

Isotopic ecology and extirpation chronology of the extinct Lesser Antillean native rodent *Antillomys rayi*

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Supplement information 1: *Antillomys* taxonomy and related comments

Upper and lower molars of *Sigmodontinae* from archaeological sites (Table 1) are highly morphologically homogeneous. Morphological and morphometric characters allow all specimens observed to be assigned to the monospecific genus *Antillomys rayi*. This species has been recently described by Brace *et al.* (2015) from fossil specimens collected from pre-Columbian sites in the Guadeloupe Islands (eg. Anse à la Gourde on Grande Terre ; Taliseronde on Marie-Galante), Barbuda and Antigua (Indian Creek).

Taxonomic identifications are based on a combination of characters unidentified in other Lesser Antillean species (Turvey et al., 2010, 2012; Brace et al., 2015 and see Reig, 1977 for terminology): M1 anterocone divided by a deep anteromedian flexus; M1-M2-M3 with three roots; additional rootlet on M1 absent or vestigial ; M2 without protoflexus; m1-m2-m3 with two roots ; m1 without anteromedian flexid (anteromedian fossetids presents); m2 et m3 without anterolophid (Figure 1). Metric data (Table 2) are also consistent with an attribution to *Antillomys rayi*: length of mandibular molar row are to similar to mean values recorded for *Antillomys* populations (mean = 9.72mm, min = 9.24mm, max = 10.32mm, n = 40 after Brace et al., 2015).

This morpho-metrical data raise several issues. First, the above-mentioned criteria show that a single *Oryzomyine* species is present on the Guadeloupe Islands - even though these islands include several banks. Second, in terms of biogeography, the existence of multiple banks opens up the possibility of several native species inhabiting this group of islands. For instance, based on osteometric data, Grouard (2001) has argued two taxa occupied Guadeloupe. However, despite some size variability, our dataset does not confirm the presence of two taxa. More specifically, our measurements shows a regular distribution of intra-site toothrow measurements with a difference of 0.5 to 1 mm between the smallest and largest individuals from both archaeological and non-cultural sites (Table 2). These different site contexts effectively rule out aspects of chronology or domestication underlying the observed size distribution. Third, differences in dental row length is very close between male and female specimens (0.05 mm, Table 3) in present-day rodent populations (black rats) on Guadeloupe (Goedert et al. *in prep*), which equally excludes the influence of sex. On the other hand, the same populations show significant differences in mandibular row length according to living environments (Table 3). Individuals from seasonal evergreen forests have significantly longer dental rows than those present in semi-deciduous dry forests ($T = 2.46$, p -value = 0.02). Therefore, the distribution of *Antillomys* dental measurements could reflect either rapid environmental changes or the admixture of specimens caught or predated from different environments.

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Table 1 - List of Oryzomyine sites studied from the Guadeloupe islands. *Antillomys rayi* is the only species identified in all sites.

Site	Location	banc	Chronology	Reference
Grande Anse (Trois rivières Basse Terre)	Basse Terre	Guadeloupe	Late ceramic	Van den Bel and Romon 2010
Pointe des Château	Basse Terre	Guadeloupe	1400 to 1500 CE	This study
Roseau	Basse Terre	Guadeloupe	1000 to 1600 CE	Richard 2005, this study
Anse à l'eau	Grande terre	Guadeloupe	Early ceramic age	Clerc 1964
Anse Sainte Marguerite	Grande terre	Guadeloupe	Late ceramic	Courtaud et al. 2014
Grotte des Bambous	Grande terre	Guadeloupe	750 BC to 1450 CE	Cochard et. 2019, this study
Ilet du Gosier	Grande terre	Guadeloupe	Late ceramic age	Romon et al. 2013
Morel	Grande terre	Guadeloupe	Early and Late ceramic age	Hoffman et al. 1999
Mouton-de-bas	Petite Terre	Guadeloupe	Late ceramic age	De Waal 1996
Blanchard 2	Marie Galante	Marie Galante	750 to 1900 CE	Mallye et al. 2018, this study
Cadet 3	Marie Galante	Marie Galante	Late ceramic age	Stouvenot et al. 2014
Folle-Anse	Marie Galante	Marie Galante	1100 to 1300 CE	This study
Taliseronde	Marie Galante	Marie Galante	300-600 CE	Wing and Reitz 1982

Table 2 – *Antillomys* toothrow measurements.

Measurements of the mandibular and maxillary tooth rows. Length of the toothrow from the mesial surface of the first molar near its neck to the distal surface of the third molar near its neck. Measures taken with a digital caliper. PT = Petite Terre island. GT = Grande Terre island. MG = Marie Galante island

	Maxillary molar row (mm)					Mandibular molar row (mm)				
	n	mean	SD	Min	Max	n	mean	SD	Min	Max
Grotte des Bambous (GT)	8	8.92	0.27	8.47	9.23	12	9.55	0.32	9.21	10.19
Roseau (BT)	1	9.03	-	-	-	9	9.57	0.13	9.36	9.78
Folle Anse (MG)	0	-	-	-	-	7	9.78	0.19	9.6	10.12
Est Mouton de Bas (PT)	0	-	-	-	-	1	9.82	-	-	-
Anse Sainte Marguerite (GT)	2	9.39	-	9.21	9.56	6	9.31	0.3	8.97	9.66
Anse à l'eau (GT)	1	8.95	-	-	-	10	9.46	0.22	9.15	9.85
Morel (GT)	1	9.07	-	-	-	1	10.02	-	-	-
Indian Creek (Antigua)	14	9.06	0.33	8.47	9.68	19	9.6	0.31	9.07	10.09

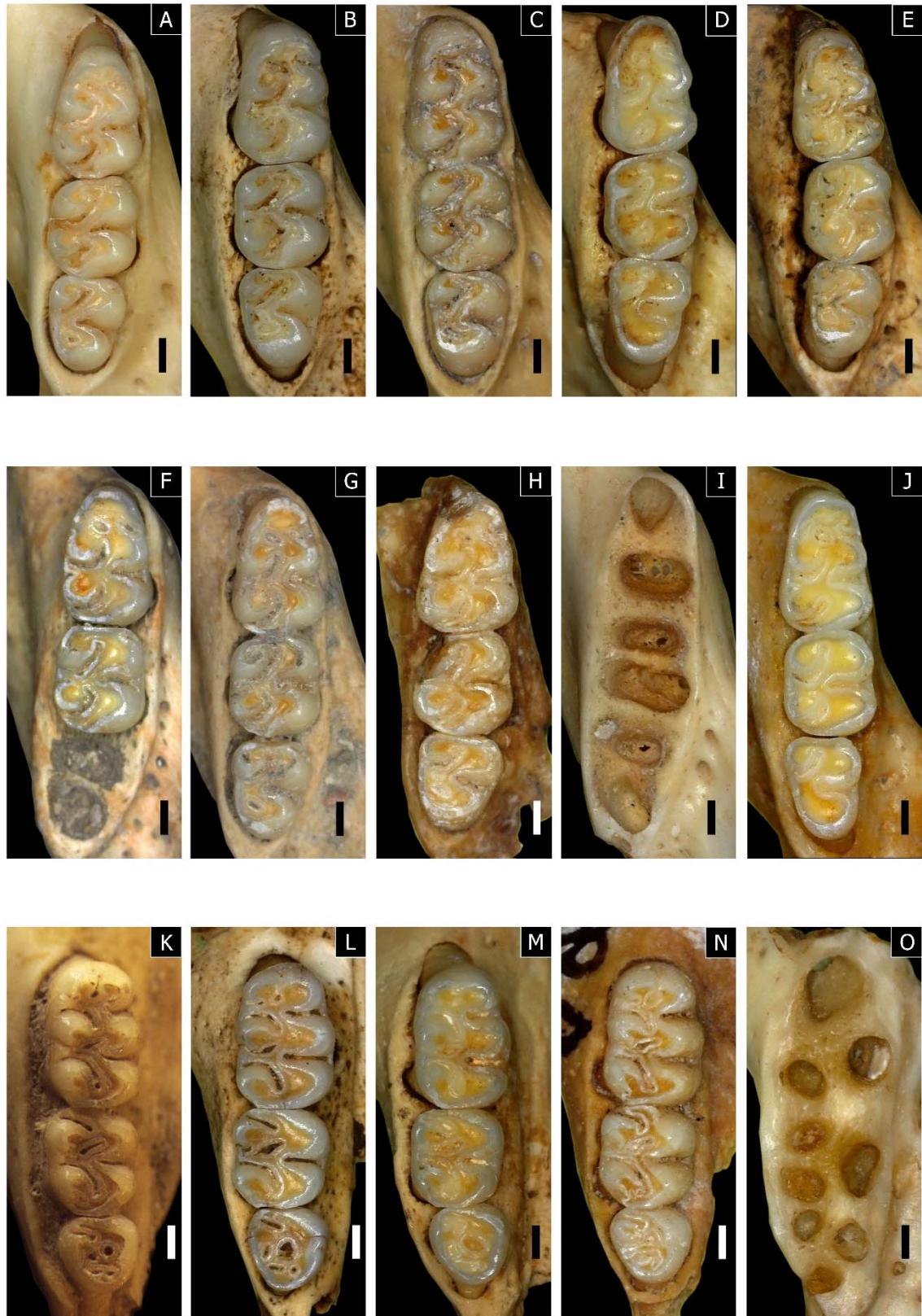
Table 3 – Black Rats (*Rattus rattus*) toothrow measurements.

Measurements of modern Black Rat mandibular tooth rows. See Table 2 for a description of the measures. Black Rats caught in different environments of Guadeloupe (see Goedert et al. (in prep) for additional details on the collection).

Mandibular molar row (mm)				
Male adults		Female adults		Seasonal evergreen forest
n	22	23		50
mean	6.22	6.27		6.27
SD	0.18	0.21		0.19
Min	5.85	5.95		5.93
Max	6.52	6.78		6.78
				Dry forest
				38
				6.16
				0.24
				5.43
				6.49

Figure 1 - Upper and lower dentition of *Antillomys rayi* from the archaeological sites of the Guadeloupe archipelago.

Mandibular molar row : A: Grotte des Bambous, B: Roseau, C: Folle Anse, D: Anse Sainte Marguerite, E: Anse à l'eau, F: Ilet du Gosier, G: Morel, H: Est Mouton de Bas, I: Grotte des Bambous, J: Indian Creek(Antigua). Maxillary molar row : K: Grotte des Bambous, L: Roseau, M: Sainte Marguerite, N: Indian Creek(Antigua), O: Grotte des Bambous. Scale bar = 1mm.



Localities	Species	Samples	Skeletal element	$\delta^{13}\text{C}_c$ (VPDB/‰)	1SD	$\delta^{18}\text{O}_c$ (VPDB/‰)	1SD	$\delta^{18}\text{O}_p$ (VSMOW/‰)	1SD
Wet season									
Gros Mornes	<i>Rattus rattus</i>	M181	Right incisor	-17.42	0.09	-3.46	0.3	18.2	0.1
Gros Mornes	<i>Rattus rattus</i>	M185	Right incisor	-18.28	0.03	-3.78	0.35	18.9	0.3
Gros Mornes	<i>Rattus rattus</i>	M186	Right incisor	-18.56	0.04	-3.66	0.18	18.7	0.3
Gros Mornes	<i>Rattus rattus</i>	M189	Right incisor	-16.13	0.02	-4.17	0.53	19.2	0.2
Gros Mornes	<i>Rattus rattus</i>	M191	Right incisor	-15.3	0.00	-3.56	0.05	18.9	0.3
Barre de Cadoue	<i>Rattus rattus</i>	M252	Right incisor	-14.73	0.15	-2.08	0.09	20.1	0.1
Barre de Cadoue	<i>Rattus rattus</i>	M256	Right incisor	-14.92	0.11	-2.21	0.01	20.8	0.3
Barre de Cadoue	<i>Rattus rattus</i>	M258	Right incisor	-14.99	0.11	-2.5	0.07	19.7	0.2
Barre de Cadoue	<i>Rattus rattus</i>	M261	Right incisor	-14.62	0.12	-3.53	0.53	19.1	0.4
Barre de Cadoue	<i>Rattus rattus</i>	M264	Right incisor	-16.2	0.1	-2.19	0.54	19.8	0.2
Piton Sainte Rose	<i>Rattus rattus</i>	M211	Right incisor	-16.69	0.18	-4.38	0.01	17.5	0.2
Piton Sainte Rose	<i>Rattus rattus</i>	M213	Right incisor	-16.73	0.06	-3.21	0.12	18.5	0.2
Piton Sainte Rose	<i>Rattus rattus</i>	M217	Right incisor	-16.82	0.17	-3.92	0.07	17.6	0.0
Piton Sainte Rose	<i>Rattus rattus</i>	M218	Right incisor	-17.27	0.05	-4.19	0.08	17.1	0.3
Piton Sainte Rose	<i>Rattus rattus</i>	M219	Right incisor	-17.17	0.14	-4.31	0.29	17.0	0.1
Espérance	<i>Rattus rattus</i>	M193	Right incisor	-17.39	0.17	-3.18	0.36	18.8	0.2
Espérance	<i>Rattus rattus</i>	M197	Right incisor	-17.01	0.04	-3.68	0.04	18.4	0.2
Espérance	<i>Rattus rattus</i>	M199	Right incisor	-17.15	0.16	-3.68	0.23	17.8	0.1
Espérance	<i>Rattus rattus</i>	M200	Right incisor	-19.12	0.11	-4.14	0.11	17.9	0.0
Espérance	<i>Rattus rattus</i>	M202	Right incisor	-18.07	0.06	-3.8	0.28	18.1	0.3
Bras David	<i>Rattus rattus</i>	M225	Right incisor	-17.09	0.00	-3.42	0.59	17.7	0.2
Bras David	<i>Rattus rattus</i>	M226	Right incisor	-17.91	0.17	-3.46	0.65	18.4	0.2
Bras David	<i>Rattus rattus</i>	M228	Right incisor	-18.45	0.08	-3.59	0.36	18.1	0.1
Bras David	<i>Rattus rattus</i>	M230	Right incisor	-17.55	0.12	-4.52	0.25	18.5	0.1
Bras David	<i>Rattus rattus</i>	M233	Right incisor	-17.52	0.05	-4.58	0.11	18.4	0.2
Col des Mammelles	<i>Rattus rattus</i>	M240	Right incisor	-16.93	0.07	-3.68	0.07	17.7	0.3
Col des Mammelles	<i>Rattus rattus</i>	M245	Right incisor	-17.21	0.02	-4.49	0.56	17.4	0.4
Col des Mammelles	<i>Rattus rattus</i>	M248	Right incisor	-17.64	0.02	-4.08	0.16	17.9	0.5
Col des Mammelles	<i>Rattus rattus</i>	M250	Right incisor	-17.54	0.04	-4.12	0.19	17.9	0.4
Col des Mammelles	<i>Rattus rattus</i>	M251	Right incisor	-17.79	0.06	-3.99	0.3	18.0	0.1
Maison de la Mangrove	<i>Rattus rattus</i>	M269	Right incisor	-14.12	0.13	-3.78	0.09	19.0	0.2
Maison de la Mangrove	<i>Rattus rattus</i>	M270	Right incisor	-15.03	0.02	-4.15	0.24	18.4	0.3
Maison de la Mangrove	<i>Rattus rattus</i>	M272	Right incisor	-15.51	0.03	-3.77	0.11	19.1	0.3
Maison de la Mangrove	<i>Rattus rattus</i>	M274	Right incisor	-14.4	0.08	-3.38	0.31	18.8	0.2
Maison de la Mangrove	<i>Rattus rattus</i>	M275	Right incisor	-14.15	0.13	-3.69	0.07	18.5	0.3

Localities	Species	Samples	Skeletal element	$\delta^{13}\text{C}_c$ (VPDB/‰)	1SD	$\delta^{18}\text{O}_c$ (VPDB/‰)	1SD	$\delta^{18}\text{O}_p$ (VSMOW/‰)	1SD
Dry season									
Gros Mornes	<i>Rattus rattus</i>	M435	Right incisor	-15.33	0.09	-1.77	0.15	19.9	0.3
Gros Mornes	<i>Rattus rattus</i>	M436	Right incisor	-14.46	0.05	-2.07	0.22	19.9	0.4
Gros Mornes	<i>Rattus rattus</i>	M438	Right incisor	-14.87	0.1	-2.44	0.33	20.1	0.4
Gros Mornes	<i>Rattus rattus</i>	M439	Right incisor	-14.52	0.14	-2.18	0.37	19.8	0.1
Gros Mornes	<i>Rattus rattus</i>	M440	Right incisor	-15.00	0.08	-1.99	0.14	19.9	0.2
Barre de Cadoue	<i>Rattus rattus</i>	M420	Right incisor	-13.78	0.06	-0.93	0.13	21.3	0.6
Barre de Cadoue	<i>Rattus rattus</i>	M421	Right incisor	-14.32	0.08	0.18	0.64	23.0	0.1
Barre de Cadoue	<i>Rattus rattus</i>	M422	Right incisor	-14.51	0.03	-0.64	0.09	22.3	0.2
Piton Sainte Rose	<i>Rattus rattus</i>	M424	Right incisor	-18.35	0.08	-1.69	0.25	20.0	0.2
Piton Sainte Rose	<i>Rattus rattus</i>	M427	Right incisor	-18.12	0.01	-3.6	0.18	18.6	0.2
Piton Sainte Rose	<i>Rattus rattus</i>	M431	Right incisor	-17.84	0.05	-1.06	0.06	20.8	0.2
Piton Sainte Rose	<i>Rattus rattus</i>	M434	Right incisor	-18.26	0.04	-2.75	0.56	19.2	0.3
Piton Sainte Rose	<i>Rattus rattus</i>	M437	Right incisor	-17.87	0.19	-2.34	0.04	20.3	0.2
Espérance	<i>Rattus rattus</i>	M467	Right incisor	-18.54	0.02	-2.79	0.04	18.7	0.2
Espérance	<i>Rattus rattus</i>	M468	Right incisor	-18.29	0.08	-2.44	0.24	18.2	0.4
Espérance	<i>Rattus rattus</i>	M470	Right incisor	-17.1	0.04	-2.18	0.01	18.4	0.5
Espérance	<i>Rattus rattus</i>	M471	Right incisor	-17.97	0.12	-2.93	0.54	19.3	0.4
Espérance	<i>Rattus rattus</i>	M472	Right incisor	-19.32	0.17	-2.27	0.09	20.5	0.3
Espérance-Canne à sucre	<i>Rattus rattus</i>	M474	Right incisor	-17.21	0.04	-1.39	0.1	20.4	0.2
Espérance-Canne à sucre	<i>Rattus rattus</i>	M475	Right incisor	-16.5	0.09	-0.86	0.06	19.7	0.2
Espérance-Jardin Créole	<i>Rattus rattus</i>	M477	Right incisor	-17.43	0.01	-2.19	0.02	19.1	0.4
Espérance-Jardin Créole	<i>Rattus rattus</i>	M478	Right incisor	-16.22	0.13	-3.34	0.31	19.0	0.5
Espérance-Jardin Créole	<i>Rattus rattus</i>	M480	Right incisor	-17.96	0.05	-3.23	0.16	18.7	0.2
Bras David	<i>Rattus rattus</i>	M442	Right incisor	-16.53	0.03	-2.76	0.17	19.2	0.1
Bras David	<i>Rattus rattus</i>	M443	Right incisor	-16.66	0.22	-2.98	0.04	19.2	0.3
Bras David	<i>Rattus rattus</i>	M444	Right incisor	-17.47	0.08	-3.12	0.21	19.7	0.1
Bras David	<i>Rattus rattus</i>	M445	Right incisor	-17.53	0.11	-2.73	0.01	19.9	0.1
Bras David	<i>Rattus rattus</i>	M450	Right incisor	-17.87	0.01	-2.25	0.1	19.6	0.0
Col des Mammelles	<i>Rattus rattus</i>	M451	Right incisor	-18.55	0.13	-2.84	0.14	18.7	0.3

Col des Mammelles	<i>Rattus rattus</i>	M452	Right incisor	-16.64	0.07	-3.19	0.19	18.9	0.2
Col des Mammelles	<i>Rattus rattus</i>	M453	Right incisor	-16.68	0.00	-3.22	0.12	18.6	0.2
Col des Mammelles	<i>Rattus rattus</i>	M454	Right incisor	-17.62	0.02	-3.5	0.48	19.0	0.2
Col des Mammelles	<i>Rattus rattus</i>	M456	Right incisor	-16.97	0.00	-2.83	0.04	19.0	0.2
Maison de la Mangrove	<i>Rattus rattus</i>	M413	Right incisor	-13.61	0.01	-2.14	0.1	19.6	0.2
Maison de la Mangrove	<i>Rattus rattus</i>	M414	Right incisor	-16.43	0.00	-2.6	0.17	19.3	0.3
Maison de la Mangrove	<i>Rattus rattus</i>	M415	Right incisor	-15.32	0.06	-2.59	0.06	19.4	0.2
Maison de la Mangrove	<i>Rattus rattus</i>	M416	Right incisor	-15.21	0.00	-2.97	0.31	18.9	0.1
Maison de la Mangrove	<i>Rattus rattus</i>	M419	Right incisor	-15.39	0.06	-2.72	0.01	18.8	0.2

Locality	Sample	Skeletal element	$\delta^{13}\text{C}_c$ (VPDB/‰)	1SD	$\delta^{18}\text{O}_c$ (VPDB/‰)	1SD	$\delta^{18}\text{O}_p$ (VSMOW/‰)	1SD
Bambous	2017-69-R4A	Right (Mandible)	-14.06	0.01	-3.27	0.09	19.7	0.1
Bambous	BAM-2014-R37D	Right (Mandible)	-12.88	0.12	-1.64	0.05	21.1	0.4
Bambous	BAM-2014-R32	Left (Mandible)	-13.38	0.14	-2.49	0.05	19.8	0.2
Bambous	BAM-2014-R40	Right (Mandible)	-12.76	0.08	-2.19	0.01	19.2	0.3
Bambous	2017-63-R7	Left (Mandible)	-13.24	0.04	-0.96	0.03	21.0	0.1
Bambous	BAM-2014-R27	Left (Mandible)	-13.2	0.09	-2.43	0.15	19.3	0.2
Bambous	2017-40-R8	Right	-12.3	0.13	-3.09	0.11	19.7	0.4
Bambous	2017-153-R1	Left (Mandible)	-13.08	0.07	-2.00	0.05	19.0	0.2
Bambous	2017-79	Right (Mandible)	-13.42	0.04	-1.4	0.02	19.5	0.3
Bambous	2017-131-R1	Right (Mandible)	-12.74	0.01	-1.78	0.17	19.6	0.2
Bambous	2017-55-R5	Left (Mandible)	-12.95	0.07	-1.43	0.03	20.5	0.2
Bambous	2017_153_R6	Right	-11.43	0.06	-1.22	0.01	21.1	0.3
Roseau	ROS-8-R1	Right	-13.99	0.00	-2.97	0.1	18.3	0.3
Roseau	ROS-3-R1A	Right (Mandible)	-11.15	0.04	-2.06	0.13	20.1	0.2
Roseau	ROS-25-R1D	Right (Mandible)	-12.21	0.02	-1.58	0.03	20.2	0.2
Roseau	ROS-16-R1B	Right (Mandible)	-14.53	0.09	-3.08	0.09	19.3	0.2
Roseau	ROS-16-R3C	Right (Mandible)	-12.24	0.07	-2.82	0.13	19.4	0.1
Roseau	ROS-4-R1C	Right (Mandible)	-14.7	0.06	-2.7	0.01	19.5	0.3
Roseau	ROS-54-R1D	Right (Mandible)	-13.54	0.12	-3.22	0.17	17.9	0.1
Roseau	ROS-81-R1D	Left (Mandible)	-15.14	0.05	-3.12	0.09	19.1	0.4
Roseau	ROS-7-R1D	Right (Mandible)	-12.49	0.02	-2.5	0.06	19.7	0.5
Roseau	ROS-16-R4B	Left (Mandible)	-12.91	0.09	-2.81	0.08	19.5	0.2
Roseau	ROS-16-R2D	Right (Mandible)	-13.09	0.03	-1.93	0.00	19.8	0.7
Roseau	ROS-62-R1B	Right (Mandible)	-13.31	0.07	-2.1	0.07	17.9	0.1
Roseau	ROS-25-R3C	Left (Mandible)	-12.5	0.03	-2.52	0.07	17.7	0.2
Roseau	ROS-58-R1D	Right (Mandible)	-11.34	0.13	-2.38	0.12	18.0	0.4
Roseau	ROS-7-R2B	Right (Mandible)	-11.89	0.01	-3.19	0.28	18.5	0.2
Roseau	ROS-27-R1C	Left (Mandible)	-12.34	0.07	-2.44	0.07	21.2	0.5
Roseau	ROS-17-R1C	Right (Mandible)	-12.62	0.03	-3.3	0.17	20.7	0.2
Roseau	ROS-87-R1C	Left (Mandible)	-13.75	0.01	-2.53	0.06	20.9	0.4
Roseau	ROS-25-R2D	Right (Mandible)	-11.9	0.1	-3.65	0.02	20.0	0.2
Roseau	ROS-22-R1	Right (Mandible)	-13.5	0.05	-3.74	0.23	18.9	0.9
Folle-Anse	FOL-4.8 (FA-01)	Right (Mandible)	-13.63	0.09	-1.98	0.19	21.4	0.2
Folle-Anse	FOL-12 (FA-02)	Right (Mandible)	-12.42	0.11	-3.24	0.3	19.1	0.2
Folle-Anse	FOL-10 (FA-03)	Right (Mandible)	-12.03	0.00	-3.01	0.09	19.9	0.3
Folle-Anse	FOL-11 (FA-04)	Left (Mandible)	-10.06	0.02	-3.22	0.2	20.2	0.2
Folle-Anse	FOL-12 (FA-05)	Right (Mandible)	-13.01	0.02	-3.71	0.14	19.0	0.2
Folle-Anse	FOL-8 (FA-06)	Left (Mandible)	-12.57	0.04	-4.11	0.44	19.0	0.3
Folle-Anse	FOL-12 (FA-07)	Left (Mandible)	-12.66	0.08	-3.2	0.48	21.3	0.0
Folle-Anse	FOL-13 (FA-08)	Left (Mandible)	-12.41	0.03	-2.52	0.01	21.7	0.2
Folle-Anse	FOL-4.1 (FA-09)	Left (Mandible)	-10.35	0.02	-3.22	0.39	21.4	0.4
Folle-Anse	FOL-4.26 (FA-10)	Left (Mandible)	-11.88	0.11	-3.07	0.05	20.7	0.5

N° of Laboratory entrance	Laboratory code	Site	Sample name	Species	Nature	Age BP	Calibrated time interval (2σ)***	Most probable time interval(s)	Calibration curve	Sample weight (mg)	Collagen yield (mg/g)	Reference
45400	Lyon-15660(RICH)	Folle Anse	FOL-4.8 (FA-01)	<i>Antillomys rayi</i>	Mandible	805 ± 25	(1189, 1271) AD	from 1044 to 1101 AD and from 1118 to 1216 AD	Terrestrial	41,1	23,5	This study
45401	Lyon-15661(RICH)	Folle Anse	FOL-12 (FA-02)	<i>Antillomys rayi</i>	Lower incisor	825 ± 25	(1168, 1260) AD		Terrestrial	57,6	48,8	This study
45402	Lyon-15455(RICH)	Folle Anse	FOL-10 (FA-03)	<i>Antillomys rayi</i>	Lower incisor	820 ± 25	(1170, 1263) AD		Terrestrial	83,4	41,5	This study
45403	Lyon-15662(RICH)	Folle Anse	FOL-11 (FA-04)	<i>Antillomys rayi</i>	Lower incisor	835 ± 25	(1164, 1257) AD		Terrestrial	44,4	50	This study
45404	Lyon-15456(RICH)	Folle Anse	FOL-12 (FA-05)	<i>Antillomys rayi</i>	Lower incisor	825 ± 25	(1168, 1260) AD		Terrestrial	87,4	48,5	This study
45405	Lyon-15663(RICH)	Folle Anse	FOL-8 (FA-06)	<i>Antillomys rayi</i>	Lower incisor	890 ± 25	(1044, 1216) AD		Terrestrial	44,5	66,7	This study
45406	Lyon-15664(RICH)	Folle Anse	FOL-12 (FA-07)	<i>Antillomys rayi</i>	Lower incisor	795 ± 25	(1206, 1276) AD		Terrestrial	51,6	55,1	This study
45407	Lyon-15457(RICH)	Folle Anse	FOL-13 (FA-08)	<i>Antillomys rayi</i>	Lower incisor	840 ± 25	(1161, 1257) AD		Terrestrial	101,1	40,9	This study
45408	Lyon-15458(RICH)	Folle Anse	FOL-4.1 (FA-09)	<i>Antillomys rayi</i>	Lower incisor	845 ± 25	(1158, 1256) AD		Terrestrial	61,6	59,1	This study
45409	Lyon-15665(RICH)	Folle Anse	FOL-4.26 (FA-10)	<i>Antillomys rayi</i>	Lower incisor	790 ± 25	(1211, 1276) AD		Terrestrial	55,3	44,1	This study
45410	Lyon-15666(RICH)	Roseau	ROS-8-R1A*	<i>Antillomys rayi</i>	Lower incisor	960 ± 25	(1021, 1155) AD	from 1047 to 1089 AD and from 1148 to 1225 AD from 1274 to 1320 AD and from 1351 to 1391 AD from 1430 to 1522 AD and from 1591 to 1620 AD from 1242 to 1288 AD from 1273 to 1310 AD and from 1360 to 1388 AD from 1259 to 1300 AD from 1047 to 1090 AD and from 1148 to 1225 AD from 1016 to 1059 AD and from 1067 to 1155 AD from 1269 to 1306 AD and from 1363 to 1385 AD	Terrestrial	56,9	42,2	This study
45411	Lyon-15667(RICH)	Roseau	ROS-3-R1A*	<i>Antillomys rayi</i>	Lower incisor	625 ± 25	(1290, 1398) AD		Terrestrial	69,7	25,8	This study
45412	Lyon-15459(RICH)	Roseau	ROS-25-R1D	<i>Antillomys rayi</i>	Lower incisor	795 ± 25	(1206, 1276) AD		Terrestrial	81,7	55,5	This study
45413	Lyon-15460(RICH)	Roseau	ROS-16-R1B	<i>Antillomys rayi</i>	Lower incisor	810 ± 25	(1182, 1269) AD		Terrestrial	67,7	69,4	This study
45414	Lyon-15461(RICH)	Roseau	ROS-16-R3C	<i>Antillomys rayi</i>	Lower incisor	870 ± 25	(1047, 1241) AD		Terrestrial	74,6	73,3	This study
45415	Lyon-15668(RICH)	Roseau	ROS-4-R1	<i>Antillomys rayi</i>	Mandible	670 ± 30	(1274, 1391) AD		Terrestrial	233,4	11,7	This study
45416	Lyon-15462(RICH)	Roseau	ROS-54-R1D	<i>Antillomys rayi</i>	Lower incisor	815 ± 25	(1170, 1265) AD		Terrestrial	67	61,2	This study
45417	Lyon-15669(RICH)	Roseau	ROS-81-R1D	<i>Antillomys rayi</i>	Lower incisor	410 ± 30	(1430, 1620) AD		Terrestrial	71,4	38,3	This study
45418	Lyon-15463(RICH)	Roseau	ROS-7-R1D	<i>Antillomys rayi</i>	Lower incisor	745 ± 25	(1224, 1288) AD		Terrestrial	70,8	58,0	This study
45419	Lyon-15464(RICH)	Roseau	ROS-16-R4B	<i>Antillomys rayi</i>	Lower incisor	765 ± 25	(1221, 1280) AD		Terrestrial	84,8	50,1	This study
45420	Lyon-15670(RICH)	Roseau	ROS-16-R2D	<i>Antillomys rayi</i>	Lower incisor	680 ± 25	(1273, 1388) AD	from 1259 to 1300 AD from 1047 to 1090 AD and from 1148 to 1225 AD from 1016 to 1059 AD and from 1067 to 1155 AD from 1269 to 1306 AD and from 1363 to 1385 AD	Terrestrial	79,8	39,1	This study
45421	Lyon-15465(RICH)	Roseau	ROS-62-R1B	<i>Antillomys rayi</i>	Lower incisor	755 ± 25	(1224, 1284) AD		Terrestrial	85,2	50,7	This study
45422	Lyon-15671(RICH)	Roseau	ROS-25-R3C	<i>Antillomys rayi</i>	Lower incisor	755 ± 30	(1221, 1286) AD		Terrestrial	43,7	66,9	This study
45423	Lyon-15672(RICH)	Roseau	ROS-58-R1	<i>Antillomys rayi</i>	Mandible	715 ± 25	(1259, 1380) AD		Terrestrial	223,6	17,5	This study
45424	Lyon-15673(RICH)	Roseau	ROS-7-R2	<i>Antillomys rayi</i>	Mandible	865 ± 30	(1047, 1255) AD		Terrestrial	105,7	26,3	This study
45425	Lyon-15674(RICH)	Roseau	ROS-27-R1C	<i>Antillomys rayi</i>	Lower incisor	970 ± 25	(1016, 1155) AD		Terrestrial	76,1	38,0	This study
45426	Lyon-15675(RICH)	Roseau	ROS-17-R1C	<i>Antillomys rayi</i>	Lower incisor	720 ± 25	(1256, 1379) AD		Terrestrial	83,8	30,6	This study
45427	Lyon-15466(RICH)	Roseau	ROS-87-R1C	<i>Antillomys rayi</i>	Lower incisor	600 ± 25	(1299, 1407) AD		Terrestrial	99,1	32,4	This study
45428	Lyon-15676(RICH)	Roseau	ROS-25-R2	<i>Antillomys rayi</i>	Mandible	690 ± 25	(1269, 1385) AD		Terrestrial	293,6	45	This study
45429	Lyon-15467(RICH)	Roseau	ROS-22-R1	<i>Antillomys rayi</i>	Lower incisor	835 ± 25	(1164, 1257) AD		Terrestrial	85,1	53,7	This study
45431	Lyon-15468(RICH)	Grotte des Bambous	2017-69-R4A*	<i>Antillomys rayi</i>	Mandible	725 ± 25	(1251, 1298) AD	from 639 to 691 AD from 717 to 743 AD and from 766 to 889 AD from 1283 to 1325 AD and from 1345 to 1394 AD	Terrestrial	59	90,8	This study
45432	Lyon-15677(RICH)	Grotte des Bambous	BAM-2014-R37D*	<i>Antillomys rayi</i>	Lower incisor	1385 ± 30	(605, 676) AD		Terrestrial	96	49,9	This study
45433	Lyon-15469(RICH)	Grotte des Bambous	BAM-2014-R32	<i>Antillomys rayi</i>	Lower incisor	1355 ± 25	(639, 761) AD		Terrestrial	89,7	45,3	This study
45434	Lyon-15678(RICH)	Grotte des Bambous	BAM-2014-R40	<i>Antillomys rayi</i>	Lower incisor	1110 ± 25	(886, 990) AD		Terrestrial	105,2	30,8	This study
45435	Lyon-15470(RICH)	Grotte des Bambous	2017-63-R7	<i>Antillomys rayi</i>	Lower incisor	1140 ± 25	(777, 979) AD		Terrestrial	61,8	75,6	This study
45436	Lyon-15679(RICH)	Grotte des Bambous	BAM-2014-R27	<i>Antillomys rayi</i>	Lower incisor	1210 ± 25	(717, 889) AD		Terrestrial	52,9	50,5	This study
45437	Lyon-15471(RICH)	Grotte des Bambous	2017-40-R8	<i>Antillomys rayi</i>	Lower incisor	1270 ± 25	(670, 774) AD		Terrestrial	84,7	68,8	This study
45438	Lyon-15680(RICH)	Grotte des Bambous	2017-153-R1	<i>Antillomys rayi</i>	Lower incisor	905 ± 30	(1037, 1207) AD		Terrestrial	61,7	41	This study
45439	Lyon-15472(RICH)	Grotte des Bambous	2017-79	<i>Antillomys rayi</i>	Lower incisor	645 ± 25	(1283, 1394) AD		Terrestrial	51	52,9	This study
45440	Lyon-15473(RICH)	Grotte des Bambous	2017-131-R1	<i>Antillomys rayi</i>	Lower incisor	1235 ± 25	(688, 877) AD		Terrestrial	100,1	85,4	This study
45441	Lyon-15474(RICH)	Grotte des Bambous	2017-55-R5	<i>Antillomys rayi</i>	Mandible	2485 ± 25	(771, 517) BC		Terrestrial	151,7	67,9	This study
			2017-153-R6**	<i>Antillomys rayi</i>	Lower incisor	-	-		-	-	-	-
42827	Lyon-13962 (SacA-49302)	Grotte des Bambous	BAM-R-03	<i>Antillomys rayi</i>	Tibia	1005 ± 30	(879, 1150) AD	Terrestrial	364,7	22,2	This study	
41581	Lyon-12958 (SacA-45277)	Grotte des Bambous	BAM-R-01	<i>Antillomys rayi</i>	Mandible	1060 ± 30	(895, 1025) AD		281	19,4	This study	
41582	Lyon-12959 (SacA-45278)	Grotte des Bambous	BAM-R-02	<i>Antillomys rayi</i>	Maxillary	1300 ± 30	(660, 769) AD		271	24,7	This study	
42828	Lyon-14109 (SacA-49751)	Grotte des Bambous	BAM-R-06	<i>Athene cunicularia</i>	Ulna	385 ± 30	(1443, 1631) AD		265,2	75,4	Gala et al. Submitted (2019)	
42829	Lyon-14110 (SacA-49752)	Pointe des Chateaux	PdC	<i>Antillomys rayi</i>	Mandible	470 ± 30	(1410, 1456) AD	Terrestrial	345,5	47,4	This study	
44921	Lyon-15371 (SacA-53695)	Blanchard 2	Blanchard2-M-181	<i>Antillomys rayi</i>	Tibia	1155 ± 30	(775-968) AD	Terrestrial	262,8	18,1	This study	
44922	Lyon-15732 (SacA-53695)	Blanchard 2	Blanchard2-M-183	<i>Antillomys rayi</i>	Calcaneum	730 ± 30	(1224-1297) AD		90,1	64,1	This study	
44920	Lyon-15370 (SacA-53694)	Blanchard 2	Blanchard2-M-45	<i>Antillomys rayi</i>	Coxal	680 ± 30	(1270-1389) AD		571,6	70,8	This study	
37080	Lyon-9693 (SacA-31250)	Blanchard 2	Blanchard2-O-267	<i>Puffinus lherminieri</i>	Tarsometatarsus	760 ± 30	(1479-1638) AD		160	33,1	Mallye et al. (2018)	

*sample test (cf. method section)

**destroyed during CO₂ conversion. As it was an isolated incisor without an associated mandible, it was impossible to extract a new aliquot of collagen

***Calibrated age intervals were obtained using Calib online v. 7.1.

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Supplementary information 5: body weight estimates of *Antillomys rayi* Brace, Turvey, Weksler, Hoogland and Barnes, 2015.

The body weight of fossil specimen was estimated based on the allometric equation provided by Wing (2001):

$$\text{Log Y} = \log a + b(\log X),$$

where X is the depth of the femoral head (DC), and Y the estimated body weight. The allometric constants are those established by Reitz & Wing (2008): $\log a = 0.696$, and $b = 2.78$, with $R^2 = 0.97$. Specimens without cortical bone tissue on the central part of the femoral head were classified as young and the others as adults. DC Measurement follows Driesch (1976).

Measured specimens come from the Edgar Clerc collection housed at the Departmental Archaeology Museum of Guadeloupe (MEC), as well as Grotte des Bambous and Folle Anse. The Edgar Clerc collections comprise material from different pre-Columbian sites on the eastern coast of Grande-Terre Island, including Palais, some 8 km north of Le Moule, or Anse à l'Eau, located between Le Moule and La Pointe des Chateaux. The mention *Eastern Grande-Terre* is used only when the precise locality is unknown. Brace *et al.*, 2015 used mandibular and cranial material from these sites was to define and describe *Antillomys rayi*.

Measurements of large Oryzomyini specimens from the site of Trants on Montserrat (Reitz, 1994) were included for comparison, particularly as several authors assigned this large form to the species occurring on Antigua and Barbuda, Guadeloupe, and Marie-Galante (Wing *et al.*, 1968; Pregill *et al.*, 1988). The results are provided in table 1.

The estimated weight of *Antillomys rayi* ranges between approximately 320 and 630 g, with a mean of 433 g. Specimens classified as representing young individuals provide an estimated weight of around 300 g, indicating the mass of lighter specimens. Except for a very large specimen from the Edgar Clerc collection (DC = 5.7 mm), weight estimates for larger specimens range from 460 to 520 g.

Specimen	Site	Island	DC	Ref.	Weight estimate	Maturity
Oryzomyini B	Trants	Montserrat	5,3	Reitz 1994	512	-
Oryzomyini B	Trants	Montserrat	5,4	Reitz 1994	540	-
MEC-006.08	Eastern Grande-Terre	Grande-Terre	4,7	this study	367	adult
MEC-006.10	Eastern Grande-Terre	Grande-Terre	5,7	this study	627	adult
MEC-009.03	Anse à l'Eau	Grande-Terre	4,5	this study	325	adult
MEC-017.05	Anse à l'Eau	Grande-Terre	4,45	this study	315	young
MEC-020.04	Anse à l'Eau	Grande-Terre	5,2	this study	486	adult
MEC-020.05	Anse à l'Eau	Grande-Terre	5,1	this study	460	adult
MEC-023.01	Palais	Grande-Terre	4,8	this study	389	adult
MEC-023.02	Palais	Grande-Terre	5,3	this study	512	adult
MEC-023.03	Palais	Grande-Terre	5	this study	436	adult

MEC-023.04	Palais	Grande-Terre	4,3	this study	286	young
MEC-028.01	Eastern Grande-Terre	Grande-Terre	5,1	this study	460	adult
BAM2014	Bambous	Grande-Terre	5,1	this study	460	adult
BAM2017-013-R2	Bambous	Grande-Terre	4,8	this study	389	adult
BAM2017-017	Bambous	Grande-Terre	5,0	this study	436	adult
BAM2017-026	Bambous	Grande-Terre	4,9	this study	412	adult
BAM2017-049	Bambous	Grande-Terre	4,7	this study	367	adult
BAM2017-056	Bambous	Grande-Terre	5,1	this study	460	adult
BAM2017-083	Bambous	Grande-Terre	4,8	this study	389	adult
BAM2017-094-R1	Bambous	Grande-Terre	4,8	this study	389	adult
BAM2017-095	Bambous	Grande-Terre	4,8	this study	389	adult
BAM2017-121	Bambous	Grande-Terre	4,9	this study	412	adult
FoAn00-Sd1-#867	Folle-Anse	Marie-Galante	5,2	this study	486	adult

Table 1: Depth of femoral head (in millimetres) and body weight estimate (grams) of fossil specimens of the large Oryzomyine rodent on Montserrat and *Antillomys rayi* on Guadeloupe and Marie-Galante.

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Supplement information 6: Radiocarbon dating methodology

In this study, the radiocarbon dating program was designed to explore chronological variations in stable isotopic measurements and better document the last-occurrence date of *A. rayi* in Guadeloupe and Marie-Galante. We choose to prioritize radiocarbon dates obtained on collagen from the dentine fraction of the lower incisor of *A. rayi*. This protocol preserves the often-diagnostic mandibles and allows radiocarbon dating to be combined with stable isotope analysis (on the enamel fraction) from the same lower incisor samples. Forty-two lower incisors were selected for radiocarbon dating and stable isotopic measurements on the same individual. Radiocarbon dates were also obtained on seven bones of *A. rayi* (without combined stable isotopic analyses) to complete the last-occurrence dataset (SI 6). Overall, 48 bioapatite samples (out of 49) of fossil *A. rayi* were directly dated by accelerator mass spectrometry (AMS).

The dentine fraction of the lower incisor of *A. rayi* generally weighed less than 100 mg and did not always provide enough collagen for radiocarbon dating. Of the 42 samples weighing less than 100 mg, we first tested 4 samples for collagen content, ROS-8-R1 (56.9 mg), ROS-3-R1A (69.7mg), BAM-2014-R37D (96 mg) and 2017-69-R4A (26.5 mg). Collagen preservation tests were performed on each tooth sample by determining the nitrogen and carbon content of the original dentine or bone material using an elemental analyzer (C/N Flash EA 1112 Thermo Fisher; Laboratoire ARAR UMR CNRS 5138). Skeletal samples received no additional preparation when the nitrogen percentage was less than 0.4% (van Klinken 1999).

Our routine pretreatment procedure involves an acid-base-acid treatment (ABA) followed by gelatinization (Longin 1971) and filtration on Nagel filter paper (Brown et al. 1988). Prior to ABA treatment, the samples are normally surface cleaned by air abrasion then ground. Given the small size of the teeth, they were brushed under ultra-pure water. Samples were sequentially treated with HCl 1N, NaOH 0.1N and HCl 1N with an ultra-pure water rinse between each reagent. Collagen was gelatinized in a pH 3 solution at 100°C for 24 hrs and the resultant gelatin solutions filtered and freeze-dried.

If the amount of collagen extracted from the original sample was less than 1% of the initial weight of sampled bone, the sample was rejected (van Klinken 1999). Generally, 5 mg of collagen are required. The sample was weighed in a pre-cleaned tin cup, then combusted and converted to CO₂ using an elemental analyzer (N/C analyzer Flash 2000 Thermo Fisher) coupled to a gas collection system. The CO₂ was then catalytically converted to graphite.

Collagen yields for the four test samples were all greater than 1 mg/g (4.22 mg/g, 2.58 mg/g, 5 mg/g and 4.8 mg/g, respectively). Although less than 5 mg of collagen was extracted for each sample (2.4 mg, 1.8 mg, 4.8 mg and 1.3 mg, respectively), this was considered sufficient for radiocarbon dating. Approximately 0.5 mg of carbon remained after the graphitization, except for sample 2017-69-R4A, which was too small after combustion for graphitization. A second attempt to extract collagen from the same associated mandible (59 mg) produced 9.8% collagen.

Consequently, we adapted the pretreatment for the other 38 samples: teeth were not ground to avoid loss and an Ezeefilter (Elkay, UK) was used during ABA pretreatment. Samples were also gelatinized without grinding. After CO₂ conversion, we selected samples that yielded sufficient carbon for dating based on a known graphitization yield of between 60 and 90%. Tooth-derived graphite samples containing less than 0.3 mg of carbon were rejected and replaced by samples obtained from their associated mandibles.

Finally, we sampled and pretreated treated 7 mandibles and 35 teeth. One sample (2017-53-R6; SI 6) destroyed during CO₂ conversion could not be replaced, as it was not associated with a mandible. Before submitting the samples, we classified them into 3 weight ranges of carbon (0.7-1mg, 0.5-0.7 mg and 0.3-0.5 mg) and prepared blanks and standards in the same weight ranges to be used for blank subtraction and standard normalization as well as known age samples. AMS 14C measurements were performed at the Royal Institute for Cultural Heritage in Brussels, Belgium (Boudin et al. 2015).

In addition, the series of dates includes 7 fossil bone samples unpaired to stable isotopic measurements. The gelatin was obtained from 1 to 2 g of bone using the ABA treatment, combusted and converted to CO₂ following the same procedure described above, and then to graphite. AMS radiocarbon measurements were performed at the Saclay laboratory (LMC 14) as part of the ARTEMIS program (Billard 2008). Conventional ages were calibrated with the OxCal program (v4.3.2 Bronk Ramsey 2017) and the Calib software (online v.7.1, Stuiver et al. 2019) using the IntCal13 calibration curve (Reimer et al. 2013).

Finally, we analyzed the obtained conventional ages using the Gaussian-resampled, inverse-weighted McInerny et al. (GRIWM) method (Bradshaw et al. 2012) in order to produce estimates of extirpation time of *A. rayi* in Guadeloupe and Marie-Galante. We used the R package “XX” available in the supplementary information published by Saltré et al. (2012).

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Locality	Sample name	Measured $\delta^{13}\text{C}$ (VPDB)	1SD	Associated radiocarbon dating	Corresponding atmospheric CO_2 ppm *	Difference with present-day concentration	$\delta^{13}\text{Cc.corr1}$ (VPDB)	$\delta^{13}\text{Cc.corr2}$ (VPDB)
Grotte des Bambous	2017-69-R4A	-14.06	0.01	(1251, 1298)	281.6	126,0	-16.57	-18.57
Grotte des Bambous	BAM-2014-R37D	-12.88	0.12	(605, 676) AD	278.2	129.3	-15.47	-17.47
Grotte des Bambous	BAM-2014-R32	-13.38	0.14	(639, 761) AD	278.9	128.7	-15.95	-17.95
Grotte des Bambous	BAM-2014-R40	-12.76	0.08	(886, 990) AD	279.3	128.3	-15.32	-17.32
Grotte des Bambous	2017-63-R7	-13.24	0.04	(777, 979) AD	278.8	128.7	-15.81	-17.81
Grotte des Bambous	BAM-2014-R27	-13.20	0.09	(717, 889) AD	278.7	128.8	-15.77	-17.77
Grotte des Bambous	2017-40-R8	-12.3	0.13	(670, 774) AD	279,0	128.5	-14.87	-16.87
Grotte des Bambous	2017-153-R1	-13.08	0.07	(1037, 1207) AD	282.8	124.8	-15.58	-17.58
Grotte des Bambous	2017-79	-13.42	0.04	(1283, 1394) AD	280.6	127,0	-15.96	-17.96
Grotte des Bambous	2017-131-R1	-12.74	0.01	(688, 877) AD	278.9	128.6	-15.31	-17.31
Grotte des Bambous	2017-55-R5	-12.95	0.07	(771, 517) BC	279.7**	127.9	-15.50	-17.50
Grotte des Bambous	2017-153-R6	-11.43	0.06	-	279.7**	127.9	-13.99	-15.99
Roseau	ROS-8-R1	-13.99	0.00	(1021, 1155) AD	282.6	125,0	-16.48	-18.48
Roseau	ROS-3-R1A	-11.15	0.04	(1290, 1398) AD	280.4	127.1	-13.70	-15.70
Roseau	ROS-25-R1D	-12.21	0.02	(1206, 1276) AD	282.3	125.3	-14.72	-16.72
Roseau	ROS-16-R1B	-14.53	0.09	(1182, 1269) AD	282.7	124.9	-17.03	-19.03
Roseau	ROS-16-R3C	-12.24	0.07	(1047, 1241) AD	283,0	124.5	-14.73	-16.73
Roseau	ROS-4-R1C	-14.70	0.06	(1274, 1391) AD	280.6	127,0	-17.23	-19.23
Roseau	ROS-54-R1D	-13.54	0.12	(1170, 1265) AD	282.7	124.9	-16.04	-18.04
Roseau	ROS-81-R1D	-15.14	0.05	(1430, 1620) AD	278.5	129,0	-17.72	-19.72
Roseau	ROS-7-R1D	-12.49	0.02	(1224, 1288) AD	281.6	125.9	-15.01	-17.01
Roseau	ROS-16-R4B	-12.91	0.09	(1221, 1280) AD	282.3	125.3	-15.41	-17.41
Roseau	ROS-16-R2D	-13.09	0.03	(1273, 1388) AD	280.6	127,0	-15.63	-17.63
Roseau	ROS-62-R1B	-13.31	0.07	(1224, 1284) AD	282.3	125.3	-15.82	-17.82
Roseau	ROS-25-R3C	-12.50	0.03	(1221, 1286) AD	282.3	125.3	-15.00	-17.00
Roseau	ROS-58-R1D	-11.34	0.13	(1259, 1380) AD	281.2	126.3	-13.87	-15.87
Roseau	ROS-7-R2B	-11.89	0.01	(1047, 1255) AD	283,0	124.5	-14.38	-16.38
Roseau	ROS-27-R1C	-12.34	0.07	(1016, 1155) AD	282.2	125.4	-14.85	-16.85
Roseau	ROS-17-R1C	-12.62	0.03	(1256, 1379) AD	281.2	126.3	-15.14	-17.14
Roseau	ROS-87-R1C	-13.75	0.01	(1299, 1407) AD	280.4	127.1	-16.30	-18.30
Roseau	ROS-25-R2D	-11.90	0.10	(1269, 1385) AD	280.6	127,0	-14.44	-16.44
Roseau	ROS-22-R1	-13.50	0.05	(1164, 1257) AD	283.2	124.3	-15.98	-17.98
Folle-Anse	FOL-4.8 (FA-01)	-13.63	0.09	(1189, 1271) AD	282.3	125.3	-16.14	-18.14
Folle-Anse	FOL-12 (FA-02)	-12.42	0.11	(1168, 1260) AD	283.2	124.3	-14.91	-16.91
Folle-Anse	FOL-10 (FA-03)	-12.03	0,00	(1170, 1263) AD	283.2	124.3	-14.52	-16.52
Folle-Anse	FOL-11 (FA-04)	-10.06	0.02	(1164, 1257) AD	283.2	124.3	-12.54	-14.54
Folle-Anse	FOL-12 (FA-05)	-13.01	0.02	(1168, 1260) AD	283.2	124.3	-15.50	-17.50
Folle-Anse	FOL-8 (FA-06)	-12.57	0.04	(1044, 1216) AD	283.3	124.3	-15.06	-17.06
Folle-Anse	FOL-12 (FA-07)	-12.66	0.08	(1206, 1276) AD	282.3	125.3	-15.16	-17.16
Folle-Anse	FOL-13 (FA-08)	-12.41	0.03	(1161, 1257) AD	283.2	124.3	-14.90	-16.90
Folle-Anse	FOL-4.1 (FA-09)	-10.35	0.02	(1158, 1256) AD	283.2	124.3	-12.83	-14.83
Folle-Anse	FOL-4.26 (FA-10)	-11.88	0.11	(1211, 1276) AD	282.3	125.3	-14.39	-16.39

*data from MacFarling Meure et al. 2006

**Since there is no corresponding atmospheric CO_2 concentration (ppm) data in MacFarling Meure et al.

(2006) for the sample 2017-55-R5 and since the sample 2017-153-R6 was not 14C dated, their

corresponding atmospheric CO_2 concentration (ppm) were approximated by taking the mean value of the other samples from Grotte des Bambous.

Martinique	8	-8.57	0.13	November 1999	366.9	40.7	-9.38	-9.78
Martinique	11	-11.11	0.02	November 1999	366.9	40.7	-11.92	-12.32
Martinique	16	-6.70	0.01	November 1999	366.9	40.7	-7.51	-7.91
Martinique	89	-7.28	0.04	November 1999	366.9	40.7	-8.09	-8.49
Martinique	100	-5.19	0.07	November 1999	366.9	40.7	-6.01	-6.41

2017-2018 CO_2 (ppm)	Pre-industrial $\delta^{13}\text{C CO}_2$ (VSMOW/‰)	$\delta^{13}\text{C CO}_2$ in Oct. 2017-Mar. 2018 (VSMOW/‰)	$\Delta^{13}\text{C}$ 2017-2018-pre-industrial
407.535*	-6.4*	-8.4*	2.0

*value from Mauna Loa CO2 records
Francey et al. (1999)
CO2 Program
(details hereunder)

*value from Scripps CO2 Program
Mauna Loa Observatory, Hawaii and South Pole, Antarctica, d13C trends

Mauna Loa CO2 records	CO_2 ppm	SD
2017	406.55	0.12
2018	408.52	0.12
	407.535	0.12

2017-2018 CO_2 (ppm)*	NOV. 1999 $\delta^{13}\text{C CO}_2$ Mar. 2018	$\delta^{13}\text{C CO}_2$ in Oct. 2017-Mar. 2018	$\Delta^{13}\text{C}$ (%) 2017-1999
407.535	-8.0	-8.4*	0,4

*value from Mauna Loa CO2 records
CO2 Program
Mauna Loa Observatory, Hawaii and South Pole, Antarctica, d13C trends

Isotopic ecology and extirpation chronology of the extinct Lesser Antillean native rodent *Antillomys rayi*

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Supplement information 8: statistical tests

Statistical tests (e.g., Mann-Whitney U) and linear discriminant analysis (LDA) were performed using the software PAST v3.22 software.

Seasonal variation of isotopic values:

Mann-Whitney U: p-value (exact permutation)		
	$\delta^{13}\text{C}_c$ (VPDB‰) wet vs dry	$\delta^{18}\text{O}_p$ (VSMOW‰) wet vs dry
Semi-deciduous dry forest	0.08547	0.0053933
Seasonal evergreen forest	0.011496	0.00054125
Mountain rainforest	0.19032	1.08E-05
Swamp forest	0.42063	0.11111

Isotopic differences between present-day environments:

In order to test whether isotopic values ($\delta^{13}\text{Cc}$ and $\delta^{18}\text{Op}$) measured for each environments were statistically different we performed a multianalysis of variance (MANOVA).

MANOVA (p-value uncorrected significance)

	Semi-deciduous dry forest	Seasonal evergreen forest	Mountain rainforest	Swamp forest	Hardy Islet, Martinique	Espérance-Jardin Créole
Semi-deciduous dry forest		3.44E-08	2.86E-07	0.016195	6.12E-10	0.018005
Seasonal evergreen forest	3.44E-08		0.56086	9.75E-07	3.34E-13	0.18157
Mountain rainforest	2.86E-07	0.56086		8.22E-06	7.38E-13	0.2495
Swamp forest	0.016195	9.75E-07	8.22E-06		1.28E-06	0.0081058
Hardy Islet, Martinique	6.12E-10	3.34E-13	7.38E-13	1.28E-06		2.73E-05
Espérance-Jardin Créole	0.018005	0.18157	0.2495	0.0081058	2.73E-05	

Isotopic differences between present-day and fossil isotopic values:

We defined 6 present-day environmental groups: semi-deciduous dry forest, seasonal evergreen forest, mountain rainforest, swamp forest, Hardy Islet Martinique, and Espérance-Créole Garden. We then performed a linear discriminant analysis (LDA) to classify fossil samples into environmental groups.

Confusion matrix (rows: given group; columns: predicted groups):

	Semi-deciduous dry forest	Seasonal evergreen forest	Mountain rainforest	Swamp forest	Hardy Islet, Martinique	Espérance-Créole Garden	Fossil Total
Semi-deciduous dry forest	12	2	1	3	0	0	0 18
Seasonal evergreen forest	0	7	9	0	0	0	4 20
Mountain rainforest	0	5	8	0	0	4	3 20
Swamp forest	1	0	0	8	0	1	0 10
Hardy Islet, Martinique	0	0	0	1	4	0	0 5
Espérance-Créole-Garden	0	1	0	0	0	3	1 5
Fossil	4	9	2	1	0	7	19 40
Total	17	24	20	13	4	15	27 120