

Supplementary Table 1: Measurements of *Cichlidogyrus casuarinus* from Mpulungu. Zambia collected from *Hemibates stenosoma* and *Bathybates graueri*. respectively (a – mean value±standard deviation. b – range).

Parameters (μm)	<i>C. casuarinus</i> ex <i>H. stenosoma</i>	<i>C. casuarinus</i> ex <i>B. graueri</i>
Ventral anchor		
Total length	52.3 ^a ±2.1 (48.5 – 52.3) ^b ; n= 37	50.1 (46.7 – 51.7); n=4
Length to notch	43.8±2.4 (38.8 – 47.4); n=37	42.9 (40.8 – 47.2); n=4
Inner root length	15.4±2.8 (11.2 – 23.3); n=37	42.9 (40.8 – 47.2); n=4
Outer root length	7.8±2.0 (4.7 – 12.1); n=36	9.8 (5.4 – 12.1); n=4
Point length	14.4±2.0 (11.9 – 16.6); n=36	15.1 (13.7 – 17.6); n=4
Dorsal anchor		
Total length	58.0±2.1 (53.8 – 62.2); n=34	59.5 (55.3 – 63.5); n=4
Length to notch	41.0±3.1 (32.4 – 48.5); n=34	42.0 (38.8 – 44.8); n=4
Inner root length	21.8±3.1 (15.0 – 26.1); n=35	22.2 (17.2 – 25.1); n=4
Outer root length	7.7±1.9 (4.0 – 11.7); n=34	8.2 (7.5 – 8.9); n=4
Point length	13.2±1.2 (10.6 – 15.6); n=33	12.2 (10.5 – 14.1); n=4
Ventral bar		
Branch length	63.5±7.1 (44.7 – 78.5); n=37	69.8 (65.3 – 73.6); n=4
Branch maximum width	8.6±1.2 (6.7 – 11.7); n=37	8.6 (7.6 – 9.6); n=4
Dorsal bar		
Maximum straight width	79.4±8.1 (64.8 – 98.4); n=36	89.4 (77.8 – 94.6); n=4
Thickness at midlength	14.0±2.1 (10.6 – 18.7); n=37	16.3 (14.0 – 17.8); n=4
Distance between auricles	29.7±5.1 (18.0. 38.9); n=37	37.1 (32.7 – 40.7); n=4
Auricle length	16.2±2.4 (12.6 – 22.6); n=38	18.9 (15.9 – 20.1); n=4
Hooks		
Pair I	33.6±3.0 (25.8 – 42.2); n=36	34.3 (31.9 – 35.5); n=4
Pair II	23.0±1.7 (19.5 – 26.7); n=33	24.2 (23.1 – 26.4); n=4
Pair III	23.8±1.7 (20.7 – 27.7); n=33	24.8 (24.4 – 25.6); n=4
Pair IV	25.0±1.9 (22.1 – 29.1); n=34	26.2 (22.8 – 28.1); n=4
Pair V	11.0±1.2 (9.0 – 13.0); n=22	10.6 (9.1 – 11.4); n=4
Pair VI	26.6±2.2 (22.1 – 31.1); n=36	27.1. (25.5 – 28.5); n=4
Pair VII	27.3±2.2 (23.6 – 32.6); n=32	30.1 (28.4 – 32.7); n=4
Copulatory tube straight length	35.2±1.8 (30.8 – 30.3); n=36	36.8(32.1 – 39.9); n=5
Accessory piece curved length	34.1±5.3 (22.0 – 43.0); n=21	33.1 (31.0 – 36.7); n=4
Heel straight length	53.1±7.7 (37.7 – 74.1); n=36	74.1 (63.4 – 89.9); n=4

Supplementary Table 2: Overview of the length (in bp) of rDNA regions in the partly assembled ribosomal operon of *C. casuarinus* based on a pooled sample of 80 individuals (GenBank accession number xx).

Region	Position	Length
SSU	1 – 3151	3151
ITS1	3152 – 3634	482
5.8	3635 – 3791	156
ITS2	3792 – 4318	526
LSU	4319 – 7584	3265

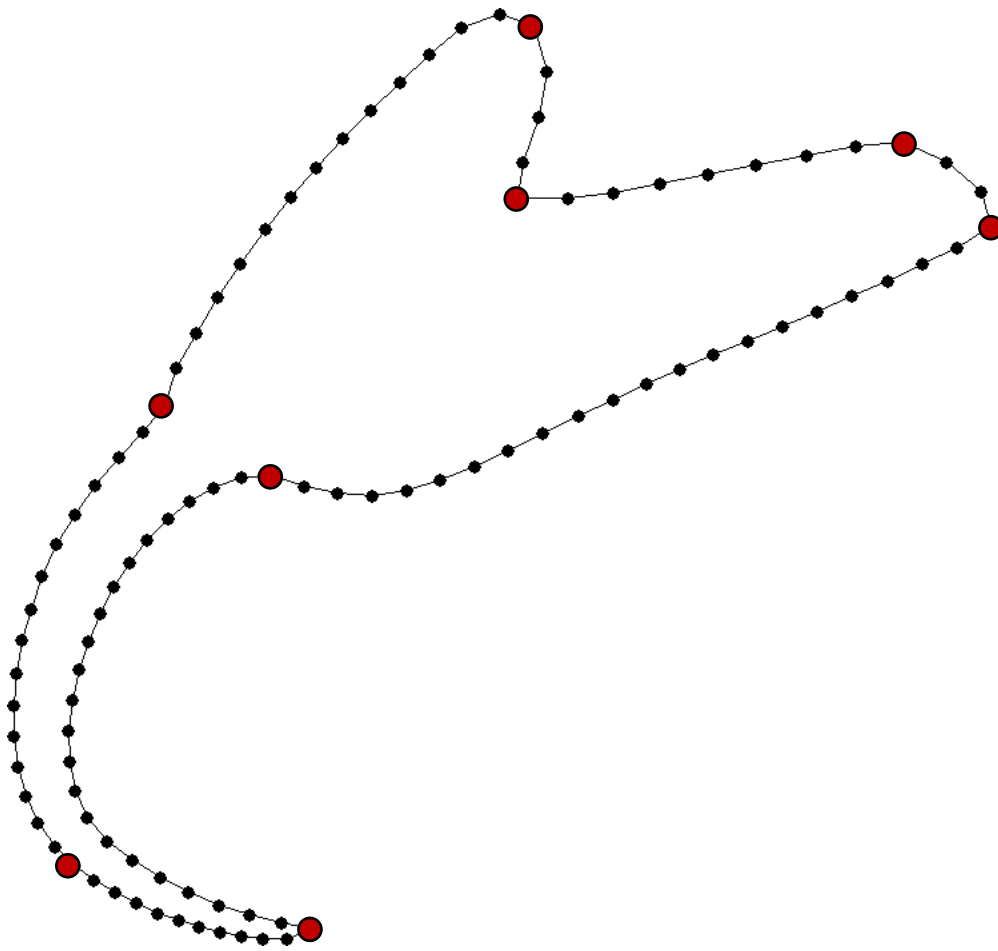
Supplementary Table 3: Overview of the allele frequencies recovered from different datasets in the analysed fragment of *cox1* gene (392 bp).

Position	Individual-based sequences from Mpulungu, September 2018				Individual-based sequencing of <i>C. casuarinus</i> available				Pooled NGS dataset from Mpulungu, September 2018			
	A	T	C	G	A	T	C	G	A	T	C	G
1	0.83333	0	0.16667	0	0.94118	0	0.05882	0	NA	NA	NA	NA
2	NA	NA	NA	NA	0	0.76471	0.23529	0	NA	NA	NA	NA
5	NA	NA	NA	NA	0.23529	0.76471	0	0	NA	NA	NA	NA
11	0	0.54167	0.375	0.08333	0	0.57353	0.39706	0.02941	0	0.03272	0.96728	0
14	0	0.58333	0.41667	0	0	0.58824	0.41176	0	NA	NA	NA	NA
17	0.20833	0.79167	0	0	0.10294	0.89706	0	0	0.04410	0.95590	0	0
20	0	0.41667	0.58333	0	0	0.39706	0.60294	0	0	0.45170	0.54830	0
23	0.95833	0	0.04167	0	0.98529	0	0.01471	0	NA	NA	NA	NA
24	0	0.95833	0.04167	0	0	0.98529	0.01471	0	NA	NA	NA	NA
26	0.37500	0	0	0.625	0.33824	0	0	0.66176	0.38401	0	0	0.61599
32	NA	NA	NA	NA	0.01471	0.95588	0.02941	0	0	0.95670	0.01083	0.03248
41	NA	NA	NA	NA	0	0.01471	0	0.98529	0	0.01060	0	0.98940
47	NA	NA	NA	NA	0	0.01471	0.98529	0	0	0.03748	0.96252	0
50	NA	NA	NA	NA	0	0.01471	0.98529	0	NA	NA	NA	NA
62	NA	NA	NA	NA	0	0.01471	0.98529	0	NA	NA	NA	NA
68	0.95833	0.04167	0	0	0.98529	0.01471	0	0	NA	NA	NA	NA
74	NA	NA	NA	NA	NA	NA	NA	NA	0	0.98780	0.01220	0
80	NA	NA	NA	NA	0.01471	0	0	0.98529	0.01648	0	0	0.98352
92	0	0.45833	0.54167	0	0	0.44118	0.55882	0	0	0.51558	0.48442	0
93	NA	NA	NA	NA	0	0.02941	0.97059	0	NA	NA	NA	NA
98	NA	NA	NA	NA	0	0.98529	0.01471	0	NA	NA	NA	NA
102	NA	NA	NA	NA	NA	NA	NA	NA	0.01801	0	0	0.98199
110	NA	NA	NA	NA	0	0.01471	0.98529	0	0	0.02710	0.97290	0
114	0	0.95833	0	0.04167	0	0	0.98529	0.01471	NA	NA	NA	NA

118	NA	NA	NA	NA	NA	NA	NA	NA	0	0.00270	0.99730	0
119	0.95833	0.04167	0	0	0.98529	0.01471	0	0	0.98111	0.01889	0	0
122	NA	NA	NA	NA	0	0.98529	0.01471	0	NA	NA	NA	NA
128	NA	NA	NA	NA	NA	NA	NA	NA	0	0.02929	0.97071	0
129	NA	NA	NA	NA	0	0.98529	0.01471	0	NA	NA	NA	NA
131	NA	NA	NA	NA	NA	NA	NA	NA	0.01887	0	0	0.98113
134	0	0.95833	0.041667	0	0	0.98529	0.01471	0	NA	NA	NA	NA
148	NA	NA	NA	NA	0.01471	0	0.98529	0	0.00265	0	0.99735	0
150	NA	NA	NA	NA	NA	NA	NA	NA	0.00262	0	0.99738	0
152	0	0.62500	0.375	0	0	0.63235	0.36765	0	0	0.54993	0.45007	0
155	0	0.95833	0.04167	0	0	0.94118	0.05882	0	0	0.91777	0.08223	0
161	NA	NA	NA	NA	NA	NA	NA	NA	0	0.99346	0.00654	0
167	NA	NA	NA	NA	0.98529	0	0	0.01471	NA	NA	NA	NA
176	NA	NA	NA	NA	0	0.98529	0.01471	0	0	0	0	0
185	NA	NA	NA	NA	NA	NA	NA	NA	0	0.98496	0.01504	0
186	NA	NA	NA	NA	0.97059	0	0.02941	0	NA	NA	NA	NA
187	NA	NA	NA	NA	0.01471	0	0.98529	0	NA	NA	NA	NA
191	NA	NA	NA	NA	0	0.98529	0.01471	0	NA	NA	NA	NA
194	0	0.95833	0.04167	0	0	0.98529	0.01471	0	NA	NA	NA	NA
200	0	0.79167	0.20833	0	0	0.26471	0.73529	0	0	0.22914	0.77086	0
202	NA	NA	NA	NA	0	0.01471	0.98529	0	NA	NA	NA	NA
203	0.625	0.375	0	0	0.67647	0.30882	0.01471	0	0.59141	0.40859	0	0
206	NA	NA	NA	NA	0.014706	0	0	0.98529	0	0.00240	0	0.99760
218	NA	NA	NA	NA	0	0.01471	0.98529	0	NA	NA	NA	NA
233	NA	NA	NA	NA	NA	NA	NA	NA	0.99269	0	0	0.00731
254	0.04167	0	0	0.95833	0.029412	0	0	0.97059	NA	NA	NA	NA
257	0	0.83333	0.16667	0	0	0.82353	0.17647	0	0	0.86510	0.13490	0
265	NA	NA	NA	NA	NA	NA	NA	NA	0	0.00247	0.99753	0

266	0.16667	0	0	0.83333	0.08824	0	0	0.91176	0.04074	0.01605	0	0.94321
269	NA	NA	NA	NA	0.02941	0.97059	0	0	NA	NA	NA	NA
274	NA	NA	NA	NA	0.98529	0.01471	0	0	NA	NA	NA	NA
281	NA	NA	NA	NA	NA	NA	NA	NA	0.98422	0	0	0.01578
283	NA	NA	NA	NA	NA	NA	NA	NA	0	0.00243	0	0.99757
284	0.95833	0	0	0.04167	0.97059	0	0	0.02941	0.97800	0	0	0.02200
293	NA	NA	NA	NA	NA	NA	NA	NA	0	0.02303	0	0.97697
299	NA	NA	NA	NA	NA	NA	NA	NA	0.01613	0	0	0.98387
302	0.91667	0	0	0.08333	0.95588	0	0	0.04412	0.96500	0	0	0.03500
305	NA	NA	NA	NA	0.01471	0	0	0.98529	NA	NA	NA	NA
308	NA	NA	NA	NA	NA	NA	NA	NA	0	0.98642	0.01358	0
313	NA	NA	NA	NA	NA	NA	NA	NA	0.00244	0	0.99756	0
317	0	0.95833	0.04167	0	0	0.073523	0.92647	0	0	0.05897	0.94103	0
334	NA	NA	NA	NA	NA	NA	NA	NA	0	0.99006	0	0.00994
338	0	0.95833	0.04167	0	0	0.95588	0.04412	0	0	0.97146	0.01117	0.01737
342	0	0.04167	0	0.95833	0	0.01471	0	0.98529	NA	NA	NA	NA
344	NA	NA	NA	NA	0	0.01471	0.98529	0	0	0.01363	0.98637	0
347	NA	NA	NA	NA	NA	NA	NA	NA	0.97767	0	0	0.02233
348	NA	NA	NA	NA	0	0.98529	0.01471	0	NA	NA	NA	NA
350	NA	NA	NA	NA	NA	NA	NA	NA	0	0.99009	0.00991	0
356	0.04167	0.04167	0	0.91667	0.01471	0.01471	0	0.97059	NA	NA	NA	NA
357	0	0.54167	0.45833	0	0	0.39706	0.60294	0	0	0.42428	0.57572	0
359	0.95833	0	0.041667	0	0.98529	0	0.01471	0	NA	NA	NA	NA
362	0	0.04167	0.95833	0	0	0.01471	0.98529	0	0.00503	0.01887	0.97610	0
365	0	0.04167	0.95833	0	0	0.02941	0.97059	0	0	0.01880	0.98120	0
377	0	0.41667	0.58333	0	0	0.41176	0.58824	0	0	0.42522	0.57478	0
379	0.04167	0	0	0.95833	0.01471	0	0	0.98529	NA	NA	NA	NA
381	NA	NA	NA	NA	NA	NA	NA	NA	0.00247	0	0.99753	0

383	NA	NA	NA	NA	0.01471	0.01471	0.97059	0	0	0.03453	0.96547	0
383	NA	NA	NA	NA	0	0.98529	0.01471	0	NA	NA	NA	NA
386	NA	NA	NA	NA	0	0.01471	0	0.98529	NA	NA	NA	NA
389	NA	NA	NA	NA	0	0.01471	0.98529	0	0	0.00498	0.99502	0
392	NA	NA	NA	NA	0	0.98529	0.01471	0	0	0.99499	0.00501	0



Supplementary Fig. 1: Position of fixed landmarks (big points) as well as semi-landmarks (small points) on the dorsal anchor of *Cichlidogyrus casuarinus*. Number and position of landmarks was followed in the analyses of the ventral anchor.