



Supplementary Materials

Table S1. *Giardia duodenalis* reference strains used in this study.

Accession Number	Isolate	Assemblage / Genotype	Host	Country	Content	Year	Reference
EU769206	Swecat171	A	cat	Sweden	Europe	2011	[1]
EU621373	JC002	A	deer	Poland	Europe	2008	[2]
EU769205	Swecat078	A	cat	Sweden	Europe	2008	[1]
GU396696	H3-001	A	human	Poland	Europe	2016	[3]
HM165227	Sweh040	A	human	Sweden	Europe	2016	[4]
KF922979	HC11	A	human	Brazil ^a	South America	2014	[5]
KF922983	HC29	A	human	Brazil ^a	South America	2014	[5]
KF922992	HC44	A	human	Brazil ^a	South America	2014	[5]
KF923000	DC01	A	dog	Brazil ^a	South America	2014	[5]
KM190682	VANC/85/UBC/2	A	human	Canada	North America	1985	[6]
KY612245	AN1.5	A	human	Brazil ^b	South America	2014	[7]
MN629930	Z1	A	dog	Iraq	Asia	2020	[8]
XM001705373	WB C6	A	culture	USA	North America	2007	[9]
GQ329671	Sweh166	A	human	Sweden	Europe	2011	[4]
EU014384	Be2	A1	beaver	Canada	North America	2011	[10]
HQ179591	46c2	A2	human	Australia	Oceania	2011	[11]
AY072724	ISSGF7	A3	human	Italy	Europe	2002	[12]
DQ090542	STS-U	A3	human	Norway	Europe	2004	[13]
DQ116612	CBHRG9	A3	wastewater	Mexico	North America	2006	[14]
EU014381	AB	A3	human	Peru	South America	1985	[15]
FJ560577	Lim2	A3	human	France	Europe	1998	[16]
FJ971408	GLT1	A3	human	Thailand	Asia	2007	[17]
FN386484	I231104	A3	wastewater	Spain	Europe	2004	[18]
KU504738	S42	A3	human	Brazil ^c	South America	2011	[19]
DQ090523	BG-Ber2	B	human	Norway	Europe	2005	[13]
AB480877	PalH9	B	human	Palestine	Asia	2006	[20]
AB618785	GH-202	B	human	Japan	Asia	2010	[21]
FJ971440	GLT2	B	human	Thailand	Asia	2007	[17]
FJ971461	GL518	B	human	Thailand	Asia	2010	[17]
FJ971482	GL121	B	human	Thailand	Asia	2007	[17]
KF922985	HC32	B	human	Brazil ^a	South America	2014	[5]
KF922993	HC45	B	human	Brazil ^a	South America	2014	[5]
KP687755	VANC/90/UBC/44	B	wastewater	Canada	North America	1990	[6]
KP687756	"VANC/90/UBC/54	B	beaver	Canada	North America	1990	[6]
KU504702	S3C1	B	human	Brazil ^c	South America	2011	[19]
KU504704	S3C3	B	human	Brazil ^c	South America	2011	[19]
KU504707	S8	B	human	Brazil ^c	South America	2011	[19]
KU504708	S9	B	human	Brazil ^c	South America	2011	[19]
KU504709	S10C3	B	human	Brazil ^c	South America	2011	[19]
KU504712	S11C1	B	human	Brazil ^c	South America	2011	[19]
KU504713	S11C2	B	human	Brazil ^c	South America	2011	[19]
KU504714	S11C3	B	human	Brazil ^c	South America	2011	[19]
KU504715	S13C2	B	human	Brazil ^c	South America	2011	[19]
KU504720	S15	B	human	Brazil ^c	South America	2011	[19]
KU504722	S16C2	B	human	Brazil ^c	South America	2011	[19]
KU504723	S16C4	B	human	Brazil ^c	South America	2011	[19]
KU504731	S24C2	B	human	Brazil ^c	South America	2011	[19]
KU504732	S24C3	B	human	Brazil ^c	South America	2011	[19]
KY612242	S8C5	B	human	Brazil ^c	South America	2011	[19]
LC508615	K6 clone1	B	human	Kenya	Africa	2013	[22]
MT542771	5	B	human	Brazil ^c	South America	2021	[23]
AY072725	Nij5	B1	human	The Netherlands	Europe	2002	[24]
AY072726	LD18	B2	human	Belgium	Europe	2002	[24]
AY072727	BAH8	B3	human	Australia	Oceania	1999	[12]
JF422719	BRA dogD15	C	dog	Brazil ^a	South America	2009	[25]

KF923019	VET01	D	dog	Brazil ^a	South America	2014	[5]
AY072729	P15	E	pig	Czech Republic	Europe	1996	[12]
AY647264	A101	F	cat	Italy	Europe	2004	[26]

^a Atlantic Forest biome; ^b Cerrado biome; ^c Amazon biome.

Table S2. Molecular diversity indexes of *Giardia duodenalis* based on β -giardin locus (592 bp, n=106).

Assemblage	Region (N)	Statistics					
		H \pm SD	N° of haplo- types	N° of polymorphic sites	N° of substitu- tions	N° of transi- tions	N° of transver- sions
Assemblage A	South America (31)	0.879 \pm 0.037	14	38	39	21	18
	North America (4)	0.666 \pm 0.204	2	4	4	4	0
	Europe (10)	0.822 \pm 0.096	5	15	15	15	0
	Asia (2)	1.000 \pm 0.500	2	4	4	4	0
	All continents (49)	0.854 \pm 0.029	16	50	50	33	18
	All Amazon biome (5)	0.800 \pm 0.164	3	8	8	6	2
	Amazon biome* (4)	0.833 \pm 0.222	3	8	8	6	2
	All Cerrado biome (8)	0.964 \pm 0.077	7	30	31	15	16
	Cerrado biome* (7)	1.000 \pm 0.076	7	30	31	15	16
	Caatinga biome* (5)	0.700 \pm 0.218	3	2	2	2	0
	All Atlantic Forest biome (13)	0.859 \pm 0.063	6	6	6	6	0
	Atlantic Forest biome* (9)	0.750 \pm 0.112	4	4	4	4	0
	Atlantic Forest biome (4)	0.833 \pm 0.222	3	2	2	2	0
	All Brazil (31)	0.879 \pm 0.037	14	38	39	21	18
Assemblage B	South America (41)	0.918 \pm 0.033	23	36	36	31	6
	North America (2)	1.000 \pm 0.500	2	3	3	3	0
	Europe (3)	1.000 \pm 0.272	3	7	7	7	0
	Asia (5)	1.000 \pm 0.126	5	5	5	5	0
	All continents (51)	0.921 \pm 0.028	28	37	37	32	6
	All Amazon biome (37)	0.899 \pm 0.039	19	24	24	23	1
	Amazon biome* (21)	0.757 \pm 0.086	7	8	8	7	1
	Amazon biome (16)	0.991 \pm 0.025	15	21	21	21	0
	All Atlantic Forest biome (3)	1.000 \pm 0.272	3	10	10	7	3
	Atlantic Forest (2)	1.000 \pm 0.500	2	5	5	4	1
	All Brazil (41)	0.918 \pm 0.033	23	36	36	31	6
	ALL (106) **	0.951 \pm 0.009	50	125	147	105	42

H \pm SD: gene diversity \pm standard deviation. (bp): base pair. * Sequences obtained in this study **ALL: included assemblages A, B, C, D, E and F. Further details of reference strains can be found in Supplementary Table S1. Only groups with more than 1 sequence are shown.

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