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Supplementary tables

Supplementary table 1: Model selection for 13 aerial size models. The factors analysed in the models (column intercepts and slopes, log likelihood (LogLik), Akaike information criterion (AIC) score) reveal the effect examined in the model. CTY- colony type (detail all types); NA= model did not converge.

AIC Rank	Covariate	Fixed Factor	Random Factor	Interaction Effect	Intercepts	Slopes	LogLik	AIC	Effect
1	age	CTY	sample	age + CTY	random	random	−470	969	CTY and age+CTY
2	age	N.A.	sample	N.A.	random	Random	−479	970	Null - age
3	age	CTY	sample	N.A.	fixed	random	−584	1183	CTY. Intercept
4	age	CTY	sample	age + CTY	random	fixed	−594	1212	CTY and age+CTY
5	age	CTY	sample	N.A.	random	fixed	−601	1218	CTY
6	age	N.A.	sample	N.A.	random	fixed	−614	1236	Null - age
7	age	CTY	sample	age + CTY	random	fixed	−621	1258	age + CTY
8	age	N.A.	sample	N.A.	fixed	fixed	−632	1273	Null - age
9	age	CTY	sample	age + CTY	fixed	fixed	−632	1281	age + CTY
10	N.A.	CTY	sample	N.A.	random	N.A.	−914	1842	CTY only
11	N.A.	N.A.	sample	N.A.	random	N.A.	−924	1853	Null - random
12	age	CTY	sample	N.A.	random	random	Model failed to converge	N.A.	CTY and age
13	age	CTY	sample	age + CTY	random	random	Model failed to converge	N.A	age + CTY

Supplementary table 2: Model selection for 13 height models. The factors analysed in the models (column intercepts and slopes, log likelihood (LogLik), Akaike information criterion (AIC) score) reveal the effect examined in the model. CTY- colony type (detail all types); NA= model did not converge.

AIC Rank	Covariate	Fixed Factor	Random Factor	Interaction Effect	Intercepts	Slopes	LogLik	AIC	Effect
1	age	CTY	sample	age + CTY	random	random	−426	872.5	age + CTY
2	age	N.A.	sample	N.A.	random	fixed	−448	905	Null-age
3	age	CTY	sample	N.A.	random	fixed	−449	914	CTY
4	age	CTY	sample	age + CTY	random	fixed	−457	931	age + CTY
5	age	CTY	sample	age + CTY	random	fixed	−457	938	CTY and age+CTY
6	age	N.A.	sample	N.A.	fixed	fixed	−484	979	Null - age
7	age	CTY	sample	N.A.	fixed	random	−483	982	CTY. Intercept model
8	age	CTY	sample	age + CTY	fixed	fixed	−494	1005	age + CTY
9	N.A.	N.A.	sample	N.A.	random	N.A.	−797	1600	Null - sample
10	N.A.	CTY	sample	N.A.	random	N.A.	−800	1613	CTY only
11	age	N.A.	sample	N.A.	random	random	Model failed to converge	N.A.	Null – age
12	age	CTY	sample	age + CTY	random	random	Model failed to converge	N.A.	CTY and age+CTY
13	age	CTY	sample	N.A.	random	random	Model failed to converge	N.A.	CTY and age

Supplementary table 3: Model selection for 13 aeroxial volume models. The factors analysed in the models (column intercepts and slopes, log likelihood (LogLik), Akaike information criterion (AIC) score) reveal the effect examined in the model. CTY- colony type (detail all types); NA= model did not converge.

AIC Rank	Covariate	Fixed Factor	Random Factor	Interaction Effect	Intercepts	Slopes	LogLik	AIC	Effect
1	age	CTY	sample	age + CTY	random	random	−867	1762	CTY and age+CTY
2	age	CTY	sample	age + CTY	random	random	−874	1768	age + CTY
3	age	CTY	sample	N.A.	fixed	random	−934	1184	CTY. Intercept model
4	age	CTY	sample	N.A.	random	fixed	−950	1917	CTY
5	age	CTY	sample	age + CTY	random	fixed	−951	1926	CTY and age+CTY
6	age	N.A.	sample	N.A.	random	fixed	−961	1929	Null - age
7	age	N.A.	sample	N.A.	fixed	fixed	−966	1940	age
8	age	CTY	sample	age + CTY	random	fixed	−966	1948	age + CTY
9	age	CTY	sample	age + CTY	fixed	fixed	−967	1949	age + CTY
10	N.A.	CTY	sample	N.A.	random	N.A.	−1366	2747	CTY only
11	N.A.	N.A.	sample	N.A.	random	N.A.	−1373	2752	Null - sample
12	age	CTY	sample	N.A.	random	random	Model failed to converge	N.A.	CTY and age
13	age	N.A.	sample	N.A.	random	random	Model failed to converge	N.A.	Null - age

Supplementary Table 4: A pairwise comparison at ages 0, 10.8 months and 18 months and slopes (trends) for the best fitted model in aerial view dimensions. For each comparison, an estimated difference in EEM (Estimated marginal means; intercepts for ages and slope for trends) values are presented with the corresponding standard errors (SE), degrees of freedom (df) and adjusted p. values.

Contrast	Age 0				Age 10.8				Age 18				Trends			
	Estimate	SE	df	p. Value	Estimate	SE	df	p. Value	Estimate	SE	df	p. Value	Estimate	SE	df	p. Value
GHC - Bi- chimera	−0.74	0.19	203.95	**0.0010**	−0.50	0.10	212.56	**<0.001**	−0.35	0.18	189.29	0.5651	0.02	0.02	194.08	1
GHC - Bi- rejected	−0.49	0.23	203.32	0.3349	−0.14	0.12	217.32	1	0.10	0.23	193.61	1	0.03	0.02	193 .54	1
GHC - Multi- chimera	−0.88	0.26	206.85	**0.0103**	−0.66	0.14	208.71	**<0.001**	−0.52	0.24	177.16	0.3151	0.02	0.02	188.95	1
GHC - Multi- rejected	−1.01	0.22	185.50	**0.0001**	−0.34	0.12	203.72	**0.0461**	0.10	0.21	184.86	1	0.06	0.02	177.70	**0.03**
Bi- chimera - Bi- rejected	0.25	0.23	196.90	1	0.37	0.13	216.08	**0.0419**	0.45	0.24	191.42	0.6124	0.01	0.02	187.94	1.0
Bi- chimera - Multi- chimera	−0.13	0.27	201.80	1	−0.16	0.14	208.25	1	−0.17	0.25	176.07	1	0.00	0.02	184.40	1.0
Bi- chimera - Multi- rejected	−0.27	0.23	180.09	1	0.16	0.12	203.40	1	0.45	0.22	182.97	0.4231	0.04	0.02	172.74	0.61
Bi- rejected - Multi- chimera	−0.38	0.30	202.15	1	−0.52	0.16	212.13	**0.0110**	−0.62	0.28	182.01	0.3083	−0.01	0.03	186.51	1
Bi- rejected - Multi- rejected	−0.51	0.26	185.49	0.5242	−0.20	0.14	209.24	1	0.00	0.26	188.06	1	0.03	0.03	178.36	1
Multi- chimera - Multi- rejected	−0.13	0.29	191.30	1	0.32	0.16	203.82	0.4068	0.62	0.27	175.78	0.2250	0.04	0.03	176.27	1

Supplementary table 5: An EMM values age 0, 10.8 months, 18 months and slopes (trends) in the best fitted model for aerial size. For each colony type, an EEM (Estimated marginal mean; intercepts for ages and slope for trends) values are presented with corresponding standard errors (SE), degrees of freedom (df), lower confidence interval and upper confidence intervals.

Colony Type	**Age 0**					**Age 10.8**					**Age 18**					**Trends**				
	EMM	**SE**	**df**	**Lower. CL**	**Upper. CL**	**EMM**	**SE**	**df**	**Lower .CL**	**Upper .CL**	**EMM**	**SE**	**df**	**Lowe r.CL**	**Upper. CL**	**Slope s**	**SE**	**df**	**Lower .CL**	**Upper. CL**
GHC	2.23	0.13	215.08	1.89	2.56	3.75	0.07	214.17	3.57	3.92	4.76	0.12	192.98	4.45	5.08	0.14	0.01	204.55	0.11	0.17
Bi- chimera	2.97	0.14	194.49	2.62	3.32	4.25	0.07	211.22	4.06	4.44	5.11	0.13	186.26	4.76	5.46	0.12	0.01	185.42	0.09	0.15
Bi- rejected	2.72	0.19	198.03	2.22	3.21	3.88	0.10	218.49	3.62	4.15	4.66	0.20	193.83	4.16	5.17	0.11	0.02	189.08	0.06	0.16
Multi- chimera	3.10	0.23	204.25	2.51	3.70	4.41	0.12	207.03	4.10	4.72	5.28	0.21	172.04	4.74	5.82	0.12	0.02	183.88	0.07	0.17
Multi- rejected	3.23	0.18	172.78	2.76	3.71	4.09	0.10	199.19	3.83	4.35	4.66	0.18	181.11	4.20	5.12	0.08	0.02	165.86	0.04	0.12

Supplementary Table 6: Relative genotypes aerial size and aeroxial volume. The difference of the relative size and volume at the genotype level for bi chimeras and bi rejected was calculated by: (1) calculating the mean genotype aerial size by: Sum Of All Areal Sizes/ Number Of Genotypes in the entity X n. (2) Mean Genotype Aerial Size (for bi chimeras and bi rejected)/ Mean Genotype Aerial Size of GHC. The same calculation also performed for aeroxial volume.

Colony Type	Sum Of All Areal Sizes	Sum Of All Aeroxial Volumes	n	Number Of Genotypes In The Entity	Mean Genotype Aerial Size	Mean Genotype Aeroxial Volume	Aerial Size Difference From GHC (%)	Aeroxial Volume Difference From GHC (%)
GHC	773	7025	5	1	155	1405	NA	NA
Bi- chimera	2829	38097	11	2	129	1732	−17	23
Bi- rejected	856	10980	4	2	107	1372	−31	−2

Supplementary table 7: An EMM values age 0, 10.8 months, 18 months and slopes (trends) in the best fitted model for the height data. For each colony type, an EMM (Estimated marginal mean; intercepts for ages and slope for trends) values are presented with corresponding standard errors (SE), degrees of freedom (df), lower confidence interval and upper confidence intervals.

Colony Type	**Age 0**					**Age 10.8**					**Age 18**					**Trends**				
	EMM	**SE**	**df**	**Lower CL**	**Upper CL**	**EMM**	**SE**	**df**	**Lower CL**	**Upper CL**	**EMM**	**SE**	**df**	**Lower CL**	**Upper CL**	**EMM**	**SE**	**df**	**Lower CL**	**Upper CL**
GHC	0.19	0.06	194.30	0.04	0.35	1.34	0.05	226.71	1.22	1.46	2.11	0.07	184.20	1.92	2.30	0.11	0.01	252.63	0.09	0.12
Bi- chimera	0.19	0.06	194.30	0.04	0.35	1.52	0.05	221.87	1.38	1.65	2.40	0.08	176.88	2.19	2.61	0.12	0.01	237.77	0.11	0.14
Bi- rejected	0.19	0.06	194.30	0.04	0.35	1.55	0.07	230.51	1.36	1.74	2.46	0.12	209.99	2.15	2.77	0.13	0.01	275.73	0.11	0.15
Multi-chimera	0.19	0.06	194.30	0.04	0.35	1.59	0.08	188.37	1.39	1.79	2.53	0.12	169.56	2.21	2.85	0.13	0.01	241.77	0.11	0.15
Multi-rejected	0.19	0.06	194.30	0.04	0.35	1.46	0.07	210.28	1.29	1.63	2.31	0.11	179.21	2.03	2.59	0.12	0.01	241.19	0.10	0.14

Supplementary Table 8: A pairwise comparison at ages 0, 10.8 months, 18 months and slopes (trends) for the best fitted model for the height data. For each comparison, an estimated difference in EEM (Estimated marginal means; intercepts for ages and slope for trends) values are presented with the corresponding standard errors (SE), degrees of freedom (df) and adjusted p. values.

	Age 0				Age 10.8				Age 10.8				Trends			
Contrast	**Estimate**	**SE**	**df**	**p. Value**	**Estimate**	**SE**	**df**	**p. Value**	**Estimate**	**SE**	**df**	**p. Value**	**Estimate**	**SE**	**df**	**p. Value**
GHC - Bi- chimera	−0.0000002	0.0000001	180.41	0.079	−0.17	0.06	180.41	0.079	−0.29	0.11	180.41	0.079	−0.02	0.01	180.41	0.079
GHC - Bi- rejected	−0.0000002	0.0000001	201.62	0.127	−0.21	0.08	201.62	0.127	−0.35	0.14	201.62	0.127	−0.02	0.01	201.62	0.127
GHC - Multi- chimera	−0.0000002	0.0000001	171.97	**0.04**	−0.25	0.09	171.97	**0.040**	−0.42	0.14	171.97	**0.040**	−0.02	0.01	171.97	**0.040**
GHC - Multi- rejected	−0.0000001	0.0000001	180.85	1	−0.12	0.08	180.85	1	−0.20	0.13	180.85	1	−0.01	0.01	180.85	1
Bi- chimera - Bi- rejected	0.0000000	0.0000001	198.92	1	−0.04	0.09	198.92	1	−0.06	0.14	198.92	1	0.00	0.01	198.92	1
Bi- chimera - Multi- chimera	−0.0000001	0.0000001	171.11	1	−0.08	0.09	171.11	1	−0.13	0.15	171.11	1	−0.01	0.01	171.11	1
Bi- chimera - Multi- rejected	0.0000001	0.0000001	178.96	1	0.06	0.08	178.96	1	0.09	0.13	178.96	1	0.01	0.01	178.96	1
Bi- rejected - Multi- chimera	0.0000000	0.0000001	186.28	1	−0.04	0.10	186.28	1	−0.07	0.17	186.28	1	0.00	0.01	186.28	1
Bi- rejected - Multi- rejected	0.0000001	0.0000001	195.39	1	0.09	0.10	195.39	1	0.15	0.16	195.39	1	0.01	0.01	195.39	1
Multi- chimera - Multi- rejected	0.0000001	0.0000001	173.11	1	0.13	0.10	173.11	1	0.22	0.16	173.11	1	0.01	0.01	173.11	1

Supplementary table 9: An EMM values age 0, 10.8 months, 18 months and slopes (trends) in the best fitted model for aeroxial ecological volume. For each colony type, an EEM (Estimated marginal mean; intercepts for ages and slope for trends) values are presented with corresponding standard errors (SE), degrees of freedom (df), lower confidence intervals and upper confidence intervals.

Colony Type	Age 0					Age 10.8					Age 18					Trends				
	EMM	SE	df	Lower CL	Upper CL	EMM	SE	df	Lower CL	Upper CL	EMM	SE	df	Lower CL	Upper CL	EMM	SE	df	Lower CL	Upper CL
GHC	2.38	0.18	208.18	1.91	2.86	5.08	0.10	213.34	4.82	5.33	6.88	0.18	186.18	6.42	7.34	0.25	0.02	194.87	0.21	0.29
Bi- chimera	3.07	0.19	184.32	2.58	3.57	5.75	0.11	210.98	5.47	6.02	7.53	0.19	180.35	7.03	8.04	0.25	0.02	175.51	0.20	0.29
Bi- rejected	3.11	0.27	190.15	2.41	3.81	5.50	0.15	219.80	5.10	5.89	7.09	0.29	190.86	6.35	7.83	0.22	0.03	180.52	0.15	0.29
Multi- chimera	3.01	0.33	193.51	2.16	3.86	5.88	0.18	207.51	5.42	6.34	7.80	0.30	170.55	7.02	8.58	0.27	0.03	181.48	0.19	0.34
Multi- rejected	3.63	0.25	163.58	2.97	4.29	5.62	0.15	200.02	5.24	6.00	6.95	0.25	177.96	6.29	7.62	0.18	0.02	157.05	0.12	0.25

Supplementary table 10: an EMM Supplementary Table 10: A pairwise comparison at ages 0, 10.8 months and 18 months and slopes (trends) for the best fitted model in aeroxial ecological volume. For each comparison, an estimated difference in EEM (Estimated marginal means; intercepts for ages and slope for trends) values are presented with the corresponding standard errors (SE), degrees of freedom (df) and adjusted p. values.

Contrast	Age 0				Age 10.8				Age 18				Trends			
	Estimate	SE	df	p. Value	Estimate	SE	df	p. Value	Estimate	SE	df	p. Value	Estimate	SE	df	p. Value
GHC - Bi- chimera	−0.69	0.26	195.32	0.097	−0.67	0.14	212.06	**0.000**	−0.65	0.26	182.99	0.139	0.00	0.02	184.34	1
GHC - Bi- rejected	−0.73	0.32	195.77	0.261	−0.42	0.18	218.00	0.213	−0.21	0.34	189.55	1	0.03	0.03	184.67	1
GHC - Multi- chimera	−0.62	0.37	197.04	0.975	−0.80	0.20	208.90	**0.001**	−0.92	0.35	174.52	0.092	−0.02	0.03	184.93	1
GHC - Multi- rejected	−1.25	0.31	177.23	**0.001**	−0.55	0.18	204.09	**0.021**	−0.08	0.31	180.62	1	0.07	0.03	168.87	0.27
Bi- chimera - Bi- rejected	−0.04	0.33	188.24	1	0.25	0.19	216.86	1	0.44	0.34	187.50	1	0.03	0.03	178.93	1
Bi- chimera - Multi- chimera	0.07	0.38	191.31	1	−0.13	0.21	208.56	1	−0.26	0.36	173.42	1	−0.02	0.03	179.92	1
Bi- chimera - Multi- rejected	−0.56	0.32	170.65	0.808	0.12	0.18	203.90	1	0.58	0.32	178.84	0.73	0.06	0.03	163.61	0.36
Bi- rejected - Multi- chimera	0.10	0.42	192.75	1	−0.38	0.23	212.98	1	−0.71	0.41	180.04	0.90	−0.05	0.04	181.41	1
Bi- rejected - Multi- rejected	−0.52	0.37	177.02	1	−0.13	0.21	210.34	1	0.14	0.38	185.07	1	0.04	0.04	169.74	1
Multi- chimera - Multi- rejected	−0.63	0.41	181.53	1	0.25	0.23	204.47	1	0.84	0.39	173.64	0.34	0.08	0.04	171.13	0.31

Supplementary Table 11: Pairwise comparisons of Kaplan-Meier survival analyses between different colony types. p values are adjusted by Bonferroni correction.

Contrast	Adjusted p. Value
GHC - Bi- chimera	0.033
GHC - Bi- rejected	0.606
GHC - Multi- chimera	0.046
GHC - Multi- rejected	0.842
Bi- chimera - Bi- rejected	0.028
Bi- chimera - Multi- chimera	0.842
Bi- chimera - Multi- rejected	0.033
Bi- rejected - Multi- chimera	0.033
Bi- rejected - Multi- rejected	0.754
Multi- chimera - Multi- rejected	0.046