

Table 1. Data used in the paper: Accession numbers associated with specimens located in the Auburn University Museum of Natural History, size-relative measures of head width (HW), head depth (HD), head length (HL), and the length:width ratio of the lower pharyngeal jaw (LPJ). If accession numbers are not listed, those specimens are in the queue and will be accession at a future date. Values are species means.

Species	Accession No.	HW	HD	HL	LPJ
<i>Acarichthys heckelii</i>	36070	0.033093	-0.00141	-0.04142	0.969087
<i>Acaronia nassa</i>	35959	0.117117	0.023314	0.032627	0.860956
<i>Acaronia vultuosa</i>	40148, 53665	0.094803	0.05145	2.99E-05	0.837367
<i>Aequidens diadema</i>	42945, 53413, 54292, 54437	0.178187	0.246332	0.005765	0.785886
<i>Aequidens tetramerus</i>	27840, 35981, 35984	0.133539	0.032685	0.049243	0.826356
<i>Amatitlania nigrofasciata</i>	28610	0.074029	0.079897	-0.04751	0.69698
<i>Amatitlania siquia</i>		0.067371	-0.0376	-0.00233	0.754707
<i>Amphilophus citrinellus</i>	9695	0.101622	0.060401	0.054221	0.843204
<i>Amphilophus lyonsi</i>	31686	0.050355	-0.07658	0.016098	0.998438
<i>Andinoacara coeruleopunctatus</i>	31718, 31550	0.15546	0.065877	0.00432	0.807591
<i>Andinoacara pulcher</i>	14356, 18958, 22247, 54053	0.118515	0.172089	0.057129	0.793451
<i>Andinoacara rivulatus</i>	4218	0.162372	0.09944	0.037656	0.965079
<i>Apistogramma hoignei</i>	43537	-0.09359	-0.14175	0.01754	1.01344
<i>Archocentrus centrarchus</i>	9694	-0.08519	0.036298	0.005735	0.9487
<i>Astronotus ocellatus</i>	36400	0.069801	0.121113	0.007318	0.899307
<i>Australoheros facetus</i>	57566	0.070779	-0.02442	-0.03127	0.746653
<i>Australoheros scitulus</i>	63363, 63363	0.021181	0.030044	-0.01038	0.646721
<i>Biotodoma cupido</i>	48772, 49843	-0.03214	0.122807	-0.04526	0.977007
<i>Biotodoma wavrini</i>	41398, 41424	-0.06585	-0.04409	-0.04168	0.951035
<i>Biotoecus dicentrarchus</i>	22451	-0.1455	-0.17583	-0.0657	0.877303
<i>Bujurquina affhophrys</i>	46564	0.127264	0.124557	0.019325	0.790271
<i>Caquetaia kraussii</i>	19162	0.026902	0.052251	0.056986	0.905444
<i>Chaetobranchopsis orbicularis</i>	35987, 44743	0.138106	0.126906	0.07764	0.861421
<i>Chaetobranchus flavescens</i>	49880	-0.09657	0.060233	0.078333	1.39647
<i>Theraps godmanni</i>	19393	0.150891	-0.07692	0.003232	0.828
<i>Cichla intermedia</i>	43423	-0.05102	-0.0352	-0.02838	1.510035
<i>Cichla monoculus</i>	43156	-0.03155	-0.06354	0.013196	1.929146
<i>Cichla orinocensis</i>	54267	-0.11101	-0.04695	-0.01078	1.831718
<i>Cichla temensis</i>	20773	-0.08786	-0.08134	-0.04177	1.623487
<i>Cichlasoma amazonarum</i>	51433	0.032522	0.041184	-0.071	0.864809
<i>Cichlasoma dimerus</i>	63334	0.138482	-0.07727	0.012007	0.80787
<i>Cichlasoma orinocense</i>	22723	0.135116	0.316509	0.022372	0.876098
<i>Cleithracara maronii</i>	17740	0.142126	0.04836	0.02009	0.862132
<i>Crenicara punctulatum</i>	14313, 23242, 51359	-0.00311	-0.00721	-0.02477	1.035187
<i>Crenicichla lenticulata</i>	43360	-0.05474	-0.26457	-0.04564	0.927402

Crenicichla lugubris	36586, 38190	-0.03844	-0.23612	-0.02358	0.851045
Crenicichla multispinosa		-0.06974	-0.25922	-0.05297	0.692512
Crenicichla reticulata	36090, 36091, 37642, 47938, 48435	-0.01634	-0.05538	-0.01135	0.716008
Crenicichla scottii		-0.02938	-0.1587	-0.01489	0.857654
Crenicichla vittata	57553, 63158	-0.04321	-0.21999	-0.01638	0.965933
Crenicichla wallacii	44460, 48436	-0.12903	-0.36251	-0.06822	0.828968
Criboheros robertsoni	8356	0.000152	0.19327	0.009921	1.097045
Cryptoheros spilurus	15965	-0.00043	0.059486	-0.01687	0.784527
Dicrossus filamentosus	43755	-0.1614	-0.34335	-0.03349	0.782222
Geophagus abalios	41568, 54429	-0.01944	0.051003	0.022852	1.182349
Geophagus dicrozoster	53669, 54184, 54249	-0.06707	-0.08736	-0.03017	1.245809
Geophagus grammepareius	36500, 36524, 36559	-0.02538	-0.12773	0.016306	1.11574
Geophagus sp Takutu	44708	-0.03246	0.02559	0.006651	1.246833
Geophagus steindachneri	32121	-0.10267	-0.03383	0.036083	1.06465
Geophagus surinamensis	50290	-0.17865	-0.05808	-0.02512	0.961165
Geophagus taeniopareius	39504	-0.05936	0.011401	0.005789	1.144269
Guianacara dacrya	44670, 47856, 48666	0.006173	0.049017	-0.03889	0.793865
Guianacara owroewefi	50751, 50758	0.029995	0.074221	-0.0623	0.808739
Guianacara stergiosi	36526, 36560	0.044853	-0.00388	-0.01978	0.850904
Gymnogeophagus balzanii	63328	0.053823	0.057519	0.028397	1.012826
Gymnogeophagus gymnogenys	63371	0.022537	-0.02097	-0.01204	1.019629
Gymnogeophagus labiatus	63159	0.002849	-0.02007	0.030152	1.044289
Gymnogeophagus meridionalis	57561, 63407	-0.00885	-0.06924	0.006691	1.093965
Gymnogeophagus rhabdotus	63175	-0.02294	0.046315	0.032036	1.178756
Herichthys cyanoguttatus	24652, 32494	0.081145	0.205557	0.021444	0.816528
Herichthys steindachneri	28332	-0.00407	-0.00306	0.024758	0.996887
Heros severus	44003	-0.16612	0.092123	0.007689	1.038393
Heros sp Common	39220, 53670, 54268, 56650	-0.17889	0.142562	0.004237	0.890746
Archocentrus multispinosus	9699	-0.11101	-0.03082	0.001655	0.841079
Hoplarchus psittacus	43081, 43117, 43691, 54999	0.208772	0.173867	0.039084	0.826718
Hypselecara coryphaenoides	40139, 41425	0.062907	0.116602	0.007529	0.811536
Hypsophrys nicaraguensis	9698	-0.02887	0.052975	-0.04128	0.780964
Isthmoheros tuyrense	28488	-0.06921	-0.02631	0.015004	0.793743
Krobia potaroensis	27951	0.081334	0.019126	-0.02004	0.755875
Kronoheros umbrifera	18790	-0.03138	0.004061	0.01195	0.802913
Laetacara flavilobris	283198	-0.19238	-0.06257	-0.02514	0.696429
Mayaheros urophthalmus	28594, 14676	0.063456	0.034273	-0.00272	0.875825
Mesoheros ornatus	4239	0.057989	-0.01491	0.004745	0.841751
Mesonauta egregius	40590, 53663	-0.0126	0.000569	-0.03157	0.79945
Mikrogeophagus altispinosus	23535, 23535	0.033675	-0.0027	-0.06652	1.066407

Mikrogeophagus ramirezi	22727	-0.01828	-0.10709	-0.01826	0.910394
Nandopsis haitiensis	28308	0.034887	-0.06595	0.062169	0.917713
Nannacara bimaculata	62947	0.082114	-0.06123	-0.0008	0.779878
Hypsophrys nematopus	9700	-0.02919	0.051742	-0.06943	0.840355
Parachromis dovii	9696	-0.10859	-0.04421	0.059282	0.939799
Parachromis friedrichsthalii	17742, 9697	0.065329	-0.0767	0.032808	0.893153
Parachromis managuensis	15964, 28331	0.024023	-0.11351	0.018424	0.972349
Paraneetroplus bulleri	19431	0.034298	-0.00761	-0.00677	0.76512
Petenia splendida	66303	-0.12529	-0.11895	0.03958	1.504645
Pterophyllum altum	39375, 40584	-0.23566	0.221488	0.04879	0.992457
Satanoperca daemon	41087	-0.05196	0.051129	0.051202	1.528859
Satanoperca jurupari	22251, 49878	-0.01948	-0.00881	0.009914	1.234174
Satanoperca leucosticta	36123, 48763	-0.10769	0.081996	0.015278	1.356188
Satanoperca mapiritensis	43729, 42943, 43509, 43814	-0.05222	-0.12606	0.01375	1.350932
Sympodus discus	17941	-0.23796	0.235606	-0.00926	1.37013
Tahuantinsuyo macantzatza		0.107257	-0.09649	0.027847	0.959799
Thorichthys aureus	19419	0.019738	0.08998	-0.00299	0.920705
Thorichthys meeki	17736	0.026052	-0.06262	-0.00831	0.980822
Tomocichla sieboldii	31729	0.047907	0.039152	-0.03558	0.782378
Uaru fernandezyepezi	54142	0.074009	0.019995	0.017141	0.841463
Paraneetroplus maculicauda	29428	0.038881	0.128343	-0.0474	0.745069