SI Appendix for:

Eusociality in snapping shrimps is associated with larger genomes and an accumulation of transposable elements

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Source data files:
Dataset S1: Proportions of TE subclass by species
Dataset S2: Total TE proportions by species

Table S1. ***Synalpheus*** **shrimp samples used for ddRAD sequencing to estimate the proportions of transposable elements.**

Synalpheus	**Sample**	**Collection site**	**Quality-filtered reads**	**SRA**
agelas	JAM2008-014-002_agelas	Jamaica	SAMN14351547	1712682
agelas	JAM2008-020-001_agelas	Jamaica	SAMN14351548	76558
agelas	JAM2008-020-003_agelas	Jamaica	SAMN14351549	156416
agelas	JAM2008-030-001_agelas	Jamaica	SAMN14351550	4675129
agelas	JAM2008-044-001_agelas	Jamaica	SAMN14351551	2882957
agelas	JAM2008-056-001_agelas	Jamaica	SAMN14351552	6200200
agelas	JAM2008-061-006_agelas	Jamaica	SAMN14351553	257228
agelas	JAM2008-085-003_agelas	Jamaica	SAMN14351554	567308
androsi	BR2008-014-002_androsi	Barbados	SAMN15732556	1327
androsi	BR2008-067-007_androsi	Barbados	SAMN15732557	944758
androsi	BR2008-068-002-sub02_androsi	Barbados	SAMN15732558	85152
androsi	BR2008-071-001-sub02_androsi	Barbados	SAMN15732559	180989
ankeri	CBC2001-055-004_CBC-paraneptunus-4	Belize	SAMN15732560	1849043
ankeri	CBC2003-003-001_CBC-paraneptunus-4	Belize	SAMN15732561	127272
ankeri	P2007-064-001_CBC-paraneptunus-4	Panama	SAMN15732562	4031562
belizensis	BR2008-070-003_belizensis	Barbados	SAMN15732563	3181658
belizensis	CU2008-049-002_belizensis	Curacao	SAMN15732564	1437872
belizensis	CU2008-094-001-sub1_belizensis	Curacao	SAMN15732565	678916
belizensis	CU2008-095-001-sub1_belizensis	Curacao	SAMN15732566	5566818
bocas	JAM2008-005-003_bocas	Jamaica	SAMN15732567	4786668
bocas	P2007-069-004-sub1_bocas	Panama	SAMN15732568	641769
bocas	P2008-027-001_bocas	Panama	SAMN15732569	415875
bocas	P2008-084-004_bocas	Panama	SAMN15732570	1455179
bousfieldi	CBC2005_037_006_002	Belize	SAMN14351555	581693
bousfieldi	CBC2005_037_006_003	Belize	SAMN14351556	161390
bousfieldi	CBC2009_024_001	Belize	SAMN14351557	7703702
bousfieldi	CBC2009_024_005	Belize	SAMN14351558	3482204
bousfieldi	CBC2009_036_003	Belize	SAMN14351559	5104209
bousfieldi	CBC2009_036_006	Belize	SAMN14351560	3741335
bousfieldi	CBC2009_066_003	Belize	SAMN14351561	129954
bousfieldi	CBC2009_088_002	Belize	SAMN14351562	2460076
brevifrons	CBC2004-045-001_brevifrons	Belize	SAMN15732571	2067533
brevifrons	CBC2004-045-002_brevifrons	Belize	SAMN15732572	1501757
brooksi	CBC2005_002_008	Belize	SAMN14351563	796502

brooksi	CBC2005_014_002	Belize	SAMN14351564	1251559
brooksi	CBC2005_031_006_001	Belize	SAMN14351565	1768197
brooksi	CBC2005_031_006_002	Belize	SAMN14351566	835656
brooksi	CBC2005_032_001	Belize	SAMN14351567	181648
brooksi	CBC2009_008_004	Belize	SAMN14351568	4729671
brooksi	CBC2009_040_002	Belize	SAMN14351569	5633593
brooksi	CBC2009_060_001	Belize	SAMN14351570	2196721
carpenteri	JAM2008-010-001_carpenteri	Jamaica	SAMN14351571	2266519
carpenteri	JAM2008-013-001_carpenteri	Jamaica	SAMN14351572	40926
carpenteri	JAM2008-020-006_carpenteri	Jamaica	SAMN14351573	2181355
carpenteri	JAM2008-026-001_carpenteri	Jamaica	SAMN14351574	2962781
carpenteri	JAM2008-030-004_carpenteri	Jamaica	SAMN14351575	2892293
carpenteri	JAM2008-035-001_carpenteri	Jamaica	SAMN14351576	3499187
carpenteri	JAM2008-038-001_carpenteri	Jamaica	SAMN14351577	965799
carpenteri	JAM2008-039-001_carpenteri	Jamaica	SAMN14351578	62802
cayoneptunus	FK2013-041-001_cayoneptunus	USA	SAMN15732573	10837
cayoneptunus	FK2013-086-001_cayoneptunus	USA	SAMN15732574	5915126
cayoneptunus	FK2016-001-001_cayoneptunus	USA	SAMN15732575	6492611
cayoneptunus	FK2016-003-001_cayoneptunus	USA	SAMN15732576	3529714
chacei	CBC2004-005-003_chacei	Belize	SAMN14351579	5163162
chacei	CBC2004-012-001_chacei	Belize	SAMN14351580	3973
chacei	CBC2004-042-004_chacei	Belize	SAMN14351581	1893724
chacei	CBC2004-044-001_chacei	Belize	SAMN14351582	2393097
chacei	CBC2004-056-001_chacei	Belize	SAMN14351583	2548842
chacei	CBC2004-060-002_chacei	Belize	SAMN14351584	3931458
chacei	CBC2004-061-002_chacei	Belize	SAMN14351585	64692
chacei	CBC2004-062-001_chacei	Belize	SAMN14351586	4844209
chacei	CBC2005-027-002_chacei	Belize	SAMN15732577	271315
chacei	CBC2009-019-012_chacei	Belize	SAMN15732578	24739
chacei	CBC2009-086-001_chacei	Belize	SAMN15732579	504352
chacei	P2008-019-004_chacei	Panama	SAMN15732580	7715128
chacei	P2008-020-003-sub2-4_chacei	Panama	SAMN15732581	6644382
chacei	P2008-150-001_chacei	Panama	SAMN15732582	9215974
chacei	P2008-151-001_chacei	Panama	SAMN15732583	2760276
chacei	P2009-042-003_chacei	Panama	SAMN15732584	5151754
chacei	P2009-071-002_chacei	Panama	SAMN15732585	6398525
dardeaui	CBC2005_002_014	Belize	SAMN14351587	380468
dardeaui	CBC2005_014_017	Belize	SAMN14351588	57619
dardeaui	CBC2005_030_003	Belize	SAMN14351589	1063406
dardeaui	CBC2005_033_001	Belize	SAMN14351590	277469

dardeaui	CBC2005_042_004	Belize	SAMN14351591	19970
dardeaui	CBC2009_036_009	Belize	SAMN14351592	1687798
dardeaui	CBC2009_039_001	Belize	SAMN14351593	4010741
dardeaui	CBC2009_040_008	Belize	SAMN14351594	2506752
duffyi	FK16_1201_duffyi	USA	SAMN15732540	6336
duffyi	FK16_1202_duffyi	USA	SAMN15732541	7634625
duffyi	FK16_1203_duffyi	USA	SAMN15732542	5857758
duffyi	FK16_1204_duffyi	USA	SAMN15732543	4777737
duffyi	FK16_1205_duffyi	USA	SAMN15732544	4866481
duffyi	FK16_1206_duffyi	USA	SAMN15732545	7488702
duffyi	FK16_1207_duffyi	USA	SAMN15732546	4855903
duffyi	FK16_1208_duffyi	USA	SAMN15732547	8319401
duffyi	JAM2008-009-001_duffyi	Jamaica	SAMN14351595	1649957
duffyi	JAM2008-012-003_duffyi	Jamaica	SAMN15732586	131538
duffyi	JAM2008-012-004_duffyi	Jamaica	SAMN14351596	688617
duffyi	JAM2008-050-001_duffyi	Jamaica	SAMN14351597	4636965
duffyi	JAM2008-075-008_duffyi	Jamaica	SAMN14351598	2814775
duffyi	JAM2012-033-030_duffyi	Jamaica	SAMN15732587	1171708
duffyi	JAM2012-070-007_duffyi	Jamaica	SAMN15732588	389474
duffyi	JAM2012-135-003_duffyi	Jamaica	SAMN14351599	2337575
duffyi	JAM2012-165-001_duffyi	Jamaica	SAMN14351600	3006494
elizabethae	P2007_065_005	Panama	SAMN15732526	7982335
elizabethae	P2008_018_016	Panama	SAMN15732527	3710578
elizabethae	P2008_024_001	Panama	SAMN15732528	2008742
elizabethae	P2008_091_036	Panama	SAMN15732529	35934
elizabethae	P2008_143_004	Panama	SAMN15732530	5949
elizabethae	P2009_032_001	Panama	SAMN15732531	1711790
elizabethae	P2009_046_015	Panama	SAMN15732532	5242412
elizabethae	P2009_066_001	Panama	SAMN15732533	3541134
filidigitus	CBC2005_007_002_filidigitus	Belize	SAMN12568980	108622
filidigitus	CBC2005_007_003	Belize	SAMN15732534	72852
filidigitus	CBC2005_007_003_filidigitus	Belize	SAMN15732589	22735
filidigitus	CBC2005_025_001_sub1	Belize	SAMN15732535	3808
filidigitus	CBC2005_025_001_sub1_filidigitus	Belize	SAMN15732590	120153
filidigitus	CBC2005_025_001_sub2_filidigitus	Belize	SAMN15732591	138515
filidigitus	CBC2005_026_002_filidigitus	Belize	SAMN15732592	73788
filidigitus	CBC2005_026_003_sub1_filidigitus	Belize	SAMN15732593	26019
filidigitus	CBC2009_042_003	Belize	SAMN15732536	83584
filidigitus	CBC2009_076_004_001_001	Belize	SAMN15732537	2344998
filidigitus	CBC2009_077_002	Belize	SAMN15732538	90729

filidigitus	CBC2009_077_002_filidigitus	Belize	SAMN12568980	1180030
filidigitus	CBC2009_077_003_004_001	Belize	SAMN15732539	1810436
filidigitus	CBC2009_077_003_sub004002_filidigitus	Belize	SAMN15732594	941409
goodei	P2007-036-006-sub1_goodei	Panama	SAMN15732595	3020972
goodei	P2008-087-001-sub1-1_goodei	Panama	SAMN15732596	3658409
herricki	CU08_2703_01_herricki	Curacao	SAMN15732548	96951
herricki	CU08_2703_02_herricki	Curacao	SAMN15732549	1298174
herricki	CU08_2703_03_herricki	Curacao	SAMN15732550	1499343
herricki	CU08_2703_04_herricki	Curacao	SAMN15732551	12453
herricki	CU08_2703_05_herricki	Curacao	SAMN15732552	1151336
herricki	CU08_2704_herricki	Curacao	SAMN15732553	5152095
herricki	CU08_2705_herricki	Curacao	SAMN15732554	755819
herricki	CU08_2706_herricki	Curacao	SAMN15732555	1466840
hoetjesi	BR2008-067-001_hoetjesi	Barbados	SAMN15732597	4528268
hoetjesi	CU2008-003-003_hoetjesi	Curacao	SAMN12568981	5033305
hoetjesi	CU2008-041-002_hoetjesi	Curacao	SAMN15732598	752181
hoetjesi	CU2008-089-004_hoetjesi	Curacao	SAMN15732599	3456355
idios	BR08_101_01_idios	Barbados	SAMN14351610	5557430
idios	BR08_101_03_idios	Barbados	SAMN14351611	383046
idios	BR08_101_04_idios	Barbados	SAMN14351612	2277043
idios	BR08_104_02_idios	Barbados	SAMN14351613	2168882
idios	BR08_105_02_idios	Barbados	SAMN14351614	3132976
idios	BR08_105_03_idios	Barbados	SAMN14351615	6297978
idios	BR08_105_04_idios	Barbados	SAMN14351616	7276883
idios	BR08_105_05_idios	Barbados	SAMN14351617	6879533
kensleyi	CBC2012-023-001_kensleyi	Belize	SAMN12568984	7414069
kensleyi	CBC2012-040-001_kensleyi	Belize	SAMN15732600	3222
kensleyi	CBC2012-211-002_kensleyi	Belize	SAMN15732601	77547
kensleyi	P2003-020-001_kensleyi	Panama	SAMN15732602	220931
longicarpus	FK2005-001-001_longicarpus	USA	SAMN15732603	419893
longicarpus	FK2005-001-002_longicarpus	USA	SAMN15732604	246975
longicarpus	P1993-035-009_longicarpus	Panama	SAMN15732605	4330775
longicarpus	P1993-035-010_longicarpus	Panama	SAMN15732606	177422
longicarpus_small	P2007_012_001	Panama	SAMN14351618	8182806
longicarpus_small	P2007_032_003	Panama	SAMN14351619	2254342
longicarpus_small	P2007_053_001	Panama	SAMN14351620	4152873
longicarpus_small	P2007_071_001	Panama	SAMN14351621	4036431

longicarpus_small	P2008_080_001	Panama	SAMN14351622	6369320
longicarpus_small	P2008_134_002	Panama	SAMN14351623	3060848
longicarpus_small	P2009_039_002	Panama	SAMN14351624	3727
longicarpus_small	P2009_092_002	Panama	SAMN14351625	4341842
microneptunus	BR2008-020-001_microneptunus	Barbados	SAMN12568982	5439396
microneptunus	BR2008-036-002_microneptunus	Barbados	SAMN15732607	3017078
microneptunus	BR2008-041-003_microneptunus	Barbados	SAMN15732608	176498
microneptunus	BR2008-052-001_microneptunus	Barbados	SAMN15732609	2614173
pandionis	BR2008-027-006_pandionis	Barbados	SAMN15732610	573484
pandionis	BR2008-086-002_pandionis	Barbados	SAMN15732611	963831
pandionis	JAM2008-059-004_pandionis	Jamaica	SAMN15732612	1502827
pandionis	JAM2008-090-001_pandionis	Jamaica	SAMN12568983	8141783
pectiniger	FK2005-005-003_pectiniger	USA	SAMN15732613	781151
pectiniger	FK2005-011-011-sub02_pectiniger	USA	SAMN15732614	124191
pectiniger	FK2005-016-001-sub2_pectiniger	USA	SAMN15732615	2765726
pectiniger	FK2005-019-012_pectiniger	USA	SAMN15732616	14338
rathbunae	P08_129_03_1	Panama	SAMN14351626	8687218
rathbunae	P2007_039_001_018	Panama	SAMN14351627	1150165
rathbunae	P2007_039_002_002	Panama	SAMN14351628	11190498
rathbunae	P2008_117_003	Panama	SAMN14351630	299551
rathbunae	P2008_129_003_002	Panama	SAMN14351631	5318453
rathbunae	P2008_131_004	Panama	SAMN14351633	5274951
regalis	JAM2008-033-003_regalis	Jamaica	SAMN15732617	11004163
regalis	JAM2008-060-001_regalis	Jamaica	SAMN15732618	8229780
regalis	JAM2008-062-001_regalis	Jamaica	SAMN15732619	4914491
regalis	JAM2008-063-001_regalis	Jamaica	SAMN12568985	3810169
regalis	JAM2008-064-001_regalis	Jamaica	SAMN15732620	3824614
regalis	JAM2008-086-001_regalis	Jamaica	SAMN15732621	6855185
regalis	JAM2008-091-001_regalis	Jamaica	SAMN15732622	5996348
regalis	JAM2008-094-001_regalis	Jamaica	SAMN15732623	13726
ruetzleri	P2003-010-001_ruetzleri	Panama	SAMN15732624	836722
ruetzleri	P2003-010-002_ruetzleri	Panama	SAMN15732625	574117
ruetzleri	P2003-012-004_ruetzleri	Panama	SAMN15732626	1718116
ruetzleri	P2003-023-001_ruetzleri	Panama	SAMN15732627	247891
sanctithomae	CU2008-062-001_sanctithomae	Curacao	SAMN15732628	717078
sanctithomae	JAM2008-001-001_sanctithomae	Jamaica	SAMN15732629	2471139
sanctithomae	JAM2008-007-004_sanctithomae	Jamaica	SAMN15732630	1583293
sanctithomae	JAM2008-019-001_sanctithomae	Jamaica	SAMN15732631	144517

thele	JAM2008-041-005_thele	Jamaica	SAMN15732632	5195054
thele	JAM2008-061-008_thele	Jamaica	SAMN15732633	722428
thele	JAM2008-078-001_thele	Jamaica	SAMN15732634	2096740
thele	JAM2008-089-001-sub02_thele	Jamaica	SAMN15732635	1205
ul	BR2008-027-002-sub2_ul	Barbados	SAMN15732636	2621598
ul	BR2008-087-003_ul	Barbados	SAMN15732637	79792
ul	BR2008-099-001_ul	Barbados	SAMN15732638	128934
ul	BR2008-101-001_ul	Barbados	SAMN15732639	189312
williamsi	CU2008-024-001_williamsi	Curacao	SAMN15732640	2256296
williamsi	CU2008-036-001_williamsi	Curacao	SAMN15732641	1410176
williamsi	CU2008-046-002_williamsi	Curacao	SAMN15732642	5469948
williamsi	CU2008-053-001_williamsi	Curacao	SAMN15732643	9789356
yano	BDT2011_209_004_002	Panama	SAMN14351634	4326791
yano	P2007_013_003	Panama	SAMN14351635	14853546
yano	P2007_035_003	Panama	SAMN14351636	5689999
yano	P2007_060_003	Panama	SAMN14351637	5059732
yano	P2008_003_011	Panama	SAMN14351638	5117767
yano	P2008_017_002	Panama	SAMN14351639	2933595
yano	P2008_090_011	Panama	SAMN14351640	3685977
yano	P2009_020_001	Panama	SAMN14351641	542041

Table S2. **Results of Bayesian phylogenetic mixed model analyses.** Models predicted the proportions of transposable elements (TE) by sociality, controlling for the effect egg size. Egg size was quantified as egg volume, and body size as carapace length. Values of delta DIC were calculated by comparing two models with or without the factor sociality (pair-living, communal breeding, and eusociality). Significant effects are indicated by bold and asterisks.

Response	Predictor	Delta DIC	Parameter	Posterior mean	pMCMC	
Genome size	Sociality	-6.48	Eusocial - communal	0.106	0.154	
			Eusocial - pair	**0.163**	**0.009**	*
			Communal - pair	0.057	0.257	
			Eusocial - non-eusocial	**0.135**	**0.033**	*
	Egg size		**slope**	**0.267**	**0.001**	*
	Body size		slope	0.055	0.581	
Genome size	Eusociality index	2.74	**slope**	**0.249**	**0.002**	*
	Egg size		**slope**	**0.277**	**<0.001**	*
	Body size		slope	0.040	0.628	
All TEs	Sociality	9.6	**Eusocial - Communal**	**0.130**	**0.001**	*
			Eusocial - Pair	**0.560**	**0.001**	*
			Communal - Pair	**0.430**	**0.010**	*
			Eusocial - Non-eusocial	**0.345**	**0.034**	*
	Egg size		Slope	0.399	0.091	
All TEs	Eusociality index		**Slope**	**0.759**	**0.006**	*
	Egg size		**Slope**	**0.474**	**0.077**	*
DNA transposons	Sociality	-1.51	Eusocial - Communal	-0.168	0.062	
			Eusocial - Pair	0.390	0.062	
			Communal - Pair	**0.558**	**0.008**	*
			Eusocial - Non-eusocial	0.111	0.583	
	Egg size		Slope	-0.156	0.597	
DNA transposons	Eusociality index		Slope	0.487	0.146	
	Egg size		Slope	-0.008	0.989	
LINEs	Sociality	-0.66	Eusocial - Communal	0.022	0.156	
			Eusocial - Pair	0.335	0.156	
			Communal - Pair	0.314	0.192	
			Eusocial - Non-eusocial	0.178	0.440	
	Egg size		Slope	0.222	0.515	
LINEs	Eusociality index		Slope	0.341	0.343	
	Egg size		Slope	0.247	0.500	
LTR retro-transposons	Sociality	5.43	**Eusocial - Communal**	**0.106**	**0.006**	*
			Eusocial - Pair	**0.487**	**0.006**	*
			Communal - Pair	**0.381**	**0.028**	*
			Eusocial - Non-eusocial	0.297	0.073	
	Egg size		**Slope**	**0.578**	**0.025**	*
LTR retro-transposons	Eusociality index		**Slope**	**0.725**	**0.012**	*
	Egg size		**Slope**	**0.637**	**0.027**	*
RC	Sociality	-30.85	Eusocial - Communal	0.128	0.140	
			Eusocial - Pair	0.434	0.140	
			Communal - Pair	0.306	0.259	
			Eusocial - Non-eusocial	0.281	0.296	
	Egg size		Slope	0.199	0.623	
RC	Eusociality index		Slope	0.408	0.370	
	Egg size		Slope	0.209	0.632	
SINE	Sociality	-4.48	Eusocial - Communal	0.000	0.985	
			Eusocial - Pair	0.000	0.985	
			Communal - Pair	0.000	0.993	
			Eusocial - Non-eusocial	0.000	0.979	
	Egg size		Slope	0.000	0.981	
SINE	Eusociality index		Slope	0.000	0.997	
	Egg size		Slope	0.000	0.983	
Unknown TE subclass	Sociality	3.74	**Eusocial - Communal**	**0.344**	**0.011**	*
			Eusocial - Pair	**0.540**	**0.011**	*
			Communal - Pair	0.196	0.327	
			Eusocial - Non-eusocial	**0.442**	**0.029**	*
	Egg size		Slope	0.475	0.100	
Unknown TE subclass	Eusociality index		**Slope**	**0.673**	**0.033**	*
	Egg size		Slope	0.525	0.087	
Microsatellites	Sociality	1.97	Eusocial - Communal	0.177	0.141	

		Eusocial - Pair	**0.254**	**0.011**	*
		Communal - Pair	0.077	0.410	
		Eusocial - Non-eusocial	**0.216**	**0.036**	*
	Egg size	Slope	0.209	0.152	
Microsatellites	Eusociality index	**Slope**	**0.299**	**0.043**	*
	Egg size	Slope	0.198	0.168	
Genome size	all TEs	**Slope**	**0.120**	**0.004**	*
	Egg size	**Slope**	**0.239**	**0.001**	*
Genome size	Microsatellites	Slope	0.133	0.099	
	Egg size	**Slope**	**0.237**	**0.004**	*

Table S3. Path coefficients from competing path models. We modeled social organization either categorically as eusocial vs. non-eusocial species (pair-living and communal breeding combined) or continuously as the eusociality index. CI: confidence interval, SOC: social organization, GS: genome size, TE: transposable element abundance. Significant paths are indicated by bold and asterisks.

Social organization	Model	Path	Path coefficient	Lower 95% CI	Upper 95% CI	
Eusocial vs. non-eusocial	1	SOC -> TE	0.67	-0.084	1.395	
		TE -> GS	**0.36**	**0.090**	**0.624**	*
	2	TE -> SOC	0.54	-0.149	1.685	
		TE -> GS	**0.36**	**0.094**	**0.632**	*
	3	SOC -> GS	0.60	-0.212	1.422	
		GS -> TE	**0.45**	**0.050**	**0.879**	*
	4	SOC -> TE	0.67	-0.041	1.400	
		SOC -> GS	0.60	-0.185	1.372	
	5	**TE -> GS**	**0.34**	**0.053**	**0.636**	*
		SOC -> GS	0.21	-0.583	1.030	
Eusociality index	1	**SOC -> TE**	**0.45**	**0.121**	**0.811**	*
		TE -> GS	**0.36**	**0.095**	**0.629**	*
	2	**TE -> SOC**	**0.36**	**0.088**	**0.650**	*
		TE -> GS	**0.36**	**0.089**	**0.617**	*
	3	**SOC -> GS**	**0.39**	**0.051**	**0.709**	*
		GS -> TE	**0.45**	**0.031**	**0.862**	*
	4	**SOC -> TE**	**0.45**	**0.098**	**0.799**	*
		SOC -> GS	**0.39**	**0.050**	**0.735**	*
	5	TE -> GS	0.28	-0.022	0.571	
		SOC-> GS	0.22	-0.138	0.593	

Table S4. Path coefficients from permutation data. CI: confidence intervals based on 5,000 permutations.

		Observed path coefficient	Lower 95% CI	Upper 95% CI	
Eusociality index	E -> TE	0.452	-0.309	0.312	*
	TE -> E	0.364	-0.129	0.135	*
	TE -> GS	0.362	-0.339	0.348	*
Eusocial vs. non-eusocial	E -> TE	0.892	-0.659	0.647	*
	TE -> E	0.709	-0.290	0.278	*
	TE -> GS	0.373	-0.598	0.540	

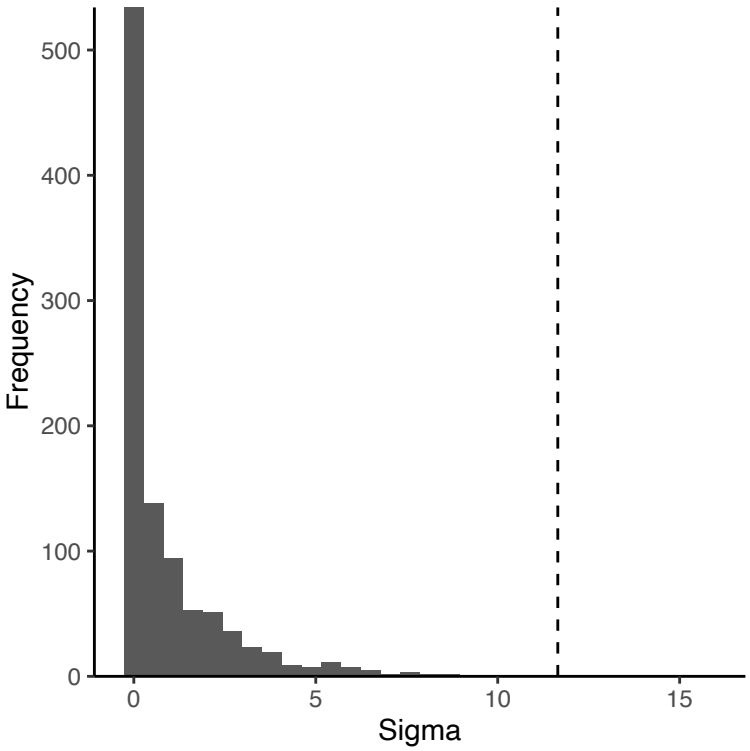

Fig. S1. Distribution of the log-likelihood ratio (*sigma* = -2($\ln L_{BM}$ - $\ln L_{OU}$)) between the Brownian motion (BM) and Ornstein-Uhlenbeck (OU) models based on 1,000 simulated datasets. The horizontal dashed line indicates the value from the observed data.

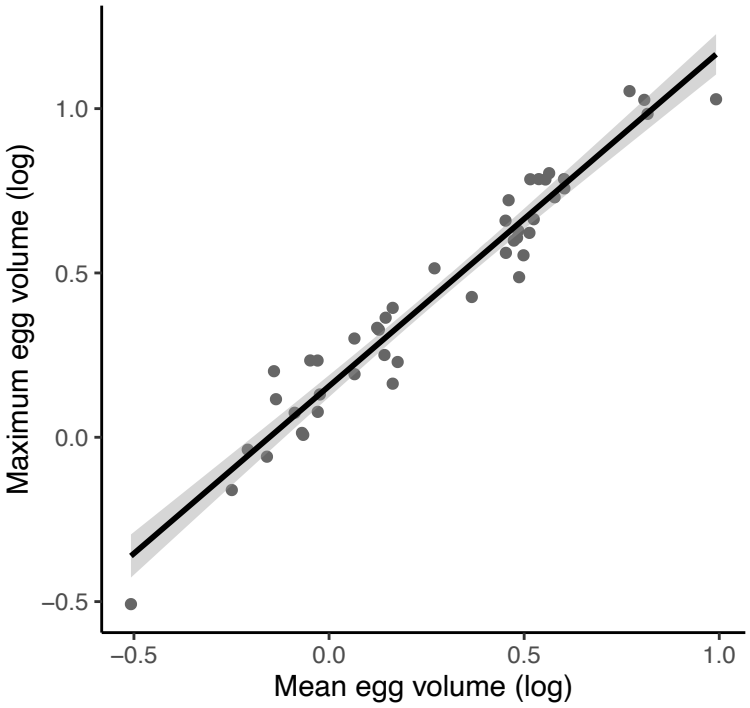

Fig. S2. Linear regression between mean and maximum egg volume (N = 49). Although egg volume can change with developmental stage, mean and maximum egg volumes were strongly correlated. Grey dots: raw data, black line: linear regression line, grey shadow: standard error of the linear regression.

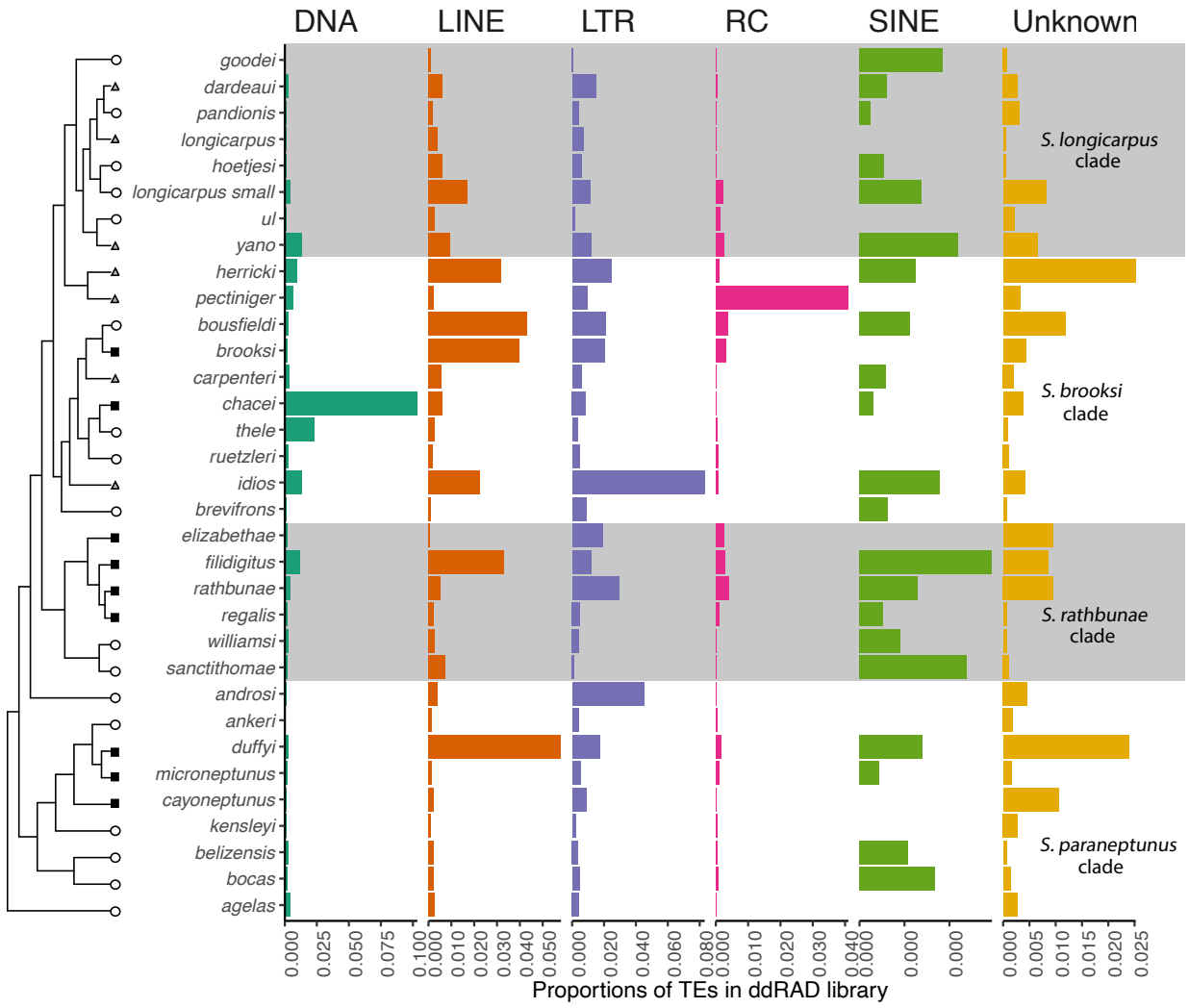

Fig. S3. Phylogenetic distribution of the proportions of transposable element (TE) subclasses in *Synalpheus* (N = 33). The x-axes are at different scales for each TE subclass to better depict the interspecific difference with each TE subclass. TE subclasses include DNA transposons (DNA), long-terminal repeats (LTR) retrotransposons, long interspersed nuclear elements (LINE), rolling-circle transposons (RC), short interspersed nuclear elements (SINE), and TEs with unknown subclass. Eusocial species (closed squares) tended to have more TEs than pair-living species (open circles) and communal breeding species (open triangles). The increase

in the proportion of total TEs is influenced by different TE subclasses in different species. The phylogenetic tree (based on Chak, Duffy, Hultgren and Rubenstein (1)) on the left depicts the relationships among species. Colors in the bar graphs represent major TE subclasses that are defined in the insert. The grey boxes separate the four major *Synalpheus* clades, those with pair-living and eusocial species (the *paraneptunus* and *rathbunae* clades), with pair-living and communal breeding species (*longicarpus* clade), and with pair-living, communal breeding, and eusocial species (*brooksi* clade).

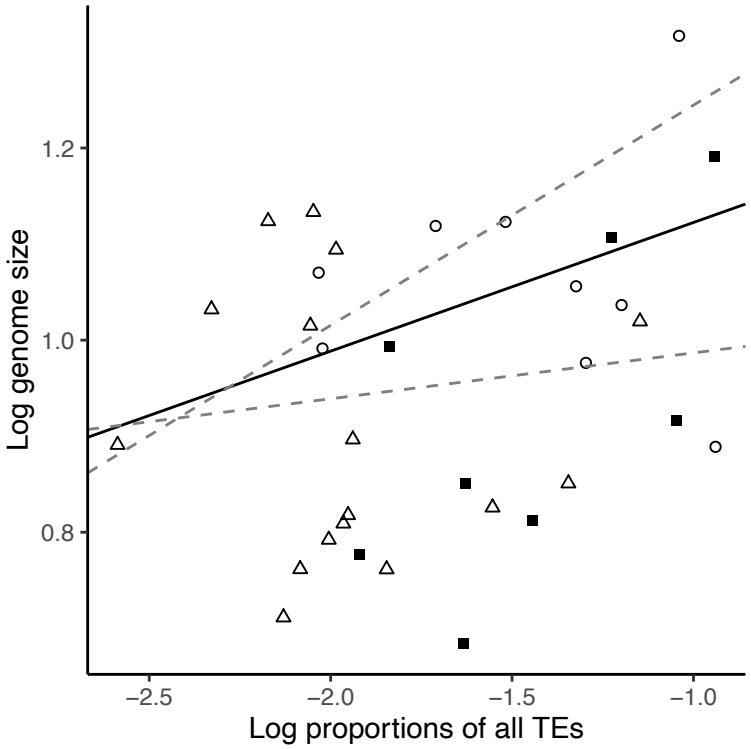

Fig. S4. **Linear relationship between the proportions of transposable elements (TE) and genome size on a log scale (N = 33).** Raw values are shown in shapes (open circle: pair-living; open triangle: communal breeding; closed square: eusocial). Posterior means and 95% credibility intervals of the regression line based on phylogenetic mixed models are shown as solid and dashed lines, respectively (pMCMC = 0.004), after controlling for the effect of egg size.

Reference

1. S. T. C. Chak, J. E. Duffy, K. M. Hultgren, D. R. Rubenstein, Evolutionary transitions towards eusociality in snapping shrimps. *Nature Ecology & Evolution* **1**, 0096 (2017).