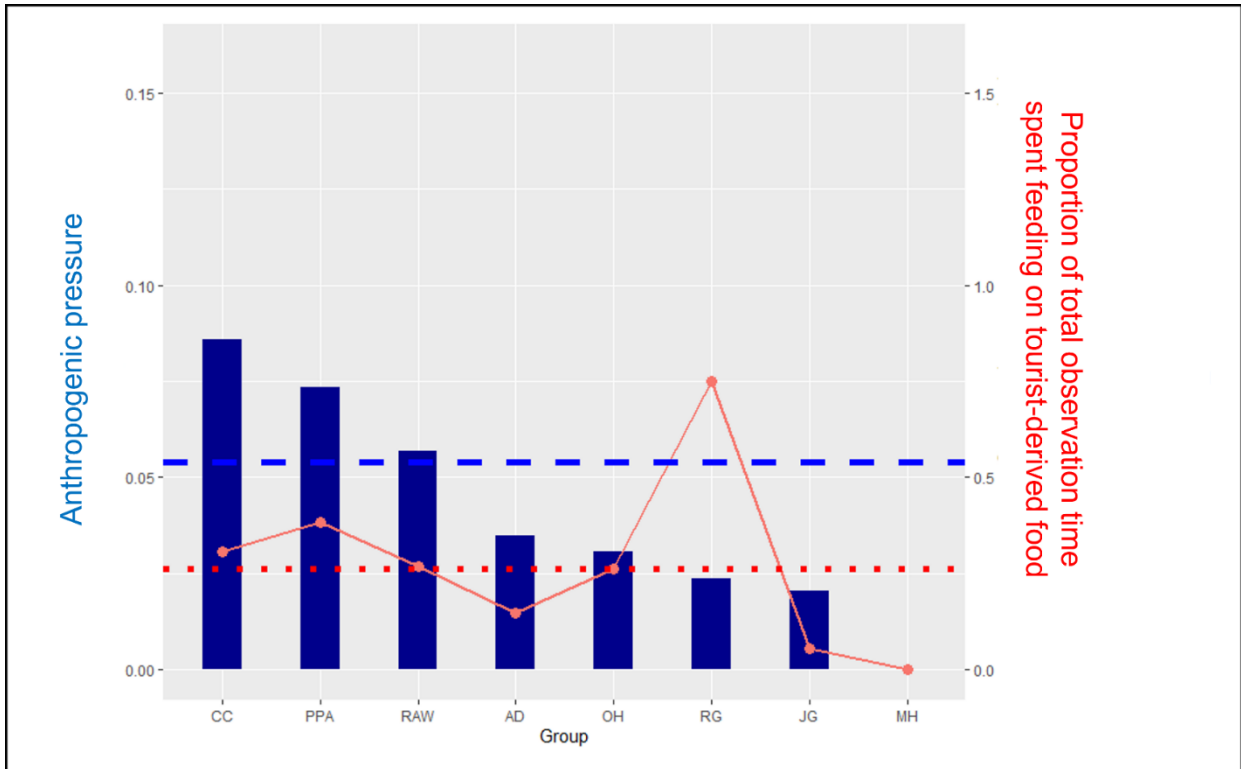
**Fig. S5. Distributions, across the groups, of the proportion of feeding time (extracted from focal follows) spent on geophagy, tourist-derived food, and non-transformed food.** AD: Apes Den; CC: Cable Car; JG: Jew's Gate; MH: Middle Hill; OH: O'Hara; PPA: Prince Phillip's Arch; RAW: Royal Anglian Way; RG: Rock Gun. Note the absence of geophagy for AD, since the 3 events in this group were observed outside of focal follows .



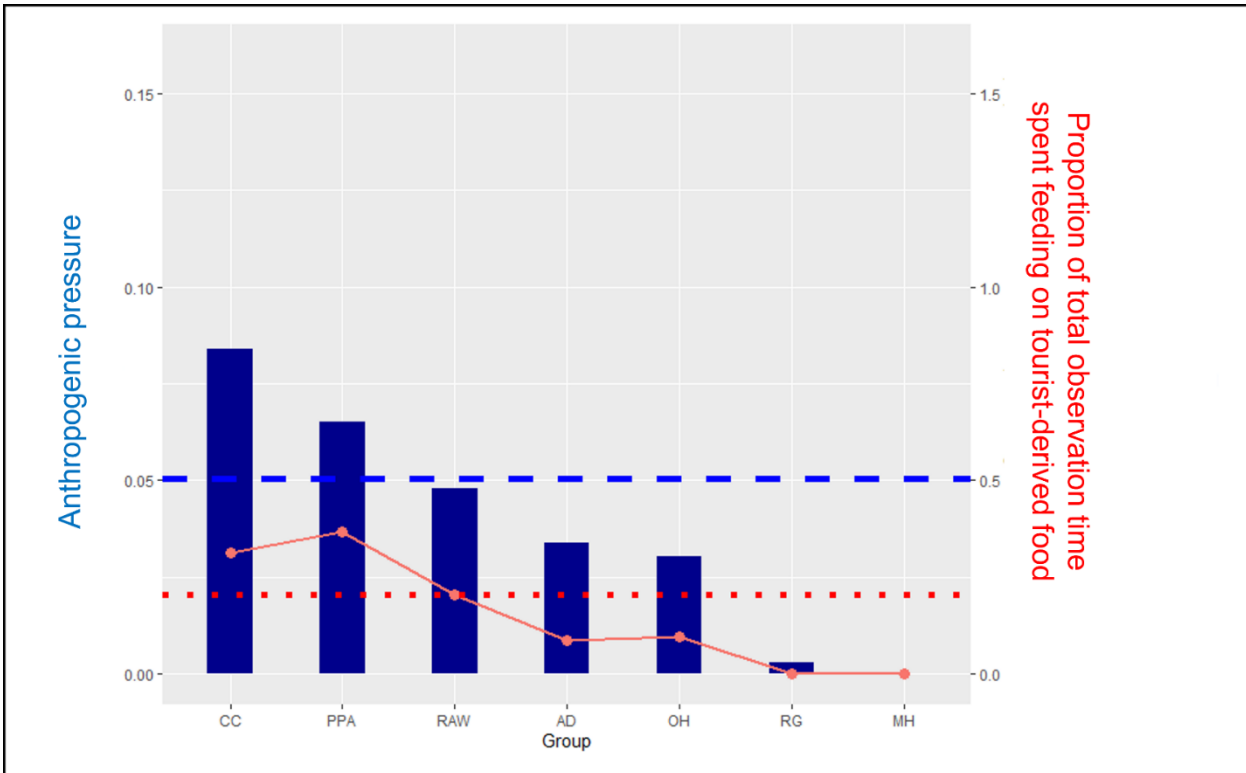
**Fig. S6. Effect of anthropogenic pressure on the amount of ingested tourist-derived food.** Model line is depicted in red, with the shaded area represents the 95% confidence intervals.



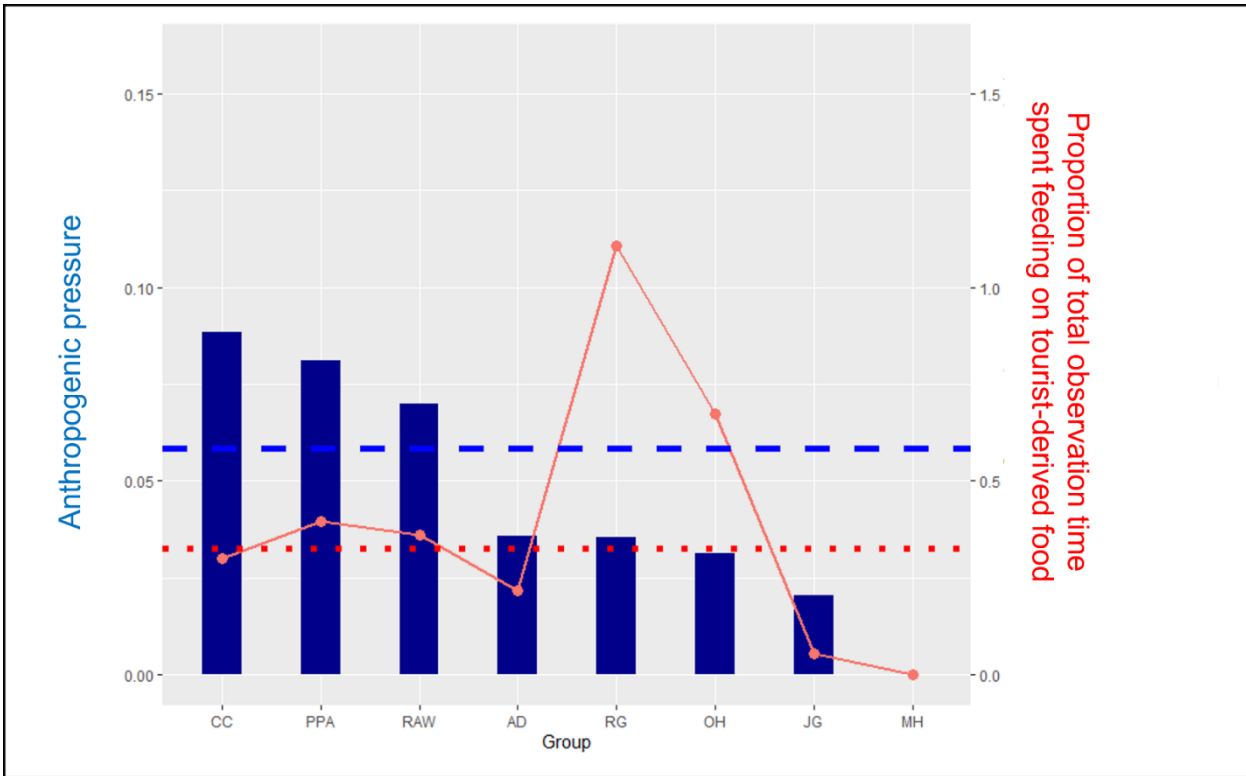
**Fig. S7. Effect of the percentage of feeding time on non-transformed food, on the amount of ingested tourist-derived food.** Model line is depicted in red, with the shaded area represents the 95% confidence intervals.



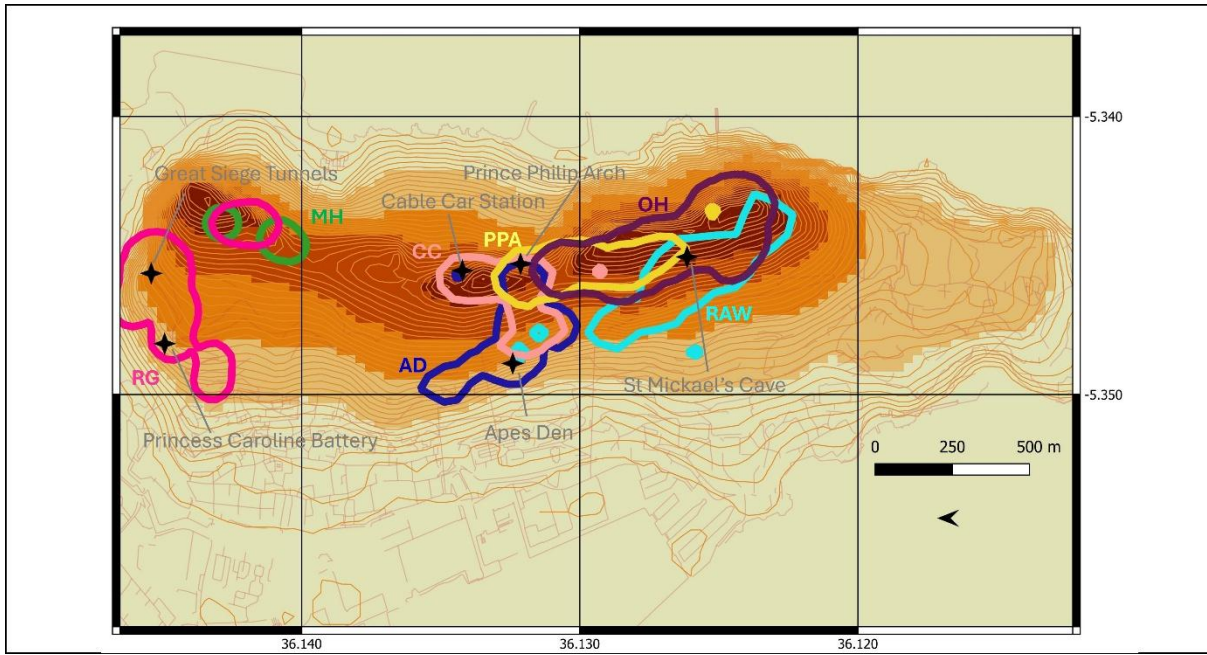
**Fig. S8. Relationship per observed group, across seasons, between anthropogenic pressure (dark blue bars) and rates of ingestion of tourist-derived food (red dots).** The horizontal blue dashed line represents the average anthropogenic pressure value for the whole population; the horizontal red dashed line represents the average proportion of observation time spent feeding on tourist-derived food for the whole population. Note the high rate of tourist-derived food feeding proportion for Rock Gun which is driven by one outlier focal follow including 19 bread-feeding records out of 55 observations (34.5% of total observation time), immediately followed by the only case of geophagy observed in that group.



**Fig. S9. Relationship per observed group, in winter, between anthropogenic pressure (dark blue bars) and rates of ingestion of tourist-derived food (red dots).** The horizontal blue dashed line represents the average anthropogenic pressure value for the whole population; the horizontal red dashed line represents the average proportion of observation time spent feeding on tourist-derived food for the whole population.



**Fig. S10. Relationship per observed group, in summer, between anthropogenic pressure (dark blue bars) and rates of ingestion of tourist-derived food (red dots).** The horizontal blue dashed line represents the average anthropogenic pressure value for the whole population; the horizontal red dashed line represents the average proportion of observation time spent feeding on tourist-derived food for the whole population.



**Fig. S11. Main touristic sites (black stars).** The elevation gradient appears in shades of orange (darker colors are higher), thick lines delineate the home-ranges of the main study groups, delimited by 95% kernel utilization distributions: Apes Den (AD) in dark blue; Royal Anglian Way (RAW) in light blue; Cable Car (CC) in light pink; Prince Philip Arch (PPA) in yellow; O’Hara (OH) in purple; Middle Hill (MH) in green; Rock Gun (RG) in dark pink. This map has been created using QGIS Desktop 3.38.3 Grenoble <https://www.qgis.org>

<b>Group</b>	<b>Total nb events</b>	<b>Terra rossa</b>	<b>Yellow soil</b>	<b>Black soil</b>	<b>Tar</b>
<b>AD</b>	3	0	0	1	2
<b>CC</b>	10	10	0	0	0
<b>RAW</b>	5	5	0	0	0
<b>OH</b>	9	9	0	0	0
<b>PPA</b>	15	11	3	1	0
<b>RG</b>	1	1	0	0	0
<b>JG</b>	2	2	0	0	0
<b>MH</b>	0	0	0	0	0
<b>LAT</b>	1	0	0	1	0
<b>Population</b>	46	38	3	3	2

**Table S1.** Distribution of soil types observed during geophagy events across the study groups.

<b>Group</b>	<b>Total nb events</b>	<b>Adult male</b>	<b>Adult female</b>	<b>Subadult male</b>	<b>Subadult female</b>	<b>Juvenile male</b>	<b>Juvenile female</b>	<b>Infant male</b>	<b>Infant female</b>
<b>AD</b>	3	1	1	0	0	1	0	0	0
<b>CC</b>	10	3	7	0	0	0	0	0	0
<b>RAW</b>	5	1	4	0	0	0	0	0	0
<b>OH</b>	9	1	6	0	1	0	0	1	0
<b>PPA</b>	15	5	7	0	3	0	0	0	0
<b>RG</b>	1	1	0	0	0	0	0	0	0
<b>JG</b>	2	0	0	0	0	0	0	0	0
<b>MH</b>	0	0	0	0	0	0	0	0	0
<b>LAT</b>	1	0	0	0	0	1	0	0	0
<b>Population</b>	46	12	27	0	4	2	0	1	0
<b>Percentage</b>	100	26.08	58.70	0	8.70	4.35	0	2.17	0

**Table S2.** Summary of the demography of geophagy events across the study groups.

Terms	Estimate	SE	Z	95% CI	P
Intercept	-0.616	0.230	-2.669	-1.101; -0.162	NA
Anthropogenic pressure <sup>*, †</sup>	0.914	0.144	6.318	0.643; 1.212	<b>&lt; 0.001</b>
Non-transformed food feeding time <sup>*, †</sup>	-0.233	0.144	-1.610	-0.532; 0.038	0.107
Sex – male <sup>*, ‡</sup>	-0.296	0.262	-1.129	-0.811; 0.219	0.258
Season – winter <sup>*, §</sup>	-0.514	0.259	-1.985	-1.026; -0.006	<b>0.047</b>

Determinants of tourist-derived food ingestion. Marginal effect sizes ( $R^2$ ), counting for the variance explained by fixed effects, was 0.245, while conditional  $R^2$ , counting for the variance of both fixed and random effects, was 0.252; \* test predictor; † z-transformed; ‡ reference level is female; § reference level is summer; p-values in bold indicate a statistically significant effect ( $p < 0.05$ ). Maximum VIF: 1.032.

**Table S3. Determinants of the likelihood to ingest tourist-derived food.** Results from a binomial GLMM.

Terms	Conditional model (log-odds of success)	SE	Z	95% CI	P	Zero-inflation model (log-odds of excess of zeros)	SE	Z
Intercept	-3.925	0.237	-16.520	-4.391; -3.460	NA	-12.88	319.39	-0.04
Anthropogenic pressure <sup>*, †</sup>	0.946	0.161	5.868	0.630; 1.262	<b>&lt; 0.001</b>			
Non-transformed food feeding time <sup>*, †</sup>	-0.302	0.131	-2.302	-0.560; -0.044	<b>0.021</b>			
Sex – male <sup>*, ‡</sup>	0.273	0.253	1.079	-0.223; 0.771	0.280			
Season – winter <sup>*, §</sup>	-0.563	0.246	-2.288	-1.045; -0.080	<b>0.022</b>			

Determinants of tourist-derived food ingestion. Marginal effect sizes ( $R^2$ ), counting for the variance explained by fixed effects, was 0.208, while conditional  $R^2$ , counting for the variance of both fixed and random effects, was 0.208; \* test predictor; † z-transformed; ‡ reference level is female; § reference level is summer; p-values in bold indicate a statistically significant effect ( $p < 0.05$ ). Maximum VIF: 1.044.

**Table S4. Determinants of the amount of ingested tourist-derived food.** Results from a zero-inflated negative binomial GLMM.

Group	Nb presentations (nb with interaction)	Nb Adult/subadult males tested (nb interacted) – [nb unique tested]	Nb Adult/subadult females tested (nb interacted) – [nb unique tested]	Nb Juveniles tested (nb interacted) – [nb unique tested]	Nb Infants tested (nb interacted) – [nb unique tested]
AD	40 (15)	7 (0) – [7]	16 (1) – [12]	15 (12) – [15]	2 (2) – [2]
CC	27 (13)	5 (1) – [5]	12 (3) – [8]	7 (6) – [7]	3 (3) – [3]
RAW	26 (10)	10 (0) – [6]	9 (4) – [9]	7 (6) – [7]	0 (0)
OH	4 (1)	0 (0)	4 (1) – [4]	0 (0)	0 (0)
PPA	19 (2)	5 (0) – [4]	11 (1) – [8]	2 (1) – [2]	1 (0) – [1]
RG	7 (1)	2 (0) – [2]	1 (0) – [1]	4 (1) – [4]	0 (0)
JG	1 (0)	0 (0)	1 (0) – [1]	0 (0)	0 (0)
all	124 (42)	29 (1) – [24]	54 (10) – [43]	35 – [35]	6 (5) – [6]

**Table S5.** Summary of the soil presentation experiments including the number of tested individuals across the groups. AD: Apes Den; CC: Cable Car; RAW: Royal Anglian Way; OH: O’Hara; PPA: Prince Philip Arch; RG: Rock Gun; JG: Jew’s Gate.

Terms	Estimate	SE	Z	95% CI	P
Intercept	-0.506	0.971	-0.522	-2.520; 1.396	NA
Group CC <sup>*,†</sup>	-2.356	1.164	-2.024	-5.387; -0.386	<b>0.043</b>
Group RAW <sup>*,†</sup>	-1.957	1.185	-1.651	-5.011; 0.069	<i>0.098</i>
Order presentation tar <sup>‡</sup>	0.254	0.561	0.454	-0.869; 1.490	0.650

Marginal effect sizes ( $R^2$ ), counting for the variance explained by fixed effects, was 0.275. \* test predictor; † reference level is Apes Den AD; ‡ control predictor; p-values in bold indicate a statistically significant effect ( $p < 0.05$ ), p-values in *italic* indicate a trend ( $p < 0.10$ ).

**Table S6.** Determinants of the *likelihood to ingest tar* during the soil presentation experiments. Results are based on a dataset comprising all experiments done on Apes Den (AD), Royal Anglian Way (RAW) and Cable Car (CC), where individuals interacted with the protocol (N=38). Results are generated from a generalized linear model with binomial structure.

Group	Est. number of individuals	Est. number of adult & subadult males	Est. number of adult & subadult females
<b>Apes Den AD</b>	ca. 40	8-10	17
<b>Cable Car CC</b>	ca. 45	10-13	22
<b>Royal Anglian Way RAW</b>	27	8	14
<b>O'Hara OH</b>	12	3-4	7
<b>Prince Philip Arch PPA</b>	17	4-5	11
<b>Rock Gun RG</b>	25	7	9
<b>Jew's Gate JG</b>	3-4	0	3-4
<b>Middle Hill MH</b>	24	6	14
<b>Lathbury Barracks LAT</b>	ca. 30	8	8
<b>Population</b>	ca. 220	54-61	105-106

**Table S7.** Demography of the study groups.

**Movie S1 (separate file).**

Adult female from Royal Anglian Way group, feeding on a terra rossa outcrop along the roadside. Video taken on the 7 January 2024. Credit: Martin Nicourt/Gibraltar Macaques Project.

**Movie S2 (separate file).**

Adult female from Cable Car group, feeding on a terra rossa outcrop at Cable Car station. Video taken on the 12 January 2024. Credit: Martin Nicourt/Gibraltar Macaques Project.

**Movie S3 (separate file).**

Adult male from Prince Philip Arch group, feeding on a terra rossa outcrop along the roadside. Video taken on the 8 December 2023. Credit: Sylvain Lemoine/Gibraltar Macaques Project.

**Movie S4 (separate file).**

Adult female from Prince Philip Arch group, feeding on the same terra rossa outcrop along the roadside than the adult male from Movie S3, immediately afterwards. Video taken on the 8 December 2023. Credit: Sylvain Lemoine/Gibraltar Macaques Project.

**Movie S5 (separate file).**

Adult female from Cable Car group, feeding on a terra rossa outcrop at Cable Car station, in presence of one one-year and one two-years old juveniles observing the activity. Video taken on the 14 August 2024. Credit: Sylvain Lemoine/Gibraltar Macaques Project.

**Data S1. (separate file)**

Summary of researchers contacted, study sites, periods of study, site types and whether researchers responded to the survey.

**Data S2 (separate file)**

Summary of study sites reported in Figure 5, geographic coordinates, whether geophagy was observed at these sites, sources of responding authors, study periods of responding authors, and provided geophagy details.