

**Table S1. Taxa, vouchers, locality, and GenBank or BOLD accession numbers of specimens used in this study.**

<b>Taxon</b>	<b>Museum ID</b>	<b>River basin</b>	<b>State, Country</b>	<b>GenBank or BOLD number</b>
<i>Abramites hypselonotus</i>	MUSM 47356	Río Ucayali	Ucayali, Peru	KU134848
<i>Abramites hypselonotus</i>	UFRO-I 8234	Rio Madeira	Rondônia, Brazil	KF568968
<i>Anostomoides atrianalis</i>	UFRO 8702-67001	Rio Aripuanã, Madeira	Rondônia, Brazil	MT427905
<i>Anostomoides atrianalis</i>	FMNH 123875-T45	Río Nanay, Maynas	Loreto, Peru	MT427906
<i>Anostomoides atrianalis</i>	AUM 53813-T09941	Río Caura, Orinoco	Bolivar, Venezuela	MT427907
<i>Anostomus ternetzi</i>	MZUSP 97271-7163	Rio Tapajós, Amazonas	Pará, Brazil	MT427908
<i>Anostomus ternetzi</i>	MZUSP 113996-7163	Rio Tapajós, Amazonas	Mato Grosso, Brazil	KF568970
<i>Caenotropus mestomorgmatos</i>	ANSP 180516-T48	Río Nanay, Amazonas	Loreto, Peru	KF562412
<i>Hypomasticus copelandii</i>	LBP 8098-37533	Rio Mucuri	Minas Gerais, Brazil	MT427909
<i>Hypomasticus copelandii</i>	LBP 8098-37536	Rio Mucuri	Minas Gerais, Brazil	MT427910

<i>Hypomasticus copelandii</i>	MCNIP 0459	Rio Doce	Minas Gerais, Brazil	KF568978
<i>Hypomasticus despaxi</i>	MHNG 2718.021 SU08-641	Marowijne river	Sipaliwini, Suriname	MT427911
<i>Hypomasticus lineomaculatus</i>	LBP 5391-27083	Rio Jari, Amazonas	Amapá, Brazil	MT427912
<i>Hypomasticus lineomaculatus</i>	LBP 5391-27084	Rio Jari, Amazonas	Amapá, Brazil	MT427913
<i>Hypomasticus megalepis</i>	MHNG 2736.026 GFSU12e-087(1)	Kabalebo river	Sipaliwini, Suriname	MT427914
<i>Hypomasticus megalepis</i>	MZUEL 10200	Rio Pitinga, Uatumã	Amazonas, Brazil	KX020571
<i>Hypomasticus megalepis</i>	MHNG 2736.093 SUGF12-572	Coppename river	Para, Suriname	MT427915
<i>Hypomasticus mormyrops</i>	LBP 6448-29070	Rio Paraíba do Sul	São Paulo, Brazil	GU702177
<i>Hypomasticus mormyrops</i>	LBP 8103-37539	Rio Pomba, Paraíba do Sul	Minas Gerais, Brazil	MT427916
<i>Hypomasticus mormyrops</i>	LBP 8103-37540	Rio Pomba, Paraíba do Sul	Minas Gerais, Brazil	MT427917
<i>Hypomasticus mormyrops</i>	MZUEL 08022	Rio Paraíba do Sul	São Paulo, Brazil	KX020572
<i>Hypomasticus pachycheilus</i>	UFRO-I 2156	Rio Madeira	Rondônia, Brazil	KF568973
<i>Hypomasticus santanai</i>	LBP 28094-96847	Rio Gongogi, Rio de Contas	Bahia, Brazil	MT427918
<i>Hypomasticus santanai</i>	LBP 28094-96848	Rio Gongogi, Rio de Contas	Bahia, Brazil	MT427919

<i>Hypomasticus santanai</i>	LBP 28094-96849	Rio Gongogi, Rio de Contas	Bahia, Brazil	MT427920
<i>Hypomasticus santanai</i>	LBP 28094-96850	Rio Gongogi, Rio de Contas	Bahia, Brazil	MT427921
<i>Hypomasticus santanai</i>	LBP 28094-96860	Rio Gongogi, Rio de Contas	Bahia, Brazil	MT427922
<i>Hypomasticus santanai</i>	LBP 28094-96861	Rio Gongogi, Rio de Contas	Bahia, Brazil	MT427923
<i>Hypomasticus santanai</i>	LBP 28094-96862	Rio Gongogi, Rio de Contas	Bahia, Brazil	MT427924
<i>Hypomasticus santanai</i>	LBP 28094-96863	Rio Gongogi, Rio de Contas	Bahia, Brazil	MT427925
<i>Hypomasticus steindachneri</i>	MCNIP 0379	Rio Jequitinhonha	Minas Gerais, Brazil	KF568994
<i>Hypomasticus steindachneri</i>	MCNIP 1396	Rio Mucuri	Minas Gerais, Brazil	MUCU161-14
<i>Hypomasticus steindachneri</i>	MCNIP 1465	Rio Mucuri	Minas Gerais, Brazil	MUCU038-13
<i>Hypomasticus steindachneri</i>	MCNIP 1466	Rio Mucuri	Bahia, Brazil	MUCU090-13
<i>Hypomasticus steindachneri</i>	MCNIP 1396	Rio Mucuri	Minas Gerais, Brazil	MUCU162-14
<i>Hypomasticus thayeri</i>	LBP 2380-16074	Rio Paraíba do Sul	Rio de Janeiro, Brazil	EU185593
<i>Hypomasticus thayeri</i>	LBP 10727-49707	Rio Paraíba do Sul	Rio de Janeiro, Brazil	MT427926
<i>Hypomasticus thayeri</i>	LBP 10727-49708	Rio Paraíba do Sul	Rio de Janeiro, Brazil	MT427927

<i>Laemolyta fernandezi</i>	GPEMA 5598	Rio Araguaia	Brazil	KF568974
<i>Laemolyta proxima</i>	UFRO 14043	Rio Madeira	Rondônia, Brazil	MT427928
<i>Leporellus vittatus</i>	LBP 1669-11255	Rio Paraná	Paraná, Brazil	GU701640
<i>Leporellus vittatus</i>	MZUSP 113987-L070	Rio Paraguai	Mato Grosso, Brazil	KF568980
<i>Leporinus bahiensis</i>	LBP 28096-96851	Rio Gongogi, Rio de Contas	Bahia, Brazil	MT427929
<i>Leporinus bahiensis</i>	LBP 28096-96852	Rio Gongogi, Rio de Contas	Bahia, Brazil	MT427930
<i>Leporinus fasciatus</i>	UFRO 3343	Rio Madeira	Rondônia, Brazil	KF568981
<i>Leporinus friderici</i>	MZUSP 113983	Rio Paraná	São Paulo, Brazil	KF568982
<i>Leporinus granti</i>	MHNG GFSU14-388	Marowijne river	St Laurent du Maroni, Suriname	MT427931
<i>Leporinus granti</i>	MHNG 2736.063 SUGF12-521	Suriname river	Brokopondo, Suriname	MT427932
<i>Leporinus lacustris</i>	MZUSP 113991	Rio Paraguay	Mato Grosso, Brazil	KF568985
<i>Leporinus multimaculatus</i>	LBP 2455-16284	Rio Araguaia	Mato Grosso, Brazil	MT427933
<i>Leporinus nijsseni</i>	MHNG 2755.050 GFSU14-805	Saramacca river	Sipaliwini, Suriname	MT427934
<i>Leporinus nijsseni</i>	MHNG 2755.050 GFSU14-806	Saramacca river	Sipaliwini, Suriname	MT427935

---

<i>Leporinus striatus</i>	MZUSP 113986	Rio Paraguay	Mato Grosso, Brazil	KF568995
<i>Megaleporinus conirostris</i>	Uncatalogued	Rio Paraíba do Sul	São Paulo, Brazil	KU134852
<i>Megaleporinus elongatus</i>	MCNIP 0375	Rio Jequitinhonha	Minas Gerais, Brazil	KU134853
<i>Megaleporinus macrocephalus</i>	MZUSP 118667	Rio Paraguay	Mato Grosso, Brazil	KU134856
<i>Megaleporinus obtusidens</i>	MCP 25476	Rio Jacuí	Rio Grande do Sul, Brazil	KU134859
<i>Megaleporinus trifasciatus</i>	MUSM 47351	Río Ucayali	Ucayali, Peru	KU134865
<i>Pseudanos trimaculatus</i>	UFRO 14970	Rio Madeira	Rondônia, Brazil	KF569003
<i>Rhytiodus lauzannei</i>	UFRO 6840	Rio Madeira	Rondônia, Brazil	KF569005
<i>Rhytiodus microlepis</i>	UFRO 18647	Rio Madeira	Rondônia, Brazil	KF569004
<i>Schizodon borellii</i>	MZUSP 113990	Rio Paraguay	Mato Grosso, Brazil	KF569006
<i>Schizodon fasciatus</i>	MZUSP 113989	Rio Madeira	Mato Grosso, Brazil	KF569007
<i>Schizodon intermedius</i>	MZUSP 113995	Rio Paraná	São Paulo, Brazil	KF569008

---