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379 **SUPPLEMENTARY MATERIALS**

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Table S1 Results of cross-species amplification at species level; for each loci, the amplification quality and the number of alleles per species are given; and overall loci, the average rates of amplification and polymorphism ($p > 0.95$), and the mean number of alleles per locus are provided - expected null alleles (N) and amplification of echo-allele (echo – i.e. supplementary longer length amplified allele always co-appearing with a given allele) are also reported.

Species Loci	<i>Oreochromis</i>							<i>Sarotherodon</i>			<i>Tilapia</i>	<i>Hemichromis</i>	<i>Chromidotilapia</i>	<i>Haplochromis</i>		
	<i>niloticus</i>	<i>aureus</i>	<i>mossambicus</i>	<i>shiranus</i>	<i>saka</i>	<i>squamipinnis</i>	<i>macrochir</i>	<i>melanotheron</i>	<i>galilaeus</i>	<i>zillii</i>	<i>dageti</i>	<i>guineensis</i>	<i>bimaculatus</i>	<i>guntheri</i>	<i>sp. rockkribensis</i>	
UNH-008	quality ++ # all. 3 all.range 206-222	quality ++ # all. 1 all.range 224	quality ++ # all. 1+N all.range 198	quality ++ # all. 5 all.range 212-220	quality ++ # all. 6 all.range 206-236	quality ++ # all. 6 all.range 204-222	quality ++ # all. 2 all.range 201-203	quality ++ # all. 2 all.range 218-224	quality ++ # all. 6 all.range 203-221	quality ++ # all. 1 all.range 202	quality ++ # all. 1 all.range 202	quality ++ # all. 1 all.range 202	quality ++ # all. 2 all.range 215-216	quality ++ # all. 1 all.range 196	quality ++ # all. 1 all.range 206	
UNH-102	quality ++ # all. 4 all.range 147-175	quality ++ # all. N all.range 198-222	quality ++ # all. 2+N all.range 163-167	quality ++ # all. 7 all.range 147-177	quality ++ # all. 7+N all.range 151-185	quality ++ # all. 7 all.range 151-177	quality ++ # all. 2 all.range 159-171	quality ++ # all. 5 all.range 151-167	quality ++ # all. 2+N all.range 159-161	quality ++ # all. N all.range 171-240	quality ++ # all. N all.range 178-186	quality ++ # all. N all.range 178-186	quality ++ # all. N all.range 178-186	quality ++ # all. 2+N all.range 157-161	quality ++ # all. 1 all.range 141	quality ++ # all. 1 all.range 132
UNH-103	quality ++ # all. 3 all.range 206-220	quality ++ # all. 2 all.range 198-222	quality ++ # all. 3 all.range 182-224	quality ++ # all. 8 all.range 206-252	quality ++ # all. 10 all.range 180-240	quality ++ # all. 10 all.range 184-260	quality ++ # all. 3 all.range 182-234	quality ++ # all. 5 all.range 171-240	quality ++ # all. 4+N all.range 178-186	quality ++ # all. N all.range 171-240	quality ++ # all. N all.range 178-186	quality ++ # all. N all.range 178-186	quality ++ # all. N all.range 178-186	quality ++ # all. N all.range 178-186	quality ++ # all. N all.range 178-186	quality ++ # all. N all.range 178-186
UNH-106	quality ++ # all. 4 all.range 131-141	quality ++ # all. 4 all.range 155-189	quality ++ # all. 2+N all.range 115-117	quality ++ # all. 6 all.range 155-171	quality ++ # all. 4 all.range 127-147	quality ++ # all. 5 all.range 119-149	quality ++ # all. 1 all.range 119	quality ++ # all. 4+N all.range 125-135	quality ++ # all. 5+N all.range 125-143	quality ++ # all. 2 all.range 125-173	quality ++ # all. 1 all.range 123	quality ++ # all. 4+N all.range 137-163	quality ++ # all. 1+N all.range 133	quality ++ # all. 4 all.range 137-147	quality ++ # all. 3 all.range 157-163	
UNH-115	quality ++ # all. 3 all.range 128-146	quality ++ # all. 1 all.range 122	quality ++ # all. 3 all.range 112-140	quality ++ # all. 4 all.range 122-131	quality ++ # all. 7 all.range 112-132	quality ++ # all. 3 all.range 120-127	quality ++ # all. 1 all.range 118	quality ++ # all. 1 all.range 124	quality ++ # all. 5+N all.range 114-128	quality ++ # all. 1 all.range 128	quality ++ # all. 1 all.range 128	quality ++ # all. 2 all.range 124-128	quality ++ # all. 1 all.range 100	quality ++ # all. 1 all.range 120	quality ++ # all. 1 all.range 120	quality ++ # all. N all.range 120
UNH-117	quality ++ # all. 1 all.range 120	quality ++ # all. 1 all.range 120	quality ++ # all. 1 all.range 120	quality ++ # all. 1+N all.range 120	quality ++ # all. 2 all.range 118-120	quality ++ # all. 1 all.range 120	quality ++ # all. 1 all.range 120	quality ++ # all. 2 all.range 120-124	quality ++ # all. 2 all.range 116-122	quality ++ # all. 1 all.range 112	quality ++ # all. 1 all.range 116	quality ++ # all. 1 all.range 116	quality ++ # all. 1 all.range 128	quality ++ # all. 1 all.range 108	quality ++ # all. 1 all.range 108	quality ++ # all. 1 all.range 146
UNH-120	quality - # all. 5 all.range 189-215	quality - # all. 3 all.range 199-201	quality - # all. 2 all.range 199-203	quality - # all. 8 all.range 187-201	quality - # all. 11 all.range 185-209	quality - # all. 8 all.range 183-209	quality - # all. 2 all.range 209	quality - # all. 2 all.range 175-217	quality - # all. 2 all.range 183-209	quality - # all. 1 all.range 183-209	quality - # all. 1 all.range 183-209	quality - # all. 1 all.range 183-209	quality - # all. 1 all.range 183-209	quality - # all. 1 all.range 183-209	quality - # all. 1 all.range 183-209	quality - # all. 1 all.range 183-209
UNH-123	quality ++ # all. 6 all.range 154-212	quality ++ # all. 4+N all.range 195-232	quality ++ # all. 3 all.range 184-206	quality ++ # all. 3+N all.range 162-174	quality ++ # all. 4 all.range 162-184	quality ++ # all. 6 all.range 166-178	quality ++ # all. 2 all.range 176-180	quality ++ # all. 2 all.range 153-162	quality ++ # all. 5 all.range 162-196	quality ++ # all. N all.range 156-162	quality ++ # all. 2 all.range 156-162	quality ++ # all. 1 all.range 162	quality ++ # all. 1 all.range 144	quality ++ # all. 1 all.range 142	quality ++ # all. 1 all.range 142	quality ++ # all. 1 all.range 160
UNH-124	quality ++ # all. 4 all.range 295-313	quality ++ # all. N all.range 199-201	quality ++ # all. 3 all.range 307-313	quality ++ # all. N all.range 187-201	quality ++ # all. 1 all.range 185-209	quality ++ # all. 2 all.range 183-209	quality ++ # all. 2 all.range 209	quality ++ # all. 1 all.range 175-217	quality ++ # all. 1 all.range 183-209	quality ++ # all. 2+N all.range 310-324	quality ++ # all. 2+N all.range 310-321	quality ++ # all. N all.range 156-162	quality ++ # all. N all.range 156-162	quality ++ # all. N all.range 156-162	quality ++ # all. N all.range 156-162	quality ++ # all. N all.range 156-162
UNH-125	quality ++ # all. 7 all.range 134-170	quality ++ # all. 1 all.range 158	quality ++ # all. N all.range 199-203	quality ++ # all. 3 all.range 138-142	quality ++ # all. N all.range 185-209	quality ++ # all. N all.range 183-209	quality ++ # all. 2 all.range 174-198	quality ++ # all. 4 all.range 142-166	quality ++ # all. 2+N all.range 156-158	quality ++ # all. 1 all.range 154	quality ++ # all. 3 all.range 158-162	quality ++ # all. 2 all.range 154-186	quality ++ # all. N all.range 193-201	quality ++ # all. N all.range 203	quality ++ # all. 1 all.range 203	quality ++ # all. 1 all.range 237-253
UNH-129	quality ++ # all. 7 all.range 189-215	quality ++ # all. 2 all.range 199-201	quality ++ # all. 2 all.range 199-203	quality ++ # all. 4 all.range 187-201	quality ++ # all. 6 all.range 185-209	quality ++ # all. 6 all.range 183-209	quality ++ # all. 1 all.range 209	quality ++ # all. 5 all.range 175-217	quality ++ # all. 2+N all.range 183-209	quality ++ # all. N all.range 183-209	quality ++ # all. N all.range 183-209	quality ++ # all. N all.range 183-209	quality ++ # all. 2 all.range 193-201	quality ++ # all. 1 all.range 203	quality ++ # all. 1 all.range 203	quality ++ # all. 2 all.range 237-253

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391 **Table S1 (continuation)**

Species Loci	<i>Oreochromis</i>							<i>Sarotherodon</i>			<i>Tilapia</i>		<i>Hemichromis</i>	<i>Chromidotilapia</i>	<i>Haplochromis</i>	
	<i>niloticus</i>	<i>aureus</i>	<i>mossambicus</i>	<i>shiranus</i>	<i>saka</i>	<i>squamipinnis</i>	<i>macrochir</i>	<i>melanotheron</i>	<i>galilaeus</i>	<i>zillii</i>	<i>dagei</i>	<i>guineensis</i>	<i>bimaculatus</i>	<i>guntheri</i>	<i>sp. rockkribensis</i>	
UNH-130	quality	++	++	-	++	+(echo)	+(echo)	++	++	++	++	++			++	
	# all.	7	2	2+N	5	4+N	4	2	1+N	5	1+N	2	N	N	2	
	all.range	178-236	183-189	179-236	179-232	174-216	174-200	176-186	176	184-242	183	183	181-187		180-230	
UNH-131	quality	+	--	-	-	-	-	+	-	--	--	--	--	--	--	
	# all.	4	N	N	3	1	2	2	3	N	N	N	N	N	N	
	all.range															
UNH-132	quality	++	++	++	++	++	++	++	++	++	++	++				
	# all.	2	3	3	5	1	1	2	1+N	4+N	N	N	N	N	N	
	all.range	118-122	124-134	122-132	114-130	107	107	107-111	100	110-122						
UNH-135	quality	+(echo)	+(echo)	+(echo)	+(echo)	+(echo)	+(echo)	+(echo)	+(echo)	+	+	+				
	# all.	6	2	4	3	9	8	3	5	7	3	5	N	N	N	
	all.range	126-274	162-168	124-162	126-168	124-159	129-276	128-174	126-211	160-286	232-284	266-274	246-280			
UNH-138	quality	++	++	++	++	++	++	++	++	++	++	++			+	
	# all.	7	1	1	8	8	8	3	2	9	5	3+N	5	N	N	1+N
	all.range	160-198	180	150	168-218	178-238	172-250	178-186	154-164	144-232	148-230	144-154	154-165			158
UNH-142	quality	++	++	++	++	++	++	++	++	++	++	++	+		+	
	# all.	3	1	4	5	8	5+N	1	3	4	1	1	7	1	N	2
	all.range	156-160	156	146-172	152-168	156-192	152-178	172	146-160	142-154	142	142	142-186	142		170-176
UNH-146	quality	++	++	++	++	++	++	++	++	++	++	++		+		
	# all.	3	1	1+N	1	6	4+N	2	3+N	4	2	1	3	N	1	N
	all.range	123-131	125	123	125	129-145	129-137	133-149	121-133	111-147	111-115	111	111-117		113	
UNH-149	quality	++	++	++	++	++	++	++	++	+(echo)	++	--	++	+	++	
	# all.	4	3	1	8	6	5	3	3	10	2	7	7	5	3	N
	all.range	145-161	149-193	147	159-200	145-157	145-159	183-225	163-177	143-203	161-167	153-221	149-183	161-177	159-163	
UNH-154	quality	++	+(echo)	++	++	++	++	++	++	++	++	++	+	++	++	
	# all.	8	1+N	1	9	9	9	2	6	7	2+N	2	3	2	1	N
	all.range	100-174	124	128	108-164	108-166	112-176	138-158	102-120	100-136	118-158	104-108	98-104	98-112	114	
UNH-159	quality	++	++	++	++	+	+	++	++	++	++	++	-	++	-	
	# all.	5+N	2	3	4+N	7	8	2	3	5	2	3	5	1	1	1+N
	all.range	229-267	239-243	229-257	221-247	227-267	227-249	255-259	217-237	229-241	208-218	231-234	210-245	209	205	211
UNH-162	quality	++	++	++	++	++	++	++	++	++	++	+	--	+	N	
	# all.	6	2	2	8	9	9	1	2	7	4	4	6	2	2	N
	all.range	200-238	198-200	208-230	186-216	206-252	204-242	194	181-210	191-230	212-244	125-229	205-240	209-217	202-204	

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396 **Table S1 (continuation bis)**

Species Loci	<i>Oreochromis</i>							<i>Sarotherodon</i>			<i>Tilapia</i>		<i>Hemichromis</i>	<i>Chromidotilapia</i>	<i>Haplochromis</i>
	<i>niloticus</i>	<i>aureus</i>	<i>mossambicus</i>	<i>shiranus</i>	<i>saka</i>	<i>squamipinnis</i>	<i>macrochir</i>	<i>melanotheron</i>	<i>galilaeus</i>	<i>zillii</i>	<i>dageti</i>	<i>guineensis</i>	<i>bimaculatus</i>	<i>guntheri</i>	<i>sp. rockkribensis</i>
UNH-169	quality ++	++	++	+	+	+	++	++	++	++	++	++	++	++	++
	# all. 8	3	3	5	9	9	1	4+N	5	1	1+N	2	1	1	2
	all.range 124-166	132-192	148-168	152-184	144-220	144-240	140	136-168	136-156	136	136	134-136	144	172	134-144
UNH-173	quality ++	++	++	+	+	+	++	++	-	++	-	-	N	N	N
	# all. 2	2	1	N	3+N	5+N	1	1+N	4	1	3+N	2	N	N	N
	all.range 172-188	174-180	172	178-188	176-188	160	154	136-172	124	136-142	124-140				
UNH-174	quality ++	++	++	++	++	++	++	++	++	+	+	++	N	N	++
	# all. 4	1	3	2+N	1	1	1	1	5	3	1	3	N	N	1
	all.range 165-187	153	151-181	146-151	149	149	155	151	149-161	157-161	159	165-181			154
UNH-189	quality ++	++	++	++	+	++	++	++	-	++	++	-	N	-	N
	# all. 3	3	2	8	7	6	2+N	3	7	2	6	6	N	2	N
	all.range 161-190	152-184	146-184	142-171	150-198	154-208	146-156	155-161	149-198	140-144	149-203	135-173		135-138	
UNH-190	quality ++	++	++	++	++	++	++	++	++	++	+	+	N	++	-
	# all. 2	1	1	8	3	2+N	2	1	2+N	3	N	1+N	N	1	1
	all.range 168-177	170	141	143-192	141-145	141-143	141-149	145	147-159	186-198	202			133	198
UNH-193	quality ++	++	++	++	-- (or nul)	-- (or nul)	-- (or nul)	++	-- (or nul)	++	++	--	--	-- (or nul)	--
	# all. 3	2	2	2	N	N	N	3	N	1	1	N	N	N	N
	all.range														
UNH-197	quality + (echo)	+ (echo)	+ (echo)	++	+ (echo)	+ (echo)	++	+ (echo)	-	+	-	-	N	-	-
	# all. 6	2	2	6	7	9	1	5	9	4	5+N	6+N	N	3+N	2
	all.range 156-206	174-186	170-184	200-218	164-198	154-210	190	202-228	188-222	180-198	191-218	178-199		164-194	214-220
UNH-207	quality + (echo)	++	++	++	++	++	++	+ (echo)	+ (echo)	++	++	++	N	++	+
	# all. 3	1	2+N	2	5	8	1	4	7	2	3	5	N	1	2
	all.range 140-158	148	110-116	116-148	116-164	112-166	116	118-154	114-166	128-134	112-174	114-144		90	184-198
UNH-211	quality ++	++	++	++	++	++	++	++	++	++	-	-	N	N	N
	# all. 6	2	2	7	9	8	2	8	5+N	2	1	4	N	N	N
	all.range 128-162	134-162	144-160	144-180	142-176	124-184	128-158	154-194	136-170	82-84	82	84-194			
UNH-216	quality ++	++	++	++	++	++	++	++	++	++	+	++	--	N	++
	# all. 2	1	2	9	7+N	8	1	4	7	2	7	6	4+N	N	2
	all.range 126-138	128	160-174	152-178	160-186	146-168	176	136-170	136-190	160-174	138-168	150-174	168-212		160-190
amplification rate	97%	88%	88%	88%	88%	88%	91%	97%	75%	75%	63%	63%	19%	47%	38%
P(0.95)	97%	57%	71%	93%	89%	89%	55%	77%	96%	42%	60%	80%	50%	20%	50%
mean.all/Locus	4.3	1.8	2.1	5.2	5.9	5.8	1.7	2.8	4	1.5	2.4	3.6	2.3	1.4	1.6

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400 **Table S2** Cross-species amplification results per taxonomic groups (genus, tribe & total
 401 of species) with the number of alleles, calculated i) per locus and ii) over all loci (with
 402 amplification and polymorphism rates, mean alleles number per locus & mean alleles
 403 number per locus and species); expected null alleles (N) are reported.

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Taxonomic groups Loci	<i>Oreochromis</i>	<i>Sarotherodon</i>	<i>Tilapia</i>	Tilapiines	non-Tilapiines	Total
UNH-008	16+N	6	1	20+N	4	22+N
UNH-102	16+N	5	0+N	17+N	4+N	19+N
UNH-103	27	8	0+N	31+N	0+N	31+N
UNH-106	20	6+N	7+N	28+N	8+N	30+N
UNH-115	12	4	3	14	2+N	15+N
UNH-117	2+N	3	2	6+N	3	9+N
UNH-123	20+N	6	2+N	23+N	3	26+N
UNH-124	6+N	5	2+N	12+N	0+N	12+N
UNH-125	12+N	4+N	5	16+N	1+N	17+N
UNH-129	16	6	0+N	19+N	5	21+N
UNH-130	19+N	5+N	4+N	25+N	2+N	26+N
UNH-132	12	5+N	0+N	14+N	0+N	14+N
UNH-135	23	7	8	33	0+N	33+N
UNH-138	25	8	11+N	38+N	1+N	38+N
UNH-142	15+N	4	7	18+N	3+N	18+N
UNH-146	9+N	5	4	16+N	1+N	16+N
UNH-149	19	9	14	31	6+N	31+N
UNH-154	28+N	8	6	32+N	3+N	33+N
UNH-159	17+N	7	9	26+N	3+N	29+N
UNH-162	22	7	10	34	4+N	35+N
UNH-169	28	7+N	2+N	31+N	3	31+N
UNH-173	10+N	3+N	5+N	17+N	0+N	17+N
UNH-174	10+N	3	4	11+N	1+N	12+N
UNH-189	21+N	8	12	36+N	2+N	37+N
UNH-190	14+N	3	4+N	18+N	2+N	19+N
UNH-197	25	11	13+N	36+N	5+N	38+N
UNH-207	13+N	8	9	23+N	3+N	26+N
UNH-211	24	11	5	31	0+N	31+N
UNH-216	18+N	7	11	25+N	6+N	29+N
amplification rate	88%	86%	67%	82%	34%	72%
P (0.95)	76%	85%	59%	74%	36%	70%
mean.all.nb./Locus	17.8	6.4	6	24.3	3.4	25.7
mean.all.nb./Loc./sp.	3.7	3.3	2.4	3.7	1.6	3.2

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Table S3 Number and percentage of shared alleles between species by taxonomic groups (genus, tribe & total of species), calculated per locus and in average over all loci (calcul of percentage excludes null alleles).

Taxonomic groups Locus	<i>Oreochromis</i>	<i>Sarotherodon</i>	<i>Tilapia</i>	Tilapiines	non-Tilapiines	Total
UNH-008	# all. 6 % all. 37.5%	1 16.7%	1 100%	3 15%	0 0%	2 9.10%
UNH-102	# all. 9 % all. 56.3%	1 20%	N -	4+N 23.50%	0 0%	2+N 10.50%
UNH-103	# all. 9 % all. 33.3%	0 0%	N -	4 12.9%	N -	N 0%
UNH-106	# all. 5 % all. 25%	1 16.70%	0 0%	5 17.90%	0 0%	6+N 20%
UNH-115	# all. 7 % all. 58.3%	1 25%	1 33.3%	3 21.4%	0 0%	1 6.7%
UNH-117	# all. 1 % all. 50%	0 0%	1 50%	1 16.70%	0 0%	0 0%
UNH-123	# all. 5+N % all. 25%	0 0%	1 50%	4+N 17.4%	0 0%	0 0%
UNH-124	# all. 3+N % all. 50%	1 20%	N 0%	1+N 8.30%	N -	N 0%
UNH-125	# all. N % all. 0%	0 0%	1 20%	4+N 25%	N 0%	N 0%
UNH-129	# all. 7 % all. 43.80%	0 0%	N -	3+N 15.80%	0 0%	3+N 14.30%
UNH-130	# all. 6+N % all. 31.6%	0 0%	1 25%	4+N 16%	N 0%	1+N 3.8%
UNH-132	# all. 3 % all. 25%	0 0%	N -	2+N 14.30%	N -	N 0%
UNH-135	# all. 9 % all. 39.1%	0 0%	1 12.5%	4 12.1%	N -	0 0%
UNH-138	# all. 9 % all. 36%	0 0%	1 9.1%	1 2.6%	N 0%	1 2.6%
UNH-142	# all. 9 % all. 60%	1 25%	1 14.3%	8 44.4%	0 0%	3+N 16.7%
UNH-146	# all. 6+N % all. 66.7%	1 20%	1 25%	2 12.5%	N 0%	1+N 6.3%
UNH-149	# all. 7 % all. 36.8%	0 0%	2 14.3%	7 22.6%	2 33.3%	6 19.4%
UNH-154	# all. 8 % all. 28.6%	2 25%	1 16.70%	7 21.90%	0 0%	2+N 6.10%
UNH-159	# all. 8 % all. 47.1%	1 14.3%	0 0%	6 23.1%	0 0%	0 0%
UNH-162	# all. 10 % all. 45.5%	0 0%	2 20%	4 11.80%	0 0%	3 8.60%
UNH-169	# all. 9 % all. 32.1%	2 28.6%	1 50%	6 19.4%	1 33.3%	3 9.7%
UNH-173	# all. 3 % all. 30%	0 0%	1 20%	1 5.90%	N -	N 0%
UNH-174	# all. 3 % all. 30%	1 33.3%	1 25%	6 54.5%	N 0%	N 0%
UNH-189	# all. 6 % all. 28.60%	0 0%	1 8.30%	5 13.90%	N 0%	1+N 2.70%
UNH-190	# all. 2 % all. 14.3%	0 0%	N 0%	3 16.7%	0 0%	1+N 5.3%
UNH-197	# all. 6 % all. 24%	0 0%	N 0%	12 33.30%	N 0%	3+N 7.90%
UNH-207	# all. 4 % all. 30.8%	0 0%	1 11.1%	7 30.4%	0 0%	N 0%
UNH-211	# all. 9 % all. 37.50%	1 9.10%	2 40%	9 29%	N -	0 0%
UNH-216	# all. 9 % all. 50%	1 14.30%	3 27.30%	9 36%	N 0%	1+N 3.40%
Average per locus	# all. 6.14 % all. 37%	0.52 9.2%	0.86 19.7%	4.66 20.5%	0.1 2.3%	1.38 5.3%

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