

**Table SMO. Permutation tests of the Jaccard index estimations to indicate whether the overlap between a genome feature (intron or exon) and repeats is less (TRUE = 1) or more (FALSE = 0) significant than expected by chance.**

Lozada-Chávez I., Stadler,P.F., and Prohaska, S.J. (2018). bioRxiv,doi.org/10.1101/283549. Re-submitted (2022)  
 Genome-wide features of introns are evolutionary decoupled among themselves and from genome size throughout Eukarya.  
<https://www.biorxiv.org/content/early/2018/03/18/283549>

PROTISTS PROTISTS	EXONS EXONS	TRUE FALSE	85.94 14.06	PROTISTS PROTISTS	INTRONS INTRONS	TRUE FALSE	45.45 54.55
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**PROTISTS      Jaccard measurements for EXONS**

Species name	Abbreviation name	Kingdom	Query population	Reference population	Query coverage	Reference coverage	Query reference intersection	Query reference union	Jaccard measure	Jaccard measure p-value	Jaccard measure lower-tail	Jaccard measure lower-tail
<i>Babesia bovis</i>	bbo	Protist	1615	10050	751465	5542247	460582	5833130	0.07895967	0.261	TRUE	0
<i>Nannochloropsis gaditana</i>	nga	Protist	14872	20019	1125208	8171368	196399	9100177	0.02158189	0.017	TRUE	0
<i>Paramecium tetraurelia</i>	ptm	Protist	36286	129311	4836991	53852389	3807765	54881615	0.06938143	<0.001	FALSE	0
<i>Phytophthora ramorum</i>	pra	Protist	29307	39167	14289952	22192128	4704229	31777851	0.1480348	<0.001	FALSE	0
<i>Pyropia yezoensis</i>	pye	Protist	7018	4236	1604799	3048143	528548	4124394	0.1281517	0.257	TRUE	0
<i>Reticulomyxa filosa</i>	ref	Protist	133491	98958	19414736	37715262	9565222	47564776	0.2010989	<0.001	FALSE	0
<i>Saprolegnia parasitica</i>	sap	Protist	25739	77311	5745812	25600378	2738190	28608000	0.09571414	<0.001	FALSE	0
<i>Spironucleus salmonicida</i>	sal	Protist	6607	8261	2108633	929885	1272220	10129298	0.125598	<0.001	FALSE	0
<i>Trypanosoma vivax</i>	tvi	Protist	19266	12274	20000790	15416723	3946591	31470922	0.1254044	<0.001	FALSE	0
<i>Acanthamoeba castellanii</i>	aca	Protist	63633	112381	4493354	21038853	1666999	23865208	0.0698506	<0.001	TRUE	1
<i>Albugo laibachii</i>	ala	Protist	10419	32347	7582380	15748764	1439208	21891936	0.06574147	<0.001	TRUE	1
<i>Aurantiochytrium limacinum</i>	ali	Protist	48361	21137	4101796	19873816	683993	23291619	0.02936649	<0.001	TRUE	1
<i>Aureococcus anophagefferens</i>	aan	Protist	58350	25881	9599939	17974867	2306624	25268182	0.09128571	<0.001	TRUE	1
<i>Bigelowiella natans</i>	bna	Protist	192510	187534	12074745	28620820	1605926	39089639	0.04108316	<0.001	TRUE	1
<i>Blastocystis hominis</i>	bho	Protist	9271	23890	5628668	6459753	939050	11149371	0.08422448	<0.001	TRUE	1
<i>Capsaspora owczarzaki</i>	cow	Protist	34216	40884	4137902	16316186	1728335	18725753	0.09229722	<0.001	TRUE	1
<i>Chondrus crispus</i>	ccr	Protist	46114	12346	71346345	10129801	1854105	79622041	0.02328633	<0.001	TRUE	1
<i>Cryptosporidium muris</i>	cmu	Protist	3104	5290	227224	6914825	109468	7032581	0.01556584	<0.001	TRUE	1
<i>Cryptosporidium parvum</i>	cpv	Protist	4692	4006	281394	6820328	134305	6967417	0.01927615	<0.001	TRUE	1
<i>Cyanodiscoschyzon merolae</i>	cme	Protist	7062	4687	4231310	7329440	204687	11356063	0.01802447	<0.001	TRUE	1
<i>Dictyostelium discoideum</i>	ddi	Protist	115522	28752	10586056	20916741	4558482	26944315	0.1691816	<0.001	TRUE	1
<i>Dictyostelium fasciculatum</i>	dfa	Protist	69468	43012	5215565	20291152	2768480	22738237	0.1217544	<0.001	TRUE	1
<i>Dictyostelium purpureum</i>	dpu	Protist	71872	30080	8542836	17930061	3027663	23445234	0.1291377	<0.001	TRUE	1
<i>Ectocarpus siliculosus</i>	esi	Protist	195045	126859	52379282	25339491	1913655	75805118	0.0252444	<0.001	TRUE	1
<i>Emiliania huxleyi</i>	ehu	Protist	251267	117408	64950303	34501387	8227293	91224397	0.09018742	<0.001	TRUE	1
<i>Entamoeba dispar</i>	edi	Protist	15398	12116	6219269	10682749	1937476	14964542	0.1294711	<0.001	TRUE	1
<i>Entamoeba invadens</i>	ein	Protist	31926	17198	17583150	15535989	3268214	29850925	0.1094845	<0.001	TRUE	1
<i>Fonticula alba</i>	fal	Protist	49871	27393	2650919	12081480	799275	13933124	0.0573651	<0.001	TRUE	1
<i>Fragilariopsis cylindrus</i>	fcy	Protist	112107	55567	12762524	33203752	4182957	41783319	0.1001107	<0.001	TRUE	1
<i>Galdieria sulphuraria</i>	gsu	Protist	2474	19372	1889170	8254825	504885	9639110	0.0523788	<0.001	TRUE	1
<i>Giardia intestinalis</i>	gin	Protist	1396	3916	332050	7687882	148223	7871709	0.01882984	<0.001	TRUE	1
<i>Gregarina niphandrodes</i>	gni	Protist	7796	9537	1450549	8745196	595988	9599757	0.06208365	<0.001	TRUE	1
<i>Guillardia theta</i>	gth	Protist	95010	155831	13835891	30348850	2569342	41615399	0.06174017	<0.001	TRUE	1

PROTISTS   REPEATS   Introns-Exons													
<i>Hammonia hammondi</i>	hha	Protist	35993	46665	3199611	19341109	434606	22106114	0.01965999	<0.001	TRUE	1	
<i>Hyaloperonospora arabidopsis</i>	hpa	Protist	40248	25530	34266645	12913754	1562358	45618041	0.03424869	<0.001	TRUE	1	
<i>Ichthyophthirius multifiliis</i>	ich	Protist	57284	28376	4529036	10000467	892490	13637013	0.06544615	0.001	TRUE	1	
<i>Leishmania major</i>	lma	Protist	31538	8500	4184053	15926120	1036549	19073624	0.05434463	<0.001	TRUE	1	
<i>Monosiga brevicollis</i>	mbr	Protist	27258	68849	4142515	16457904	1216571	19383848	0.0627621	<0.001	TRUE	1	
<i>Naegleria gruberi</i>	ngr	Protist	19145	25917	3149663	23151790	1607268	24694185	0.0650869	<0.001	TRUE	1	
<i>Neospora caninum</i>	nca	Protist	28963	42660	3106087	18125179	568503	20662763	0.02751341	<0.001	TRUE	1	
<i>Oxytricha trifallax</i>	otx	Protist	47004	61800	10879925	44550893	7190287	48240531	0.1490507	<0.001	TRUE	1	
<i>Perkinsus marinus</i>	pkm	Protist	79120	128088	22339605	22042460	5757246	38624819	0.1490556	<0.001	TRUE	1	
<i>Phaeodactylum tricornutum</i>	pti	Protist	5854	18183	2682746	14350313	663915	16369144	0.04055893	<0.001	TRUE	1	
<i>Phytophthora infestans</i>	pif	Protist	81871	47374	122522565	22324790	3149096	141698259	0.02222396	<0.001	TRUE	1	
<i>Phytophthora sojae</i>	pso	Protist	47834	51663	28684652	28337700	8567560	48454792	0.1768155	<0.001	TRUE	1	
<i>Plasmidiophora brassicae</i>	plb	Protist	9713	43988	1681496	13033024	513610	14200910	0.0361674	<0.001	TRUE	1	
<i>Plasmodium berghei</i>	pbe	Protist	23806	12657	2222203	10101621	704496	11619328	0.06063139	<0.001	TRUE	1	
<i>Plasmodium falciparum</i>	pfa	Protist	69594	13797	6712657	12356127	1979919	17088865	0.1158602	<0.001	TRUE	1	
<i>Plasmodium vivax</i>	pvx	Protist	22755	12465	1144985	10890694	286339	11749340	0.02437065	<0.001	TRUE	1	
<i>Polysphondylium pallidum</i>	plp	Protist	61845	44192	5624083	19131289	2753260	22002112	0.1251362	<0.001	TRUE	1	
<i>Pseudonitzschia multiseries</i>	psm	Protist	121645	45784	139014308	22231628	5324150	155921786	0.03414629	<0.001	TRUE	1	
<i>Pythium ultimum</i>	pul	Protist	14934	38232	5636328	19730806	1985195	23381939	0.08490292	<0.001	TRUE	1	
<i>Salpingoeca rosetta</i>	sro	Protist	137225	97261	15188796	23082321	3579432	34691685	0.1031784	<0.001	TRUE	1	
<i>Sphaeroforma arctica</i>	sar	Protist	77074	62780	17362813	16017545	783852	32596506	0.02404712	<0.001	TRUE	1	
<i>Styloynchia lemnae</i>	sle	Protist	22410	39457	1959410	28381757	965078	29376089	0.0328525	<0.001	TRUE	1	
<i>Symbiodinium minutum</i>	sym	Protist	762027	700963	102988951	69433060	5865665	166556346	0.0352173	<0.001	TRUE	1	
<i>Tetrahymena thermophila</i>	tet	Protist	106536	113812	15853312	47995285	5483596	58365001	0.0939535	<0.001	TRUE	1	
<i>Thalassiosira pseudonana</i>	tps	Protist	10609	29060	1953286	17383896	618604	18718578	0.0330476	<0.001	TRUE	1	
<i>Thecamonas trahens</i>	tht	Protist	30517	18883	2636217	20517423	1218045	21935595	0.05552824	<0.001	TRUE	1	
<i>Theileria annulata</i>	tan	Protist	5810	14512	837982	6074097	558748	6353331	0.08794568	<0.001	TRUE	1	
<i>Theileria parva</i>	tpv	Protist	4654	14249	685489	5664578	340971	6009096	0.05674248	<0.001	TRUE	1	
<i>Toxoplasma gondii</i>	tgo	Protist	34794	46981	4015845	19827495	473343	23369997	0.0202543	<0.001	TRUE	1	
<i>Trypanosoma brucei</i>	tbr	Protist	18643	8749	4298224	13136763	1102219	16332768	0.06748513	<0.001	TRUE	1	
<i>Vitrella brassicaformis</i>	vbr	Protist	138520	192517	11349512	35735345	4208673	42876184	0.09815876	<0.001	TRUE	1	

## PROTISTS      Jaccard measurements for INTRONS

Species name	Abbreviation name	Kingdom	Query population	Reference population	Query coverage	Reference coverage	Query reference intersection	Query reference union	Jaccard measure	Jaccard measure p-value	Jaccard measure lower-tail	Jaccard measure lower-tail
<i>Acanthamoeba castellanii</i>	aca	Protist	63632	95723	4492809	10359149	1834098	13017860	0.1408909	<0.001	FALSE	0
<i>Albugo laibachii</i>	ala	Protist	9827	20267	7139527	2602584	884496	8857615	0.09985713	<0.001	FALSE	0
<i>Aurantiochytrium limacinum</i>	ali	Protist	48224	6331	4014544	3180639	357402	6837781	0.05226871	<0.001	FALSE	0
<i>Aureococcus anophagefferens</i>	aan	Protist	56862	14452	9242235	6046751	1480894	13808092	0.1072483	<0.001	FALSE	0
<i>Bigelowiella natans</i>	bna	Protist	192485	165865	12069256	30182987	5155338	37096905	0.1389695	<0.001	FALSE	0
<i>Capsaspora owczarzaki</i>	cow	Protist	34191	32111	4120895	4975784	808115	8288564	0.09749759	<0.001	FALSE	0
<i>Cryptosporidium muris</i>	cmu	Protist	3063	1369	212894	125362	8440	329816	0.02559003	<0.001	FALSE	0
<i>Dictyostelium discoideum</i>	ddi	Protist	115522	15631	10586056	2099003	1112758	11572301	0.09615702	<0.001	FALSE	0
<i>Dictyostelium fasciculatum</i>	dfa	Protist	69468	30847	5215565	4621820	1153752	8683633	0.1328651	<0.001	FALSE	0
<i>Dictyostelium purpureum</i>	dpu	Protist	71600	17677	8500254	2721811	1022765	10199300	0.100278	<0.001	FALSE	0
<i>Emiliania huxleyi</i>	ehu	Protist	247987	84095	63819605	19699968	7880850	75638723	0.1041907	0.007	FALSE	0
<i>Fonticula alba</i>	fal	Protist	49687	21503	2632613	5076459	682546	7026526	0.09713847	<0.001	FALSE	0
<i>Fragilariaopsis cylindrus</i>	fcy	Protist	111918	28418	12729325	7265536	1261399	18733462	0.067334	<0.001	FALSE	0
<i>Gregarina niphandrodes</i>	gni	Protist	6666	3198	1142363	401315	26292	1517386	0.01732717	0.016	TRUE	0
<i>Guillardia theta</i>	gth	Protist	94685	131038	13663073	13756511	2945686	24473898	0.1203603	<0.001	FALSE	0

PROTISTS   REPEATS   Introns-Exons												
<i>Hammondia hammondi</i>	hha	Protist	35885	38708	3140840	19280501	1576070	20845271	0.07560804	<0.001	FALSE	0
<i>Ichthyophthirius multifiliis</i>	ich	Protist	55716	20366	4178151	3060489	674339	6564301	0.1027282	<0.001	FALSE	0
<i>Nannochloropsis gaditana</i>	nga	Protist	14314	12706	1057830	2738271	116225	3679876	0.03158394	<0.001	FALSE	0
<i>Neospora caninum</i>	nca	Protist	28791	35546	2971760	16501546	1094769	18378537	0.0595678	<0.001	FALSE	0
<i>Perkinsus marinus</i>	pkm	Protist	72895	105420	19550772	13162736	3835890	28877618	0.1328326	<0.001	FALSE	0
<i>Phaeodactylum tricornutum</i>	pti	Protist	5800	7795	2621631	1016691	92084	3546238	0.02596667	<b>0.267</b>	TRUE	0
<i>Plasmodium berghei</i>	pbe	Protist	23806	7730	2222203	1144911	180526	3186588	0.05665182	<0.001	FALSE	0
<i>Plasmodium falciparum</i>	pfa	Protist	69594	8331	6712657	1375382	770760	7317279	0.1053342	<0.001	FALSE	0
<i>Plasmodium vivax</i>	pvx	Protist	22755	7415	1144985	1400451	92855	2452581	0.03786012	<0.001	FALSE	0
<i>Polysphondylium pallidum</i>	plp	Protist	61845	31836	5624083	5647249	1191050	10080282	0.1181564	<0.001	FALSE	0
<i>Reticulomyxa filosa</i>	ref	Protist	114260	59537	16375344	5023143	1317405	20081082	0.06560428	<0.001	FALSE	0
<i>Salpingoeca rosetta</i>	sro	Protist	137203	85643	15174585	21449612	8911031	27713166	0.321545	<0.001	FALSE	0
<i>Symbiodinium minutum</i>	sym	Protist	759365	659288	102138112	329513346	55686851	375964607	0.1481173	<0.001	FALSE	0
<i>Tetrahymena thermophila</i>	tet	Protist	106323	89102	15744944	14340210	2635853	27449301	0.09602623	<0.001	FALSE	0
<i>Thalassiosira oceanica</i>	toc	Protist	67540	42383	17275878	6289081	2164871	21400088	0.1011618	<0.001	FALSE	0
<i>Thalassiosira pseudonana</i>	tps	Protist	10601	17383	1948214	2111293	124903	3934604	0.03174474	<b>0.438</b>	TRUE	0
<i>Thecamonas trahens</i>	tth	Protist	30446	8355	2619617	1727988	310909	4036696	0.07702066	<0.001	FALSE	0
<i>Theileria annulata</i>	tan	Protist	5810	10709	837982	735272	84971	1488283	0.05709331	<0.001	FALSE	0
<i>Theileria parva</i>	tpv	Protist	4617	10214	637237	948671	140630	1445278	0.09730308	<0.001	FALSE	0
<i>Toxoplasma gondii</i>	tgo	Protist	34794	38826	4015845	19351956	1572869	21794932	0.07216673	<0.001	FALSE	0
<i>Vitrella brassicaformis</i>	vbr	Protist	138277	169488	11278464	15678881	2913095	24044250	0.1211556	<0.001	FALSE	0
<i>Babesia bovis</i>	bbo	Protist	1613	6404	750338	375465	35880	1089923	0.03291976	<b>0.245</b>	FALSE	1
<i>Blastocystis hominis</i>	bho	Protist	9267	17730	5613722	878152	113241	6378633	0.01775318	<0.001	TRUE	1
<i>Chondrus crispus</i>	ccr	Protist	37413	2836	57620015	491758	177327	57934446	0.003060822	<0.001	TRUE	1
<i>Cryptosporidium parvum</i>	cpv	Protist	4692	235	281394	19492	976	299910	0.00325431	0.035	FALSE	1
<i>Cyanidioschyzon merolae</i>	cme	Protist	4673	27	2774607	6666	83	2781190	2.98E-005	0.001	TRUE	1
<i>Ectocarpus siliculosus</i>	esi	Protist	194718	110670	52106231	77011527	14059696	115058062	0.1221965	<0.001	TRUE	1
<i>Entamoeba dispar</i>	edi	Protist	13233	3417	4625762	273389	65791	4833360	0.01361186	<0.001	TRUE	1
<i>Entamoeba invadens</i>	ein	Protist	30729	5675	16786987	583834	160811	17210010	0.009344039	<0.001	TRUE	1
<i>Galdieria sulphuraria</i>	gsu	Protist	2341	12876	1501648	698340	32330	2167658	0.01491471	<0.001	TRUE	1
<i>Giardia intestinalis</i>	gin	Protist	14	2	3293	141	0	3434	0	0.036	FALSE	1
<i>Hyaloperonospora arabidopsis</i>	hpa	Protist	39127	12652	33342649	1698083	396744	34643988	0.01145203	<0.001	TRUE	1
<i>Leishmania major</i>	lma	Protist	4691	9	562587	5777	1161	567203	0.002046886	<b>0.127</b>	FALSE	1
<i>Monosiga brevicollis</i>	mbr	Protist	27181	59684	4085252	10129412	697924	13516740	0.05163405	<0.001	TRUE	1
<i>Naegleria gruberi</i>	ngr	Protist	18456	10287	2962852	2170122	182843	4950131	0.036937	<b>0.119</b>	FALSE	1
<i>Oxytricha trifallax</i>	otx	Protist	33494	38994	8488581	3648715	604264	11533032	0.0523942	<0.001	TRUE	1
<i>Paramecium tetraurelia</i>	ptm	Protist	36080	89726	4806052	2169105	130465	6844692	0.01906076	<0.001	TRUE	1
<i>Phytophthora infestans</i>	pif	Protist	80845	29642	121248258	3612935	1027088	123834105	0.008294064	<0.001	TRUE	1
<i>Phytophthora ramorum</i>	pra	Protist	26147	23658	12337308	3091671	431298	14997681	0.02875765	<0.001	TRUE	1
<i>Phytophthora sojae</i>	pso	Protist	46815	32715	28045101	4218765	1257590	31006276	0.04055921	<0.001	TRUE	1
<i>Plasmidiophora brassicae</i>	plib	Protist	9697	34468	1668738	2049416	39729	3678425	0.01080055	<0.001	TRUE	1
<i>Pseudonitzschia multiseries</i>	psm	Protist	116870	26143	131005827	5896812	2658081	134244558	0.01980029	<0.001	TRUE	1
<i>Pyropia yezoensis</i>	pye	Protist	3012	1308	658593	419931	62381	1016143	0.06138998	<0.001	TRUE	1
<i>Pythium ultimum</i>	pul	Protist	14640	22626	5364426	2582206	170135	7776497	0.0218781	<0.001	TRUE	1
<i>Saprolegnia parasitica</i>	sap	Protist	25116	57666	5588604	3310276	142381	8756499	0.01626004	<0.001	TRUE	1
<i>Sphaeroforma arctica</i>	sar	Protist	67885	44947	15641505	25978530	2731627	38888408	0.07024271	<0.001	TRUE	1
<i>Spironucleus salmonicida</i>	sal	Protist	434	4	56658	187	0	56845	0	<b>0.319</b>	FALSE	1
<i>Styloynchia lemnae</i>	sle	Protist	15227	23822	1327994	2125099	104743	3348350	0.03128197	<0.001	TRUE	1
<i>Trichomonas vaginalis</i>	tva	Protist	2678	57	2077932	10850	6033	2082749	0.002896652	<b>0.191</b>	FALSE	1
<i>Trypanosoma brucei</i>	tbr	Protist	3126	2	593121	1972	105	594988	0.0001764741	<b>0.46</b>	FALSE	1
<i>Trypanosoma vivax</i>	tvx	Protist	8982	548	1000911	323799	635	1324075	0.0004795801	<0.001	TRUE	1