

Supplemental Information for:

Phylogenetically under-dispersed gut microbiomes are not correlated with host genomic heterozygosity in a genetically diverse reptile community

Iris A. Holmes and Michael C. Grundler

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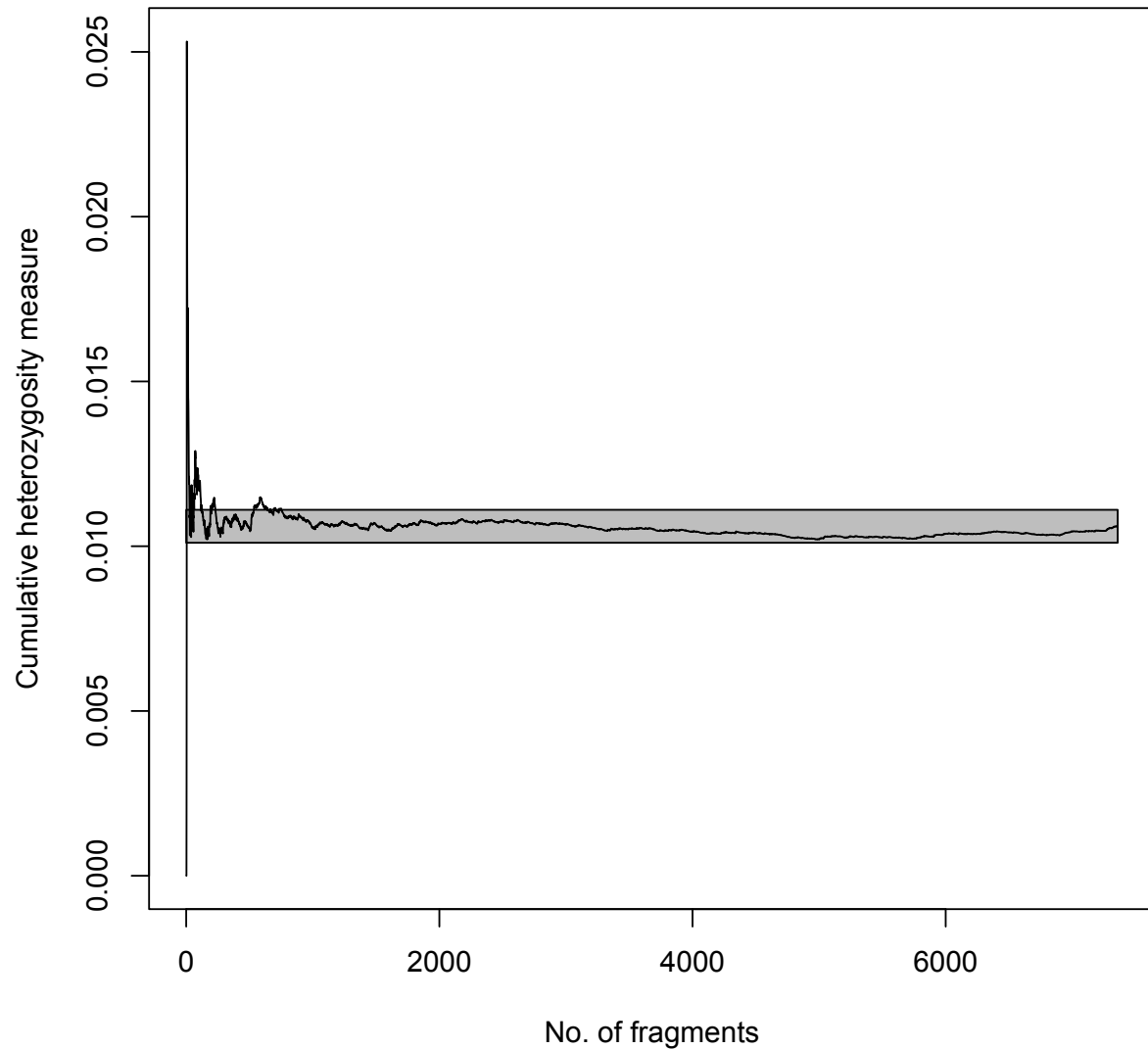


Figure S1: Defining cutoffs for retaining individuals in analysis. A) Example of a heterozygosity accumulation curve for one individual. Dark line indicates heterozygosity measure at n fragments, grey bar indicates a range within 0.001 of the full-dataset heterozygosity value.

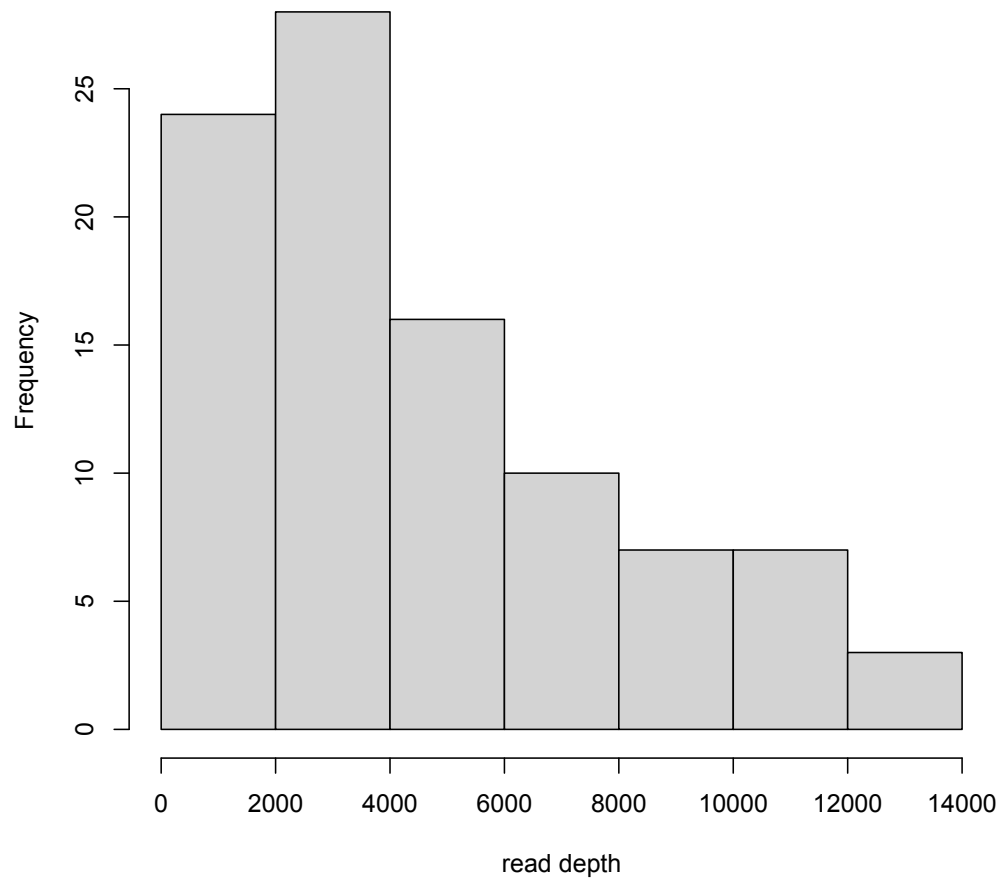


Figure S1: Defining cutoffs for retaining individuals in analysis. B) Histogram of the number of reads in the 16S rRNA cloacal microbiome dataset for each individual.

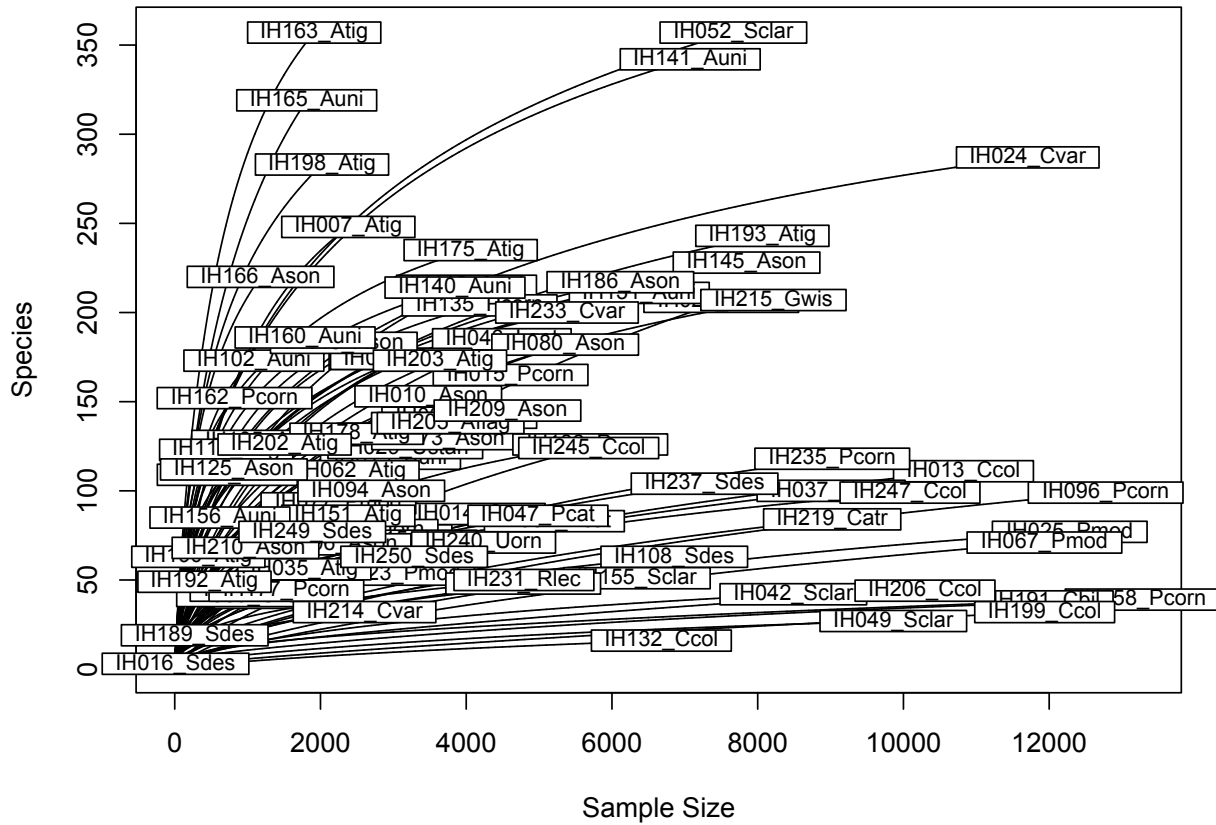


Figure S1: Defining cutoffs for retaining individuals in analysis. C) Species accumulation curves for the 16S rRNA cloacal microbiome data, with vertical line indicating the cutoff for retaining a host in the dataset.

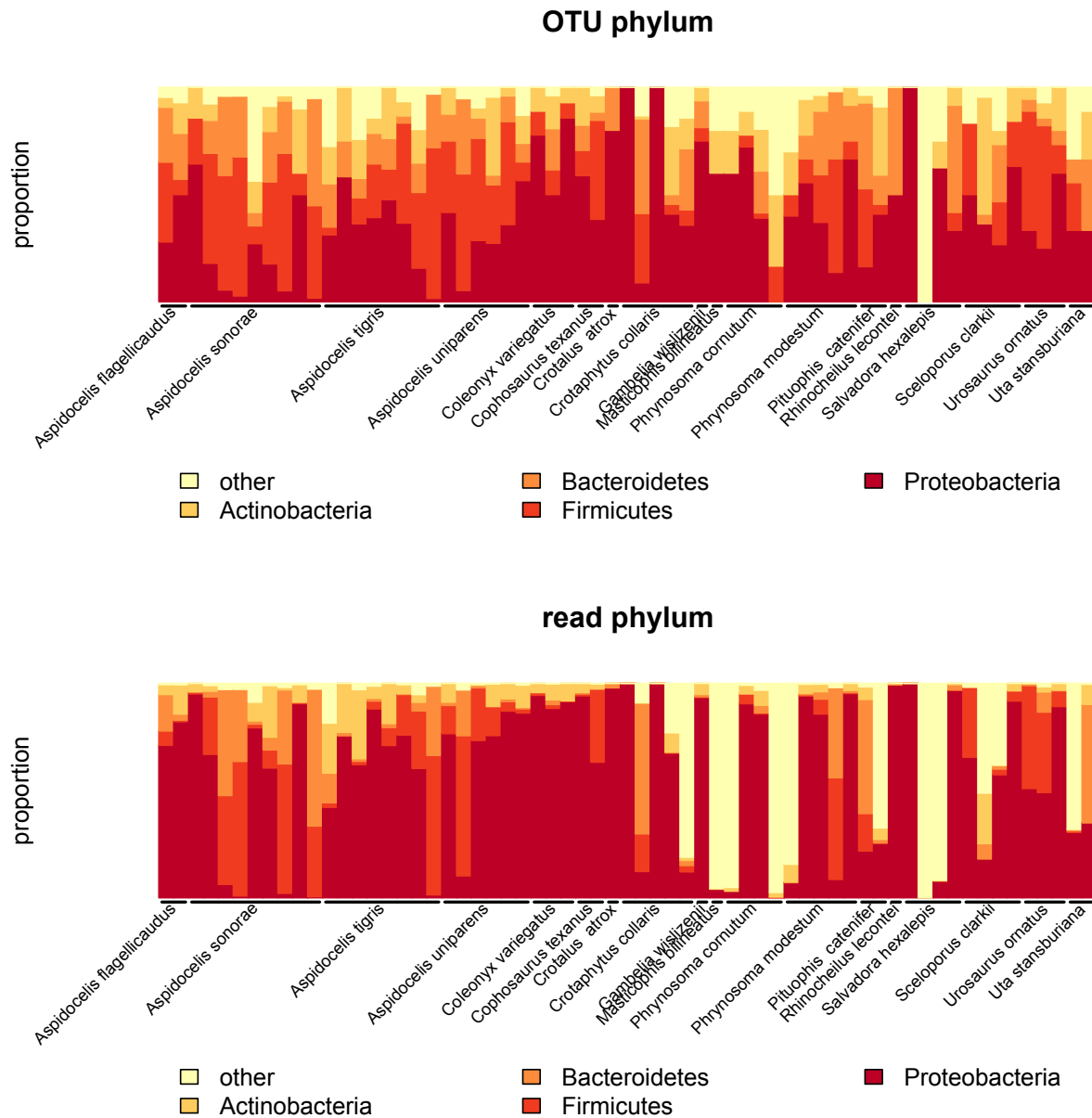


Figure S2: OTU and sequence-level phylum assignment of gut microbiomes across species.

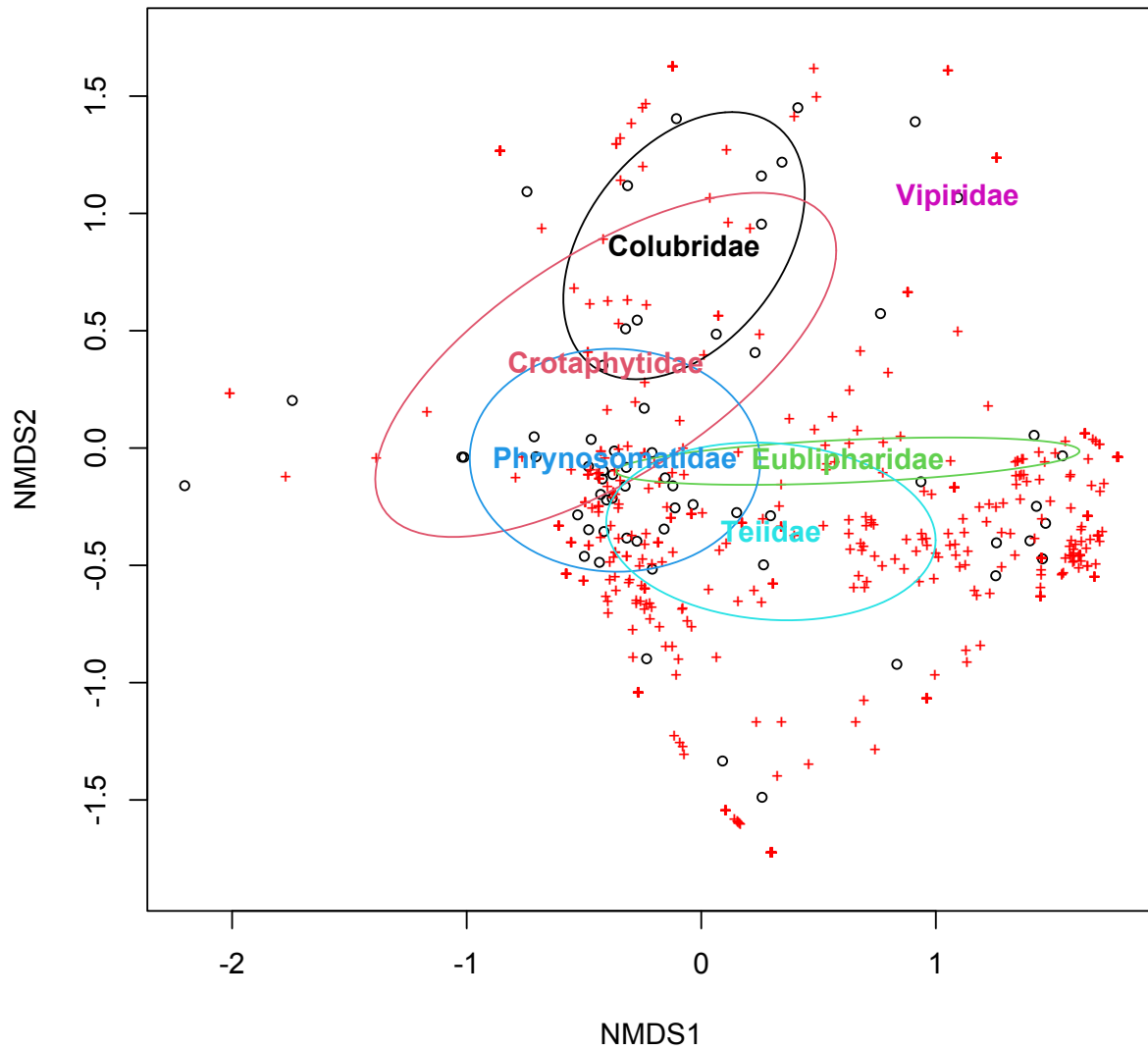


Figure S3: host family-level PERMANOVA based on microbiome Bray-Curtis distances

Table S1 columns 1 to 6

sample	genus	species	family	date	time
IH004_Pcat	Pituophis	catenifer	Colubridae	5/22/15	1813
IH006_Ustan	Uta	stansburiana	Phrynosomatidae	5/25/15	940
IH007_Atig	Aspidocelis	tigris	Teiidae	5/25/15	1054
IH008_Pmod	Phrynosoma	modestum	Phrynosomatidae	5/25/15	1110
IH010_Ason	Aspidocelis	sonorae	Teiidae	5/25/15	1321
IH013_Ccol	Crotaphytus	collaris	Crotaphytidae	5/25/15	1551
IH014_Ctex	Cophosaurus	texanus	Phrynosomatidae	5/25/15	1706
IH015_Pcorn	Phrynosoma	cornutum	Phrynosomatidae	5/25/15	1747
IH019_Auni	Aspidocelis	uniparens	Teiidae	5/26/15	1057
IH022_Pmod	Phrynosoma	modestum	Phrynosomatidae	5/27/15	911
IH023_Pmod	Phrynosoma	modestum	Phrynosomatidae	5/27/15	924
IH024_Cvar	Coleonyx	variegatus	Eublipharidae	5/27/15	954
IH025_Pmod	Phrynosoma	modestum	Phrynosomatidae	5/27/15	1020
IH029_Ustan	Uta	stansburiana	Phrynosomatidae	5/28/15	848
IH033_Auni	Aspidocelis	uniparens	Teiidae	5/28/15	1130
IH039_Uorn	Urosaurus	ornatus	Phrynosomatidae	5/29/15	1653
IH042_Sclar	Sceloporus	clarkii	Phrynosomatidae	5/29/15	1330
IH044_Uorn	Urosaurus	ornatus	Phrynosomatidae	5/29/15	1456
IH047_Pcat	Pituophis	catenifer	Colubridae	5/30/15	1141
IH049_Sclar	Sceloporus	clarkii	Phrynosomatidae	5/31/15	1015
IH052_Sclar	Sceloporus	clarkii	Phrynosomatidae	5/31/15	1154
IH062_Atig	Aspidocelis	tigris	Teiidae	6/1/15	1000
IH063_Ctex	Cophosaurus	texanus	Phrynosomatidae	6/1/15	1054
IH067_Pmod	Phrynosoma	modestum	Phrynosomatidae	6/1/15	1746
IH080_Ason	Aspidocelis	sonorae	Teiidae	6/3/15	1243
IH084_Aflag	Aspidocelis	flagellicaudus	Teiidae	6/4/15	1030
IH094_Ason	Aspidocelis	sonorae	Teiidae	6/5/15	1239
IH108_Sdes	Salvadora	hexalepis	Colubridae	6/7/15	853
IH115_Auni	Aspidocelis	uniparens	Teiidae	6/7/15	1300
IH116_Auni	Aspidocelis	uniparens	Teiidae	6/7/15	1337
IH118_Ason	Aspidocelis	sonorae	Teiidae	6/7/15	1415
IH132_Ccol	Crotaphytus	collaris	Crotaphytidae	6/9/15	1125
IH135_Pcorn	Phrynosoma	cornutum	Phrynosomatidae	6/10/15	830
IH140_Auni	Aspidocelis	uniparens	Teiidae	6/10/15	1018

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IH141_Auni	Aspidocelis	uniparens	Teiidae	6/10/15	1042
IH145_Ason	Aspidocelis	sonorae	Teiidae	6/10/15	1315
IH155_Sclar	Sceloporus	clarkii	Phrynosomatidae	6/12/15	1024
IH158_Pcorn	Phrynosoma	cornutum	Phrynosomatidae	6/13/15	941
IH173_Ason	Aspidocelis	sonorae	Teiidae	6/15/15	1229
IH175_Atig	Aspidocelis	tigris	Teiidae	6/15/15	1346
IH178_Atig	Aspidocelis	tigris	Teiidae	6/16/16	907
IH186_Ason	Aspidocelis	sonorae	Teiidae	6/17/15	1057
IH191_Cbil	Masticophis	bilineatus	Colubridae	6/17/15	1359
IH193_Atig	Aspidocelis	tigris	Teiidae	6/18/15	900
IH196_Ason	Aspidocelis	sonorae	Teiidae	6/18/15	1232
IH198_Atig	Aspidocelis	tigris	Teiidae	6/19/15	900
IH199_Ccol	Crotaphytus	collaris	Crotaphytidae	6/19/15	932
IH203_Atig	Aspidocelis	tigris	Teiidae	6/20/15	856
IH204_Atig	Aspidocelis	tigris	Teiidae	6/20/15	920
IH205_Aflag	Aspidocelis	flagellicaudus	Teiidae	6/20/15	1030
IH206_Ccol	Crotaphytus	collaris	Crotaphytidae	6/20/15	1123
IH209_Ason	Aspidocelis	sonorae	Teiidae	6/21/15	844
IH214_Cvar	Coleonyx	variegatus	Eublipharidae	6/22/15	830
IH215_Gwis	Gambelia	wislizenii	Crotaphytidae	6/22/15	926
IH219_Catr	Crotalus	atrox	Vipiridae	6/24/15	2001
IH231_Rlec	Rhinocheilus	lecontei	Colubridae	6/30/15	2100
IH233_Cvar	Coleonyx	variegatus	Eublipharidae	7/1/15	842
IH235_Pcorn	Phrynosoma	cornutum	Phrynosomatidae	7/1/15	1923
IH237_Sdes	Salvadora	hexalepis	Colubridae	7/2/15	828
IH240_Uorn	Urosaurus	ornatus	Phrynosomatidae	7/2/15	951
IH245_Ccol	Crotaphytus	collaris	Crotaphytidae	7/3/15	1212
IH247_Ccol	Salvadora	hexalepis	Colubridae	7/3/15	1825
IH250_Sdes	Salvadora	hexalepis	Colubridae	7/3/15	1910

Table S1: column 1 and 7 through 13

sample	lat	long	elevation	mass	length	sex	age class
IH004_Pcat	31.92458	109.0104	1236	676	280	M	A
IH006_Ustan	31.93907	108.94559	1311	3	42.7	F	A
IH007_Atig	31.94544	108.94859	1330	14	747	F	A
IH008_Pmod	31.94583	108.94927	1335	17.5	64.1	F	A
IH010_Ason	31.94715	108.95309	1344	NA	NA	F	A
IH013_Ccol	31.94948	108.95605	1333	14	73.9	F	J
IH014_Ctex	31.93906	108.94391	1308	4.5	50.5	F	A
IH015_Pcorn	31.92226	109.01554	1242	45	93.7	M	A
IH019_Auni	31.9462	108.95111	1341	NA	68.5	F	A
IH022_Pmod	31.94321	108.94817	1301	9	50	F	A
IH023_Pmod	31.94536	108.94856	1338	15.5	59.75	F	A
IH024_Cvar	31.94566	108.94902	1331	2	48.3	F	A
IH025_Pmod	31.94574	108.94926	1337	16	65.6	F	A
IH029_Ustan	31.93913	108.94237	1313	5	51.7	M	A
IH033_Auni	31.94475	108.94871	1323	8.5	68	F	A
IH039_Uorn	31.69467	109.328	1653	3	43.8	M	A
IH042_Sclar	31.71296	109.3214	1714	37.5	96.6	F	A
IH044_Uorn	31.71184	109.32246	1785	2	41.2	F	A
IH047_Pcat	31.93562	108.94405	1318	265	1110	M	A
IH049_Sclar	31.94599	108.94771	1338	10.5	67.1	M	A
IH052_Sclar	31.94815	108.94453	1393	11	68	F	A
IH062_Atig	31.94254	108.94956	1311	17.25	76.6	F	A
IH063_Ctex	31.94552	108.94879	1330	6.25	55.5	M	A
IH067_Pmod	31.93766	108.94049	1311	7.5	52.5	M	A
IH080_Ason	31.9519	108.95411	1353	14	76.6	F	A
IH084_Aflag	31.952	108.95374	1357	17.25	78.6	F	A
IH094_Ason	31.9496	108.95503	1344	10.5	74.5	F	A
IH108_Sdes	31.93921	108.94564	1306	80	805	M	A
IH115_Auni	31.9476	108.95266	1364	9.25	67.6	F	A
IH116_Auni	31.94804	108.9548	1328	7.25	61.5	F	A
IH118_Ason	31.94941	108.95599	1332	15	77.8	F	A
IH132_Ccol	31.94311	108.94411	1321	23.75	83.3	F	A
IH135_Pcorn	31.94251	108.94922	1311	5.25	40.2	F	J
IH140_Auni	31.94558	108.9489	1332	11	70.2	F	A
IH141_Auni	31.94572	108.94914	1334	8.5	68.4	F	A

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IH145_Ason	31.9469	108.953	1348	19	78.5	F	A
IH155_Sclar	31.9463	108.95126	1340	12.5	70.4	M	A
IH158_Pcorn	31.94344	108.94872	1324	35.5	85	M	A
IH173_Ason	31.952	108.95486	1350	15	76.9	F	A
IH175_Atig	31.94021	108.94744	1301	26.5	91.6	M	A
IH178_Atig	31.94312	108.94911	1313	25	86.9	M	A
IH186_Ason	31.94716	108.95486	1324	8.75	67.3	F	A
IH191_Cbil	31.94194	108.94775	1308	135	1125	F	A
IH193_Atig	31.9402	108.94347	1310	14	73.1	F	A
IH196_Ason	31.94708	108.95164	1366	13	72.8	F	A
IH198_Atig	31.94276	108.94923	1319	26.75	91.8	M	A
IH199_Ccol	31.94533	108.9522	1323	37.5	93.1	M	A
IH203_Atig	31.94159	108.9481	1313	25.5	89.1	M	A
IH204_Atig	31.94195	108.94874	1313	18	84.9	F	A
IH205_Aflag	31.9491	108.95773	1335	14.5	79.6	F	A
IH206_Ccol	31.95394	108.9573	1374	46	92.3	M	A
IH209_Ason	31.94841	108.95544	1329	13	69.6	F	A
IH214_Cvar	31.94609	108.94989	1339	1.75	46	M	A
IH215_Gwis	31.93968	108.94759	1300	31	107.4	F	A
IH219_Catr	31.94574	108.94846	NA	NA	NA	F	A
IH231_Rlec	31.93716	108.97018	1279	NA	NA	NA	NA
IH233_Cvar	31.94702	108.95107	1371	3	51.6	M	A
IH235_Pcorn	31.94172	108.95106	1312	60	101.7	F	A
IH237_Sdes	31.94539	108.94846	1330	43	633	F	A
IH240_Uorn	31.94777	108.95254	1373	4	50.8	M	A
IH245_Ccol	31.94932	108.95531	1333	29	84.3	F	A
IH247_Ccol	31.9405	108.94759	1305	40	NA	M	A
IH250_Sdes	31.95547	108.94217	1356	27	NA	M	A

Table S1: columns 1 and 14-20

sample	heterozygosity	no_frag	lag	microbiome richness	microbiome Faith's diversity	mean randomized Faith's diversity	Faith's diversity p-value
IH004_Pcat	0.01060472	7359	112	28	2.413539	3.0413463	0.0011
IH006_Ustan	0.00691069	10933	4748	18	1.287324	2.12806349	1.00E-04
IH007_Atig	0.00894865	1542	296	48	4.376201	4.68541689	0.1198
IH008_Pmod	0.00998158	387	129	22	2.095133	2.50676695	0.0098
IH010_Ason	0.01345804	4287	152	28	3.12382	3.04245206	0.6725
IH013_Ccol	0.00911555	12939	5642	4	0.590393	0.63555586	0.282
IH014_Ctex	0.00639822	13329	54	18	1.839839	2.12840918	0.039
IH015_Pcorn	0.00844168	547	84	18	1.613132	2.12994122	2.00E-04
IH019_Auni	0.01345087	4437	163	43	3.636911	4.2871135	0.0033
IH022_Pmod	0.0117658	1966	416	14	1.588625	1.73759835	0.1537
IH023_Pmod	0.01042495	3928	2229	16	1.596343	1.93347467	0.0151
IH024_Cvar	0.01435207	1102	995	51	3.634463	4.90952275	1.00E-04
IH025_Pmod	0.00992056	5136	3629	5	0.613248	0.75757187	0.0604
IH029_Ustan	0.006388	13089	127	26	2.172076	2.86577002	1.00E-04
IH033_Auni	0.01412192	2730	253	28	2.458429	3.04333541	0.0014
IH039_Uorn	0.01865309	231	221	14	1.20594	1.73336824	4.00E-04
IH042_Sclar	0.01396385	1081	1029	5	0.609326	0.75804677	0.0509
IH044_Uorn	0.01422853	1582	1482	17	1.595676	2.03302876	0.0041
IH047_Pcat	0.01670058	482	412	15	1.424958	1.83424886	0.0036
IH049_Sclar	0.00652329	13219	775	4	0.372685	0.63611252	7.00E-04
IH052_Sclar	0.00495535	16620	173	68	5.225578	6.14691551	4.00E-04
IH062_Atig	0.01048813	2400	1713	34	3.272309	3.55766979	0.1073
IH063_Ctex	0.00594631	13308	318	27	2.314919	2.95595208	6.00E-04
IH067_Pmod	0.00876362	367	251	5	0.613248	0.75757187	0.0604
IH080_Ason	0.01414541	2494	181	21	1.948369	2.41218227	0.0039
IH084_Aflag	0.01550493	2136	667	25	2.223117	2.77701424	0.0019
IH094_Ason	0.01360606	3041	98	30	2.384103	3.22062347	1.00E-04
IH108_Sdes	0.00459615	17493	839	6	0.552282	0.87344361	5.00E-04
IH115_Auni	0.01452412	1650	254	14	1.189218	1.73358938	1.00E-04
IH116_Auni	0.01623187	1778	410	39	3.37053	3.96790575	0.0048
IH118_Ason	0.01337996	3337	164	51	4.819345	4.91285917	0.3723
IH132_Ccol	0.00659589	17943	870	1	0.136353	0.23666645	0.01735

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IH135_Pcorn	0.01193616	1319	494	41	3.2332	4.12836392	1.00E-04
IH140_Auni	0.01431929	3703	219	73	4.866237	6.4941965	1.00E-04
IH141_Auni	0.01385609	4074	170	74	5.270305	6.5690153	1.00E-04
IH145_Ason	0.01372438	3722	279	64	4.458546	5.86431872	1.00E-04
IH155_Sclar	0.00524747	17624	258	4	0.355087	0.63486261	3.00E-04
IH158_Pcorn	0.01097599	3040	807	6	0.692247	0.8742429	0.0315
IH173_Ason	0.01285332	5061	145	24	2.077401	2.68986054	3.00E-04
IH175_Atig	0.0089804	2620	530	78	5.22062	6.83819493	1.00E-04
IH178_Atig	0.00856848	2745	236	20	1.818713	2.31829718	0.0023
IH186_Ason	0.01311401	3870	247	57	3.992922	5.35608405	1.00E-04
IH191_Cbil	0.00559029	23182	343	9	0.938353	1.21145498	0.0123
IH193_Atig	0.00735377	5555	452	58	4.056009	5.43012636	1.00E-04
IH196_Ason	0.0129013	4309	693	21	2.328505	2.41198228	0.3334
IH198_Atig	0.00850669	2360	666	109	7.706393	8.84057253	3.00E-04
IH199_Ccol	0.00663168	21256	68	2	0.238302	0.37783598	0.0065
IH203_Atig	0.00755828	3589	442	24	1.848418	2.69243634	1.00E-04
IH204_Atig	0.0083061	3884	551	33	3.121649	3.47662248	0.0506
IH205_Aflag	0.01545794	3476	342	23	1.904325	2.5947276	2.00E-04
IH206_Ccol	0.01271951	2021	341	8	0.82713	1.10325331	0.0077
IH209_Ason	0.01552154	1822	470	22	1.916142	2.50919953	4.00E-04
IH214_Cvar	0.00554794	23700	357	12	1.279998	1.53215883	0.0326
IH215_Gwis	0.005386	18459	307	22	1.959058	2.50355388	0.001
IH219_Catr	0.00566614	17961	657	9	1.192375	1.21220888	0.44
IH231_Rlec	0.00730756	4239	140	18	1.624414	2.12934764	9.00E-04
IH233_Cvar	0.00637307	40202	144	55	4.281064	5.20912107	3.00E-04
IH235_Pcorn	0.01121861	1440	398	10	1.140716	1.32144696	0.0731
IH237_Sdes	0.00488369	17108	1604	22	1.686998	2.5084985	1.00E-04
IH240_Uorn	0.00735704	11299	589	26	2.400903	2.866716	0.0065
IH245_Ccol	0.00731867	18671	321	12	1.181706	1.53225579	0.0044
IH247_Ccol	0.00730272	15593	672	15	1.786673	1.83436621	0.3881
IH250_Sdes	0.00590806	8259	724	19	1.475983	2.22295825	1.00E-04