

Checklist of Gymnotiformes (Osteichthyes: Ostariophysii) and catalogue of primary types

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A list of all valid names of species of Neotropical electric fishes (Gymnotiformes) is presented herein. The list is arranged by family and genus and includes all available synonyms. The list is comprehensive through 2016 and includes 240 valid species distributed among 34 genera and five families, including one monotypic genus known only from the fossil record. The presented classification reflects recently published interpretations about the validity of the included names which, in general, are widely accepted. When the validity of a particular name is disputed in recent literature, we followed one of the published interpretations and provide relevant information on the alternate interpretation(s) in the remarks section of that name. Synonymies of some names need to be considered tentative, inasmuch as the types underlying those names are either absent or appear to be based on more than one taxon. First reviser actions (*e.g.*, lectotype and neotype designations, resolution of simultaneous synonyms, etc.) are reported and include erroneous subsequent attempts at problem resolutions. Herein, we include one new first reviser action by selecting *Gymnotus aequilabiatus* Humboldt, 1805, as type species of *Sternopygus* because previous attempts to select a type did not follow the provisions of the Code of Zoological Nomenclature.

Keywords: Apterontidae, Gymnotidae, Hypopomidae, Rhamphichthyidae, Sternopygidae.

Uma lista de todas as espécies válidas de peixes elétricos neotropicais (Gymnotiformes) é apresentada. A lista é organizada por família e gênero, e inclui todos os sinônimos válidos. A lista encontra-se atualizada até 2016 e inclui 240 espécies válidas viventes distribuídas entre os 34 gêneros e cinco famílias, e um gênero monotípico conhecido apenas por registros fósseis. A presente classificação reflete as recentes interpretações publicadas sobre a validade dos nomes incluídos, nos quais, em geral, são amplamente aceitos. Quando a validade de um nome em particular é disputada na literatura recente, nós seguimos uma das interpretações publicadas, e fornecemos informações relevantes sobre a(s) interpretação(ões) na seção de comentários do nome em questão. Sinônimos de alguns nomes precisam ser considerados com cautela, tendo em vista que os tipos para estes nomes são ausentes, ou parecem ser baseados em mais de um táxon. As primeiras ações de revisão (*e.g.*, designação de lectótipos e neótipos, resolução na designação simultânea de sinônimos, etc.) são registradas e incluem os esforços errôneos subsequentes para a solução do problema. Aqui, nós incluímos uma primeira ação de revisão selecionando *Gymnotus aequilabiatus* Humboldt, 1805, como a espécie-tipo de *Sternopygus*, porque os esforços prévios para selecionar o tipo não seguiram as recomendações do Código de Nomenclatura Zoológica.

Palavras-chave: Apterontidae, Gymnotidae, Hypopomidae, Rhamphichthyidae, Sternopygidae.

Introduction

Neotropical electric fishes (Ostariophysii: Gymnotiformes) are a natural group of strictly freshwater fishes, which also go by the name electric knifefishes. The group is perhaps best known for the genus *Electrophorus*, a monotypic genus that is widely known as the electric eel. Through 2016, 240 valid species are distributed among 34 genera and five families, including one monotypic genus known only from the fossil record.

Neotropical electric fishes are found throughout much of the South American continent and range from the La Plata

basin of Argentina northward into North America as far as Mexico. Although mostly confined to east of the Andes mountain range, species are recorded from Trans Andean portions of Ecuador, Colombia and Venezuela (Albert, Crampton, 2005).

A comprehensive overview of the diversity, phylogeny, and life history of the Gymnotiformes was published by Albert, Crampton (2005) and the reader is referred to that paper for details not covered herein. Also, synopses of the gymnotiform families were included within the Checklist of Freshwater Fishes of South and Central America - CLOFFSCA (Reis *et al.*, 2003) and those details will likewise not be repeated here.

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For the first two centuries of Linnaean nomenclature, the Gymnotiformes appeared to be a relatively depauperate taxon. In a revision of the group published in 1913, Ellis treated 27 species as valid, and even as recently as 1994, in the most recent taxonomic revision of the Order, Mago-Leccia (1994) recognized only 85 previously named valid species in addition to the 12 new species that he described

therein (Tab. 1). Mago-Leccia's study clearly demonstrated the need for closer examination of the diversity within the group, which led to contributions by a number of researchers that increased the number of recognized species by 20%, to 117, during the next decade (Reis *et al.*, 2003) and to more than double that total (to 240 species) at present (Tab. 1).

Tab. 1. Number of valid gymnotiform genera and species (genera/species) recognized in previous compilations. Günther, Eigenmann and Ellis included all taxa within the Gymnotidae (except a monotypic Electrophoridae); taxa broken down here by current treatment of families. Mago-Leccia recognized the five listed families but separated *Electrophorus* into a separate family, which is placed here within the Gymnotidae; Mago-Leccia recognized three additional subspecies of *Sternopygus aequilabiatus*, which are not included in the totals. Albert, Crampton included unnamed species that they considered valid; those species are not included in the totals for each family, but are noted in parentheses.

	Günther, 1870	Eigenmann, Ward, 1905	Eigenmann, 1910	Ellis, 1913	Mago-Leccia, 1994	Reis <i>et al.</i> , 2003	Albert, Crampton, 2005	This list
Apteronotidae	1/8	6/14	4/14	7/15	12/41	13/44	13/45 (16)	14/93
Gymnotidae	2/2	1/1	2/3	2/2	2/10	2/19	2/33 (3)	2/41
Hypopomidae	0/0	2/3	2/3	2/3	6/14	7/14	7/16 (13)	6/34
Rhamphichthyidae	1/6	1/3	1/3	2/2	2/9	3/13	3/12 (0)	5/27
Sternopygidae	1/4	2/8	2/9	2/5	5/23	5/27	6/29 (6)	7/45
(Total)	4/20	12/29	11/35	15/27	27/97	30/117	31/135 (38)	34/240

The pace at which new taxa have been reported in recent years reflects in an increased interest in the study of the Gymnotiformes and suggests that many more taxa are likely to be discovered in the foreseeable future. In anticipation of that, we decided to compile the following checklist with two main objectives. First, we thought it beneficial to provide an up-to-date listing of taxa together, when relevant, with information on conflicting views on the status of available generic and species group names, to insure that future researchers were aware of information relating to their ongoing work. Second, we thought it necessary to critically examine information relevant to compliance with the Code of Zoological Nomenclature (ICZN, 1999), such as the availability of names, identity of, and location of, primary types of species-group taxa as well as the identity of types of the genus-group and family-group names, and the existence of first-reviser actions at any taxonomic level, again to make that information available to future workers. In our view, this compilation of a list of names, together with all nomenclaturally relevant information for each, should provide future workers with a solid background upon which to base their nomenclatural decisions, once their taxonomic studies have been completed.

Material and Methods

By their nature, checklists force their authors into making choices among competing hypotheses of the validity of some taxa. It is not possible to treat such competing hypotheses as equally valid within a checklist format and, as such, one of the hypotheses must be given precedence over the other(s). A species cannot be treated as valid in two different genera despite evidence presented in different studies that reach differing conclusions about its relationships. Similarly, a species name cannot be treated as valid and a junior synonym

of another name just because different studies reach these alternative conclusions. These kinds of problems are especially difficult when the proponents of the competing hypotheses are still active researchers, and each is likely to object if their hypothesis is not adopted. It is our view that such decisions are necessary, but a relatively unimportant part of the checklist, as long as the existence of a controversy is clearly stated. When we are required to choose among competing hypotheses, we make a point of including the reference to any recently published alternate hypotheses in the remarks section to insure that the reader knows of its existence.

Families are listed alphabetically. Family membership generally follows that in Reis *et al.* (2003), except for the placement of *Hypopygus* and *Steatogenys* in the Rhamphichthyidae, following Tagliacollo *et al.* (2016). Genera proposed subsequent to that Reis *et al.* (2003) are placed where assigned by the author of the generic name.

Genera are listed alphabetically within families, with no attempt to sort genera into subfamilies or tribes, even when those groups are in current use. Species are listed alphabetically within genera with no attempt to sort the names into subgenera, or list the subgeneric name as part of the valid name.

Type localities are copied directly from the original description, with interpretation (enclosed in brackets) only when the original was deemed unclear. Figures listed for each nominal species name were those that showed an entire type specimen and/or the head region and not all drawings and or photographs that depict parts of a specimen of the species. When a primary type of a nominal species is illustrated in a publication other than the original description, that illustration is also noted.

Page numbers listed for accounts of genera or species refer to the first page in which the name is made available. If names appear in a key earlier than the full account of

the name, both page numbers are listed. Page numbers in square brackets indicate that no page number appears on the page and, instead, the page is interpreted from other sources. Similarly, plate and/or figure numbers in brackets indicate the absence of a number on the printed page.

Catalog/registration numbers for type specimens were taken directly from the original descriptions, when present. For original descriptions that do not include catalog numbers, numbers found in CLOFFSCA (Reis *et al.*, 2003) were listed. Institution codes are explained in Tab. 2.

Catalog numbers were generally not verified, except in a few instances when a discrepancy was noted. Catalog numbers for specimens from MNHN, ZMUC and ZSM were updated to fit the current coding systems at those institutions, when needed. For species named in part, or whole, from literature sources, details about the specimens, or illustrations of specimens, that were listed in the original descriptions were provided in place of catalog numbers. In some such cases, the information is imprecise, if the source of the underlying specimens was not clear.

Tab. 2. Museum codes of collections that house primary type specimens of nominal species of Gymnotiformes.

AMNH	American Museum of Natural History, New York
ANSP	The Academy of Natural Sciences, Philadelphia
AUM	Auburn University Natural History Museum, Auburn
BMNH	Natural History Museum, London
CAS	California Academy of Sciences, San Francisco
CBF	Colección Boliviana de Fauna, Museo Nacional de Historia Natural, Instituto de Ecología, Academia Nacional de Ciencias de Bolivia, La Paz
CSBD	University of Guyana, Center for the Study of Biological Diversity, Georgetown
CST	Centre des Sciences de la Terre de l'Université Claude Bernard, Lyon
CUMV	Cornell University Museum of Vertebrates, Ithaca, New York
DZUFMG	Departamento de Zoologia, Universidade Federal de Minas Gerais, Belo Horizonte
EEBP	Estação Experimental de Biologia e Piscicultura de Pirassununga, Centro de Pesquisa e Gestão de Recursos Pesqueiros Continentais, IBAMA, Ministério do Meio Ambiente, Pirassununga, São Paulo
FMNH	Field Museum of Natural History, Zoology Department, Chicago
GSC	Personal collection of Jacques Géry, now housed at MHNG
ICNMHN	Instituto de Ciencias Naturales, Museo de Historia Natural, Universidad Nacional de Colombia, Bogotá
IAvH-P	Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Villa de Leyva, Boyacá
INPA	Instituto Nacional de Pesquisas da Amazônia, Manaus
LGP	Laboratório de Genética de Peixes, Instituto de Biociências, Departamento de Biologia, Universidade Estadual Paulista "Júlio de Mesquita Filho", Campus de Rio Claro, São Paulo
MACLPI	Ministerio de Agricultura y Cría, Sección de Pesca Interior y Piscicultura, Caracas
MACN	Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" [formerly Museo Nacional de Argentina], Buenos Aires
MBUCV-V	Museo de Biología de la Universidad Central de Venezuela, Caracas
MCNG	Museo de Ciencias Naturales de UNELLEZ, Guanare
MCP	Museu de Ciências e Tecnologia, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre
MCZ	Museum of Comparative Zoology, Harvard University, Cambridge
MHNG	Muséum d'histoire naturelle, Genève
MLP	Museo de La Plata, La Plata, Buenos Aires
MNHN	Muséum national d'Histoire naturelle, Paris
MNRJ	Museu Nacional, Universidade Federal do Rio de Janeiro, Rio de Janeiro
MPEG	Museu Paraense "Emílio Goeldi", Zoologia, Belém
MUSM	Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Lima
MZUSP	Museu de Zoologia da Universidade de São Paulo, São Paulo
NMW	Naturhistorisches Museum, Vienna
NRM	Naturhistoriska Riksmuseet [Swedish Museum of Natural History], Department of Vertebrate Zoology, Stockholm
RMNH	Naturalis Biodiversity Center [formerly Rijksmuseum van Natuurlijke Historie], Leiden
UF	Florida Museum of Natural History, University of Florida, Gainesville
UFRGS	Universidade Federal do Rio Grande do Sul, Departamento de Zoologia, Porto Alegre
UFRJ	Laboratório de Sistemática e Evolução de Peixes Teleosteos, Universidade Federal do Rio de Janeiro, Rio de Janeiro
UMMZ	University of Michigan Museum of Zoology, Ann Arbor
UMSS	Universidad Mayor de San Simon, Cochabamba
USNM	National Museum of Natural History, Smithsonian Institution, Department of Vertebrate Zoology, Washington
UUZM	Zoologiska Museet, Uppsala Universitet [Uppsala University Zoological Museum], Uppsala
ZMA	Zoologisch Museum, Universiteit van Amsterdam, Amsterdam; now housed at RMNH
ZMB	Museum für Naturkunde [formerly Zoologischen Museum], Leibniz-Institut für Evolutions- und Biodiversitätsforschung an der Humboldt-Universität, Berlin
ZMUC	Københavns Universitet, Zoologisk Museum [Zoological Museum, University of Copenhagen], Vertebrater, Fiskesamlingen, Copenhagen
ZSM	Zoologische Staatssammlung München.
ZVC-P	Colección de Zoología Vertebrados de la Facultad de Ciencias, Universidad de la República, Montevideo

Size of the type(s) is that reported in the original description, when so listed. The original units of measure were provided, and those not reported in metric or English units were translated when possible. When more than one size was provided by in the description, preference was given to list total length (TL) over standard length (SL) or length to the end of the anal fin (LEA). Measurements were rounded to the nearest mm when reported to fractions of a mm. In cases in which no indication of which measurement was taken, it was assumed to be TL and reported as such. When a later publication reported the size of the type that was not reported in the original description or that was significantly different from the size in the original description, that measurement is listed in parentheses after the length reported in the original description.

Synonymies at the species level are not new here and instead follow the conclusions reported in the publications listed under the account of the genus or, in some cases, in the remarks for the species. Synonymies at the generic level necessarily follow the taxonomic assignment of the type species.

In a few accounts, binomial names that are not italicized are included within the remarks sections. Those names are not available in terms of the Code and therefore not italicized to emphasize that point.

Titles and publication information on some older literature were taken from that listed in the Biodiversity Heritage Library.

The distribution of each species was stated, using one of the following sources, in order of descending priority: first, the distribution reported in a revision of the genus (or a subunit), or redescription of the species; second, reports of the species that extend the distribution beyond that of earlier publications (in which case, more than one publication may be cited); third, the distribution provided in the original description; and fourth, the distribution reported in CLOFFSCA (Reis *et al.*, 2003). Country and river names are written with English spellings (especially the word River) rather than the spelling used in each country.

Results

The following is a list of all scientific names for the Gymnotiformes that are covered by the Code of Zoological Nomenclature (ICZN, 1999), arranged by valid taxa. The list is believed to be complete through 2016. We found 18 available family-group names, 56 genus-group names, and 281 species-group names, which are assigned into five families, 34 genera and 240 species (Tab. 3), including one monotypic genus that is known only from the fossil record. This list reports double the valid species over the most recently published list (Reis *et al.*, 2003), and a greater than eight fold increase in the last century (Ellis, 1913).

Tab. 3. Nominal and valid gymnotiform families, genera and species reported herein, through the end of 2016, including fossil taxa. Within each family, number of valid taxa is followed by total number of available names for those taxa.

	Family	Genera	Species
Apteronotidae	1/8	14/20	93/101
Gymnotidae	1/3	2/4	41/50
Hypopomidae	1/3	6/9	34/37
Rhamphichthyidae	1/2	5/9	27/35
Sternopygidae	1/2	7/13	45/56
<i>Inquirendae</i>		-/1	-/2
(Total)	5/18	34/56	240/281

GYMNOTIFORMES

Review: Eigenmann, Fisher (1914), Peru; Eigenmann, Allen (1942), Trans-Andes; Mago-Leccia (1994), Venezuela and vicinity.

Overview: Albert, Crampton (2005).

Revision: Eigenmann, Ward (1905); Ellis (1913); Albert (2001).

Checklist: Eigenmann, Eigenmann (1891); Eigenmann (1910); Reis *et al.* (2003); Maldonado-Ocampo, Albert (2003), Colombia; Buckup *et al.* (2007), Brazil.

Key: Eigenmann, Ward (1905); Ellis (1913); Hoedeman (1962b), Guianas; Albert (2001), families and genera.

Phylogeny: Schlesinger (1910); Regan (1911); Triques (1993); Gayet *et al.* (1994), Alves-Gomes *et al.* (1995); Campos-da-Paz, Albert (1998); Albert, Campos-da-Paz (1998); Albert (2001); Alves-Gomes (2010); Tagliacollo *et al.* (2016).

APTERONOTIDAE Jordan, 1923 (1838) (14 genera; 93 species)

Sternarchidae Swainson, 1838: 216, 222. Type genus: [*Sternarchus* Bloch, Schneider, 1801]. (Also in Swainson, 1839: 196, 337).

Apteronotidae Jordan, 1923: 138. Type genus: *Apteronotus* La Cèpède, 1800

Adontosternarchinae Mago-Leccia, 1978: 14. Type genus: *Adontosternarchus* Ellis, 1912.

Sternarchorhynchinae Mago-Leccia, 1978: 14. Type genus: *Sternarchorhynchus* Castelnau, 1855.

Oedemognathinae Mago-Leccia, 1978: 14. Type genus: *Oedemognathus* Myers, 1936

Sternarchorhamphini Albert, 2001: 73. Type genus: *Sternarchorhamphus* Eigenmann, 1905.

Sternarchellini Albert, 2001: 77. Type genus: *Sternarchella* Eigenmann, 1905.

Porotergini Albert, 2001: 78. Type genus: *Porotergus* Ellis, 1912.

Key: de Santana, Maldonado-Ocampo (2005), Magdalena-Cauca basins; Triques (2011), Paraná basin.

Phylogeny: Triques (2005); Ivanyisky, Albert (2014), Sternarchellini.

Checklist: Albert (2003a); Triques (2007b), Brazil.

Remarks: Jordan (1923: 138) proposed the new name Apterontidae for the family previously named the Sternarchidae, in conjunction with his treatment of *Sternarchus* as a junior synonym of *Apteronotus*, based on the then-prevailing view that family names needed to be derived from valid generic names. Despite its clear priority, the name Sternarchidae has been used rarely since the introduction of the name Apterontidae, and the Apterontidae is in widespread use. Following Art. 40.2 of the Code of Zoological Nomenclature (ICZN, 1999), the name Apterontidae takes priority over Sternarchidae and takes as its date of publication that of Sternarchidae [= 1838] for purposes of priority among other gymnotiform family-group names.

Albert (2001) proposed the name Sinusoidea (p. 69) as a suprafamilial name and Navajini (p. 77) as a subgroup within the Apterontinae. Those names are not available as family-group names inasmuch as they are not based on available generic names (ICZN, 1999: Art. 11.7.1.1).

Apterontidae incertae sedis
(2 species)

Sternarchus bonapartii Castelnau, 1855: 92, pl. 45 (fig. 2). Type locality: un lac se de'versant dans l'Ucalaye [Peru]. Holotype: MNHN 0000-3807; 24 cm TL.

Remarks: Treated as valid in *Apteronotus* in Mago-Leccia (1994), Albert (2001) and Cox Fernandes *et al.* (2002); as a senior synonym of *Parapteronotus hasemani* in Triques (2007a); and as a valid species within the Apterontidae, but not assigned to any available generic name in Tagliacollo *et al.* (2016).

Distribution: Amazon River basin, Peru and Brazil (Albert, 2003a).

Porotergus ellisi Alonso de Arámburu, 1957: 154, fig. 1. Type locality: San Pedro, provincia de Buenos Aires, sobre el Río Paraná inferior (en el Delta), Argentina. Holotype: MLP 1-V-37-3; 328 mm TL.

Remarks: Treated as valid in *Porotergus* in Mago-Leccia (1994); valid in *Apteronotus* in Albert (2001); and as a valid species within the Apterontidae, but not assigned to any available generic name in Tagliacollo *et al.* (2016).

Distribution: Paraná River basin, Argentina (Alonso de Arámburu, 1957).

ADONTOSTERNARCHUS Ellis, 1912
(6 species)

Adontosternarchus Ellis, in Eigenmann, 1912: 424. Type species: [*Sternarchus sachsii* Peters, 1877]. Type by subsequent monotypy. Gender: masculine.

Revision with key to species: Mago-Leccia *et al.* (1985).

Remarks: *Adontosternarchus* appeared first in Ellis (in Eigenmann, 1912) without reference to any species. The name was listed with one included species, *Sternarchus sachsii* Peters, 1877, in Ellis (1913: 155).

Adontosternarchus balaenops (Cope, 1878)

Sternarchus balaenops Cope, 1878: 682. Type locality: Pebas [Peru]. Holotype: ANSP 21462; ca. 165 mm TL (Mago-Leccia *et al.*, 1985).

Distribution: Upper Amazon River basin, Brazil, Peru and Bolivia (Mago-Leccia *et al.*, 1985).

Adontosternarchus clarkae Mago-Leccia, Lundberg,
Baskin, 1985

Adontosternarchus clarkae Mago-Leccia, Lundberg, Baskin, 1985: 14, figs. 1c, 16. Type locality: Raudal (Rapids) de Mavahate, Río Negro near San Carlos de Río Negro, Amazonas Territory, Venezuela. Holotype: MBUCV-V 12703; 172 mm TL.

Distribution: Upper Amazon River basin, Brazil, Venezuela, Colombia, Ecuador and Peru (Mago-Leccia *et al.*, 1985).

Adontosternarchus devenanzii Mago-Leccia, Lundberg,
Baskin, 1985

Adontosternarchus devenanzii Mago-Leccia, Lundberg, Baskin, 1985: 11, fig. 14. Type locality: Venezuela, Caño Cuajarito, tributary of Río Portuguesa, 3 km above La Unión, Estado Guárico. Holotype: MBUCV-V 7513; 133 mm TL.

Distribution: Orinoco River and its large tributaries and the low Llanos, Venezuela and Colombia (Mago-Leccia *et al.*, 1985).

Adontosternarchus duartei de Santana, Vari, 2012

Adontosternarchus duartei de Santana, Vari, 2012: 536, fig. 1. Type locality: Brazil Amazonas Beruri, beach in front of channel connecting with Lago Ayapuá, 4°28'57"S, 62°03'52"W, Río Purus basin, 8-16 m depth. Holotype: INPA 34648; 125 mm TL.

Distribution: Purus River system, Amazon basin, Brazil (de Santana, Vari, 2012).

Adontosternarchus nebulosus Lundberg, Cox Fernandes,
2007

Adontosternarchus nebulosus Lundberg, Cox Fernandes, 2007: 28, figs. 1, 2. Type locality: Brazil, Amazonas State, Rio Madeira, 2 kilometers below Vila Urucurituba, about 3°33'05.6"S, 58°54'56.4"W. Holotype: INPA 26410; 110 mm TL.

Distribution: Main channel of Amazon River and its major tributaries (Lundberg, Cox Fernandes, 2007).

***Adontosternarchus sachsi* (Peters, 1877)**

Sternarchus Sachsi Peters, 1877: 473 [Unnumbered plate in issue for August, 1877]. Type locality: S. Fernando de Apure [Venezuela]. Holotype: ZMB 10044; 18.7 cm TL.

Distribution: Lower and middle Orinoco River basin and Amazon basin (Mago-Leccia *et al.*, 1985).

***APTERONOTUS* La Cepède, 1800
(25 species)**

Apteronotus La Cepède, 1800: 208. Type species: *Apteronotus passan* La Cepède, 1800. Type by monotypy. Gender: masculine.

Sternarchus Bloch, Schneider, 1801: 497. Type species: [*Gymnotus albifrons* Linnaeus, 1766]. Type by subsequent designation by Eigenmann, Ward (1905: 161). Gender: masculine.

Memarchus Duméril, 1856: 201. Type species: *Gymnotus albifrons* Linnaeus, 1766, by monotypy. Gender: masculine.

Ubidia Miles, 1945: 461. Type species: *Ubidia magdalenensis* Miles, 1945. Type by original designation. Gender: masculine.

Revision: *Apteronotus leptorhynchus* group (de Santana, Vari, 2013).

Phylogeny: Campos-da-Paz (1999); Triques (2005); de Santana, Vari (2013, *Apteronotus leptorhynchus* group).

Remarks: The gender of *Ubidia* was not stated by Miles, and it has been listed as feminine in Mago-Leccia (1994), Eschmeyer (1998) and Eschmeyer *et al.* (2016). The name, however, is the surname of “señor Jorge Ubidia Betancourt” and, as such, we believe the name should be treated as masculine.

***Apteronotus acidops* Triques, 2011**

Apteronotus acidops Triques, 2011: 300, figs. 1, 2. Type locality: Brazil, Rio Paraná at Ilha Solteira, 20°30'S, 51°00'W, between states of São Paulo and Mato Grosso do Sul. Holotype: MZUSP 45685; 321 mm LEA.

Distribution: Upper Paraná River basin, Brazil (Triques, 2011).

***Apteronotus albifrons* (Linnaeus, 1766)**

Gymnotus albifrons Linnaeus, 1766: 428. Type locality: Surinami. Holotype: whereabouts unknown.

Apteronotus passan La Cepède, 1800: 209, pl. 6 (fig. 3). Type locality: Surinami. Syntypes: MNHN 0000-3808 (1; 400 cm TL), and several literature sources, including account of *Gymnotus albifrons* [Linnaeus, 1766] in Gmelin (1789), “Gymnote passan” Bonnaterre (1788: pl. XXIV, fig. 8.), and Pallas (1769: 35, pl. 6, fig. 1).

Sternarchus lacepedii Castelnau, 1855: 93, pl. 45 (fig. 3). Type locality: Surinam. Syntype: on specimen presumably deposited at MNHN (18 cm TL), possibly MNHN 0000-3808, and “Gymnote passan” Bonnaterre (1788: pl. XXIV, fig. 8.).

? *Sternarchus maximiliani* Castelnau, 1855: 93, pl. 45 (fig. 4). Type locality: l'Urubamba [Peru]. Holotype: presumably deposited at MNHN, but whereabouts unknown; 14 cm TL.

Remarks: Synonymy follows Albert (2003a).

Distribution: Venezuela to Paraguay and Paraná River basins (Albert, 2003a).

***Apteronotus anu* de Santana, Vari, 2013**

Apteronotus anu de Santana, Vari, 2013: 570, fig. 4. Type locality: Venezuela, Zulia, Rio Negro, 12 km south of Machiques on way to Tokuko at the bridge. Holotype: MCNG 24991; 132 mm TL.

Distribution: Maracaibo Lake basin, Colombia and Venezuela (de Santana, Vari, 2013).

***Apteronotus apurensis* Fernández-Yépez, 1968**

Apteronotus apurensis Fernández-Yépez, 1968: [7], [pl. 5]. Type locality: Río Bucaral, paso Mirabal [Orinoco basin, Venezuela]. Holotype: MBUCV-V 10840; 124 mm TL.

Distribution: Apure River, Orinoco basin, Venezuela (Fernández-Yépez, 1968).

***Apteronotus baniwa* de Santana, Vari, 2013**

Apteronotus baniwa de Santana, Vari, 2013: 575, figs. 7, 8. Type locality: Venezuela Amazonas, Río Orinoco, 147 km east-south-east of San Fernando de Atabapo, 3°45'23"N, 66°36'12"W. Holotype: AUM 43275; 155 mm TL.

Distribution: Upper Orinoco River basin, Venezuela (de Santana, Vari, 2013).

***Apteronotus brasiliensis* (Reinhardt, 1852)**

Sternarchus brasiliensis Reinhardt, 1852: 148. Type locality: Rio das Velhas, Brasilien. Syntypes: ZMUC P259 [formerly 35], ZMUC P2510 [36], ZMUC 2511 [41]. Possibly also MNHN 0000-9596; NMW 65015; ZMB 9185 and/or 9195.

Distribution: Das Velhas River basin, Brazil (Albert, 2003a).

Apteronotus camposdapazi de Santana, Lehmann, 2006

Apteronotus camposdapazi de Santana, Lehmann, 2006: 262, figs. 1, 2, Type locality: Niquelandia, Arroio Arara, 500 meters from mouth of Rio Maranhão at Rosariana, 14°01'S, 48°26'W, Goiás State, Brazil. Holotype: MCP 40046; 267 mm TL.

Distribution: Tocantins River basin, Brazil (de Santana, Lehmann, 2006).

Apteronotus caudimaculosus de Santana, 2003

Apteronotus caudimaculosus de Santana, 2003: 2, figs. 1, 2. Type locality: [Brazil] Mato Grosso do Sul, 19°36.64'S, 56°24.87'W, Aquidauna, Rio Novo, Brejo de Santa Sofia. Holotype: MZUSP 79359; 287 mm TL.

Distribution: Paraná River basin, Brazil (de Santana, 2003).

Apteronotus cuchillejo (Schultz, 1949)

Sternarchogiton cuchillejo Schultz, 1949: 72, pl. 3 (fig. b). Type locality: Río Motatán, 8 km below Motatán, Venezuela. Holotype: USNM 121600; 168 mm TL.

Distribution: Motatan River, Lake Maracaibo basin (Schultz, 1949).

Apteronotus cuchillo Schultz, 1949

Apteronotus cuchillo Schultz, 1949: 69, pl. 3 (fig. a). Type locality: Río Socuy, 3 km above mouth, Venezuela. Holotype: USNM 121591; 363 mm TL.

Distribution: Socuy River and Lake Maracaibo basin, Venezuela (Schultz, 1949).

Apteronotus eschmeyeri de Santana, Maldonado-Ocampo, Severi, Mendes, 2004

Apteronotus eschmeyeri de Santana, Maldonado-Ocampo, Severi, Mendes, 2004: 3, figs. 1, 2. Type locality: Colombia, Departamento Cundinamarca, Río Magdalena Basin, Las Juntas de Apulo, Río Bogotá along railway between Girardot and Facatativa. Holotype: CAS 72115; 304 mm TL.

Distribution: Magdalena River basin and Cauca River, Colombia (de Santana *et al.*, 2004; Maldonado-Ocampo, de Santana, 2005).

Apteronotus ferrarisi de Santana, Vari, 2013

Apteronotus ferrarisi de Santana, Vari, 2013: 577, figs. 9, 10, Type locality: Venezuela, Yaracuy, Río Yaracuy basin (Caribbean Coast), Quebrada Guaquira on Hacienda Guaquira, southeast of El Peñon Reservoir, 10°17'40"N, 68°39'35"W. Holotype: MCNG 55635; 231 mm TL.

Distribution: Yaracuy River and Aroa River, Caribbean coastal drainages, Venezuela (de Santana, Vari, 2013).

Apteronotus galvisi de Santana, Maldonado-Ocampo, Crampton, 2007

Apteronotus galvisi de Santana, Maldonado-Ocampo, Crampton, 2007: 118, figs. 1, 2. Type locality: Río Meta drainage, Río Cusiana, bridge El Venado, 5°00'50"N, 72°41'30.9"W, Casanare, Colombia, elevation 305 meters. Holotype: IAvH-P 8133; 184 mm TL; holotype illustrated in de Santana, Vari (2013: fig. 11) and doNascimento *et al.* (2016: fig. 4).

Remarks: Redescribed in de Santana, Vari (2013).

Distribution: Upper Meta River basin, Orinoco River system, Colombia (de Santana, Vari, 2013).

Apteronotus jurubidae (Fowler, 1944)

Sternarchus jurubidae Fowler, 1944: 242, fig. 20. Type locality: Río Jurubidá, Nuquí, Colombia. Holotype: ANSP 71435; 253 mm TL.

Distribution: Jurubidá River basin, Colombia (de Santana, Maldonado-Ocampo, 2004).

Apteronotus leptorhynchus (Ellis, 1912)

Sternarchus leptorhynchus Ellis, in Eigenmann, 1912: 439. Type locality: Amatuk [Guyana]. Holotype: FMNH 53294; 260 mm TL. Described in more detail, with illustration of holotype, in Ellis (1913: 147, pl. 23, fig. 4); holotype illustrated in de Santana, Vari (2013: fig. 13).

Remarks: Redescribed in de Santana, Vari (2013).

Distribution: Essequibo River basin, Guyana (de Santana, Vari, 2013).

Apteronotus lindalvae de Santana, Cox Fernandes, 2012

Apteronotus lindalvae de Santana, Cox Fernandes, 2012: 286, fig. 1. Type locality: Brazil, Amazonas, Rio Uatumã, Cochoeira do Mirití. Holotype: INPA 27688; 250 mm TL.

Distribution: Uatumã River, Amazonas, Brazil (de Santana, Cox Fernandes, 2012).

Apteronotus macrolepis (Steindachner, 1881)

Sternarchus macrolepis Steindachner, 1881a: 98. Type locality: Amazonenstromes [Brazil]. Syntypes: (several) NMW 65333 (2). Described in more detail in Steindachner (1881c: 14) with locality as: Ausstände des Amazonenstromes zunächst der Mündung des Rio Negro.

Distribution: Amazon River basin, Brazil and Peru (Albert, 2003a).

Apteronotus macrostomus (Fowler, 1943)

Sternarchus macrostomus Fowler, 1943: 263, fig. 63. Type locality: Villavicencio, Río Meta basin, Colombia. Holotype: ANSP 70528: 260 mm TL; holotype illustrated in de Santana, Vari (2013: fig. 15).

Remarks: Redescribed in de Santana, Vari (2013). Treated by Triques (2005, 2007) as valid in *Parapteronotus*.

Distribution: Meta River basin, Colombia (Santana, Vari, 2013).

Apteronotus magdalenensis (Miles, 1945)

Ubidia magdalenensis Miles, 1945: 461, figs. 11, 12. Type locality: Río Magdalena, Honda, Tolima, Colombia. Holotype: at Sec. Caza y Pesca, Min. Nat. Econ. Bogotá; 280 mm TL (lost, Maldonado-Ocampo *et al.*, 2011).

Remarks: Redescribed in Maldonado-Ocampo *et al.* (2011).

Distribution: Magdalena River basin, Colombia (Miles, 1945; Maldonado-Ocampo *et al.*, 2011).

Apteronotus magoi de Santana, Castillo, Taphorn, 2006

Apteronotus magoi de Santana, Castillo, Taphorn, 2006: 276, figs. 1, 2. Type locality: Venezuela, Barinas, Río Apure drainage, Caño Bravo, 8°00'S, 67°59'W. Holotype: MCNG 54795; 237 mm TL.

Distribution: Apure River drainage, Orinoco River system, Venezuela (de Santana *et al.*, 2006).

Apteronotus mariae (Eigenmann, Fisher, 1914)

Sternarchus mariae Eigenmann, Fisher, 1914: 236. Type locality: Girardot [Colombia]. Holotype: FMNH 56774; 201 mm TL (195 mm TL, de Santana, Maldonado-Ocampo, 2004). Holotype illustrated in Eigenmann (1923: pl. 34, fig. 6).

Remarks: Redescribed in de Santana, Maldonado-Ocampo (2004).

Distribution: Magdalena River basin, Colombia (de Santana, Maldonado-Ocampo, 2004).

Apteronotus milesi de Santana, Maldonado-Ocampo, 2005

Apteronotus milesi de Santana, Maldonado-Ocampo, 2005: 224, figs. 1, 2. Type locality: Colombia, Departamento del Valle del Cauca, Municipio de Ancermanuevo, Hacienda el Amparo, Río Chanco, elevation 950 meters. Holotype: IAvH-P 3996; 160 mm TL; holotype illustrated in doNascimento *et al.* (2016: fig. 5).

Distribution: Cauca River basin, Colombia (de Santana, Maldonado-Ocampo, 2005).

Apteronotus pemon de Santana, Vari, 2013

Apteronotus pemon de Santana, Vari, 2013: 586, figs. 17, 18. Type locality: Venezuela, Bolivar, Techiné-meru waterfall, tributary of upper Río Caroni, about 5°01'N, 62°17'60"W. Holotype: FMNH 70012; 206 mm TL.

Distribution: Upper Caroni River basin, Venezuela (de Santana, Vari, 2013).

Apteronotus rostratus (Meek, Hildebrand, 1913)

Stenarchus rostratus Meek, Hildebrand, 1913: 85. Type locality: Río Grande near Cana, Panama. Holotype: FMNH 7592; 126 mm TL (94 mm TL, de Santana, Vari (2013)). Described in more detail, with illustration of holotype, in Meek, Hildebrand (1916: 312, pl. 27).

Remarks: Redescribed in de Santana, Vari (2013).

Distribution: Magdalena and Cauca rivers, Colombia and several Pacific versant rivers of Panama (de Santana, Vari, 2013).

Apteronotus spurrellii (Regan, 1914)

Sternarchus spurrellii Regan, 1914: 32. Type locality: Río Condoto, Colombia. Syntypes (4): BMNH 1914.5.18.90-93; 142-189 mm TL (de Santana, Vari, 2013); syntype (189 mm TL) illustrated in de Santana, Vari (2013: fig. 20).

Remarks: Redescribed in de Santana, Crampton (2006b) and de Santana, Vari (2013).

Distribution: San Juan River basin, western Colombia (de Santana, Crampton, 2006b); Condoto and Dagua Rivers, Pacific versant of Colombia (de Santana, Vari, 2013).

Species inquirenda *Apteronotus*

Sternarchus paranaensis Schindler, 1940: 140, figs. 5, 6. Type locality: Kleiner Nebenfluss am rechten Ufer des Rio Paraná, ungefähr 34 km flussauf von Pto. Tibiriçá [Brazil]. Syntypes: ZSM 5902 (ex 20/1938), 1, 238 mm TL; ZSM 5901 (ex 21/1938) 1, 163 mm TL. Types illustrated in Neumann (2011: fig. 1), as holotype and paratype, but no clear indication of a holotype designation found in the original description.

COMPSARAIA Albert, 2001
(2 species)

Compsaraia Albert, 2001: 78. Type species: *Compsaraia compsa* [= *Porotergus compsus*] Mago-Leccia, 1994. Type by original designation. Gender: feminine.

Compsaraia compsa (Mago-Leccia, 1994)

Porotergus compsus Mago-Leccia, 1994: 82, figs. 90, 91. Type locality: Río Orinoco, between km 152 and 153, in front of Isla Iguana, Delta Amacuro, Venezuela. Holotype: MBUCV-V 11010; 338 mm TL.

Distribution: Orinoco, Meta, Apuré and Negro River basins, Venezuela (Mago-Leccia, 1994).

Compsaraia samueli Albert, Crampton, 2009

Compsaraia samueli Albert, Crampton, 2009: 83, figs. 1, 2. Type locality: Peru, Loreto, Rio Amazonas near Iquitos, 3.77°S, 73.25°W. Holotype: MUSM 26093; 226 mm TL.

Distribution: Western Amazon River basin of Peru and Brazil (Albert, Crampton, 2009).

MEGADONTOGNATHUS Mago-Leccia, 1994
(2 species)

Megadontognathus Mago-Leccia, 1994: 38. Type species: *Megadontognathus cuyuniense* Mago-Leccia, 1994. Type by original designation. Gender: masculine.

Megadontognathus cuyuniense Mago-Leccia, 1994

Megadontognathus cuyuniense Mago-Leccia, 1994: 81, figs. 89a, 89b. Type locality: Venezuela, Bolivar, Paruruvaca rapids, Río Cuyuni. Holotype: MBUCV-V 9499; 57 mm TL.

Remarks: It is unclear why Mago-Leccia spelled the name *cuyeniense*, as the generic name that he proposed for the species is clearly masculine. The name should have been spelled *cuyuniensis*.

Distribution: Cuyuni and Caroní River basins, Venezuela (Mago-Leccia, 1994).

Megadontognathus kaitukaensis Campos-da-Paz, 1999

Megadontognathus kaitukaensis Campos-da-Paz, 1999: 1043, figs. 1, 2. Type locality: Cachoeiras de Kaituká, 5°15'S, 52°50'W, Rio Xingu, Pará State, Brazil. Holotype: INPA 14074; 160 mm TL.

Distribution: Kaituká falls, Xingu River basin, Brazil (Campos-da-Paz, 1999).

ORTHOSTERNARCHUS Ellis, 1912
(1 species)

Orthosternarchus Ellis, in Eigenmann, 1912: 424. Type species: [*Sternarchus tamandua* Boulenger, 1898]. Type by subsequent monotypy. Gender: masculine.

Remarks: *Orthosternarchus* appeared first in Ellis, in Eigenmann (1912: 424, key) without reference to any species. The name next appeared, with one included species, *Sternarchus tamandua* Boulenger, 1898, in Ellis (1913: 144).

Orthosternarchus tamandua (Boulenger, 1898)

Sternarchus tamandua Boulenger, 1898: 427, pl. 42. Type locality: Rio Juruá, Brazil. Holotype: BMNH 1897.12.1.208; 400 mm TL [425 mm in Hilton *et al.* (2007)].

Remarks: Redescribed, with anatomical and phylogenetic information, in Hilton *et al.* (2007).

Distribution: Widely distributed in Amazon River basin (Hilton *et al.*, 2007).

PARAPTERONOTUS Albert, 2001
(1 species)

Parapteronotus Albert, 2001: 73. Type species: *Sternarchus hasemani* Ellis, 1913. Type by original designation. Gender: masculine.

Parapteronotus hasemani (Ellis, 1913)

Sternarchus hasemani Ellis, 1913: 147, pl. 23 (fig. 1). Type locality: Santarém [Pará, Brazil]. Holotype: FMNH 54562; 170 mm, to base of tail.

Aptereronotus anas Eigenmann, Allen, 1942: 321, pl. 15 (fig. 1). Type locality: Iquitos [Peru]. Holotype: CAS 56510; 365 mm TL.

Remarks: Synonymy follows Albert (2001) and Cox Fernandes *et al.* (2002). Redescribed in Cox Fernandes *et al.* (2002) as *Aptereronotus hasemani*. Sexually dimorphic traits described in Hilton, Cox Fernandes (2006). Treated as a junior synonym of *Parapteronotus bonapartii* in Triques (2007a).

Distribution: Amazon River basin, Brazil and Peru (Albert, 2003a).

PARIOSTERNARCHUS Albert, Crampton, 2006
(1 species)

Pariosternarchus Albert, Crampton, 2006: 269. Type species: *Pariosternarchus amazonensis* Albert, Crampton, 2006. Type by monotypy. Gender: masculine.

Pariosternarchus amazonensis Albert, Crampton, 2006

Pariosternarchus amazonensis Albert, Crampton, 2006: 270, fig. 1. Type locality: Brazil, Amazonas, Paraná Maiana, Mamirauá Lake System, municipality of Alvarães, 3°06.74'S, 64°47.53' W. Holotype: MCP 34916; 121 mm TL.

Distribution: Main channel of Amazon River, Brazil and Peru (Albert, Crampton, 2006).

PLATYUROSTERNARCHUS Mago-Leccia, 1994
(2 species)

Platyurosternarchus Mago-Leccia, 1994: 37. Type species: *Sternarchus macrostomus* [*sic, macrostoma*] Günther, 1870. Type by original designation. Gender: masculine. Revision and key: de Santana, Vari (2009).

Platyurosternarchus crypticus de Santana, Vari, 2009

Platyurosternarchus crypticus de Santana, Vari, 2009: 236, fig. 1. Type locality: Guyana Rupununi (Region 9), Moco-Moco Creek, upper Takutu River, Rio Branco basin, north slope of Kanuku Mountains, approximately 30°18'52.95"N, 59°39'38.69"W, approximately 16 kilometers east of Lethem. Holotype: CUMV 93433; 260 mm TL.

Distribution: Branco River, Amazon basin, Brazil and Rupununi District, Guyana (de Santana, Vari, 2009).

Platyurosternarchus macrostoma (Günther, 1870)

Sternarchus macrostoma Günther, 1870: 4. Type locality: Xeberos [Peru]. Holotype: BMNH 1867.6.13.76; 14 in. TL.

Distribution: Amazon, Orinoco and Essequibo basins (de Santana, Vari, 2009).

POROTERGUS Ellis, 1912
(3 species)

Porotergus Ellis, in Eigenmann, 1912: 423, 440. Type species: *Porotergus gymnotus* Ellis, 1912. Type by original designation. Gender: masculine.

Revision with key: de Santana, Crampton (2010).

Porotergus duende de Santana, Crampton, 2010

Porotergus duende de Santana, Crampton, 2010: 166, fig. 1. Type locality: Brazil, Amazonas, Rio Solimões, beach on north bank of Ilha Cuera, near Tefê, Municipality of Alvarães, 3°21.21'S, 64°39.59'W. Holotype: MCP 37357; 104 mm TL.

Distribution: Main channel of Amazon River and in Negro and Ucayali rivers (de Santana, Crampton, 2010).

Porotergus gimbeli Ellis, 1912

Porotergus gimbeli Ellis, in Eigenmann, 1912: 441. Type locality: Pará [Brazil]. Holotype: FMNH 54566; 205 mm TL. Holotype illustrated in Ellis (1913: pl. 23, fig. 3) and de Santana, Crampton (2010: fig. 3).

Distribution: Amazon River basin, Brazil and Peru; presence in Guyana (Ellis in Eigenmann, 1912; Ellis, 1913) not confirmed by de Santana, Crampton (2010).

Porotergus gymnotus Ellis, 1912

Porotergus gymnotus Ellis, in Eigenmann, 1912: 441. Type locality: Amatuk [Guyana]. Holotype: FMNH 53575; 70 mm TL (65 mm, de Santana, Crampton, 2010). Holotype illustrated in Ellis (1913: pl. 23, fig. 4) and de Santana, Crampton (2010: fig. 6).

Distribution: Essequibo River, Guyana (de Santana, Crampton, 2010).

STERNARCHELLA Eigenmann, 1905
(9 species)

Sternarchella Eigenmann, in Eigenmann, Ward, 1905: 160, 163. Type species: *Sternarchus schotti* Steindachner, 1868. Type by original designation. Gender: feminine.

Magosternarchus Lundberg, Cox Fernandes, Albert in Lundberg *et al.*, 1996: 658. Type species: *Magosternarchus raptor* Lundberg, Cox Fernandes, Albert, 1996. Type by original designation. Gender: masculine.

Remarks: Synonymy follows Ivanyisky, Albert (2014).

Sternarchella calhamazon Lundberg, Cox Fernandes, Campos-da-Paz, 2013

Sternarchella calhamazon Lundberg, Cox Fernandes, Campos-da-Paz, in Lundberg *et al.*, 2013: 159, figs. 1-2. Type locality: Brazil, Amazonas, Rio Maderia, 35 km above confluence with rio Amazonas, 3°35'44.2"S, 58°57'45.8"W, depth 14-16 meters. Holotype: INPA 37898; 163 mm TL.

Distribution: Widely distributed in Amazon basin and Tocantins River (Lundberg *et al.*, 2013).

Sternarchella curvioperculata Godoy, 1968

Sternarchella curvioperculata Godoy, 1968: 352, figs. 3, 4, 5. Type locality: riacho, afluente do Rio Mogi Guassu, 12 km a montante de Cachoeira das Emas, margem esquerda (km 243 do mencionado rio) [São Paulo State, Brazil]. Holotype: EEBP 336; 253 mm TL (current whereabouts unknown, Campos-da-Paz, pers. comm., 7/2016).

Remarks: Not treated as a species of *Sternarchella* by Ivanyisky, Albert (2014) based on reported observations by Triques (2005) and an incorrect statement that Mago-Leccia (1994) placed the species in *Porotergus*. However, considered a valid species of *Sternarchella* in Lundberg *et al.* (2013).

Distribution: Mogi Guassu River, Brazil (Godoy, 1968).

Sternarchella ducis (Lundberg, Cox Fernandes, Albert, 1996)

Magosternarchus ducis Lundberg, Cox Fernandes, Albert, in Lundberg *et al.*, 1996: 664, fig. 2. Type locality: Brazil, Roraima State, Rio Branco, 3-11 km upriver from confluence with Rio Negro, 1°17'S, 61°51'W, 6-7 m. depth. Holotype: MZUSP 48439; 187 mm TL.

Distribution: Amazon River channels at least from Rio Iça to Rio Trombetas, including Rio Negro, Brazil (Lundberg *et al.*, 1996).

Sternarchella orinoco Mago-Leccia, 1994

Sternarchella orinoco Mago-Leccia, 1994: 97, figs. 94a, 94b, 95. Type locality: Río Orinoco, between km 152 and 153, in front of Isla Iguana Delta Amacuro, Venezuela. Holotype: MBUCV-V 10514; 201 mm TL.

Remarks: Treated as synonym of *Sternarchella sima* in Albert (2001, 2003), but valid in Lundberg *et al.* (2013).

Distribution: Orinoco River basin, Venezuela, in the main channel of large rivers (Mago-Leccia, 1994).

Sternarchella orthos Mago-Leccia, 1994

Sternarchella orthos Mago-Leccia, 1994: 84, fig. 93. Type locality: Río Apure near mouth of Río Boquerones, E of San Fernando de Apure, Apure, Venezuela. Holotype: MBUCV-V 14173; 160 mm TL.

Distribution: Orinoco River basin, Venezuela, mostly in the main channel of rivers (Mago-Leccia, 1994).

Sternarchella raptor (Lundberg, Cox Fernandes, Albert, 1996)

Magosternarchus raptor Lundberg, Cox Fernandes, Albert in Lundberg *et al.*, 1996: 661, fig. 1. Type locality: Brazil, Amazonas State, Rio Solimões, 17 km downriver from confluence of Rio Purus, 3°36'S, 61°21'W; 4-6 m depth. Holotype: MZUSP 48436; 161 mm TL.

Distribution: Amazon River channels at least from Purus River to Xingu River, including Rio Negro, Brazil (Lundberg *et al.*, 1996).

Sternarchella schotti (Steindachner, 1868)

Stern. [Sternarchus] Capanemae Steindachner, 1868a: 176. Type locality: [Barra do Rio negro =Manaus, Brazil]. Holotype: NMW 65335. Name listed, but with few details.

Sternarchus Schotti Steindachner, 1868b: 252, pl. 1 (figs. 1, 2). Type locality: Barra do Rio negro [Manaus, Brazil]. Holotype: NMW 65335.

Remarks: Synonymy follows Lundberg *et al.* (2013: 170), within which it is stated that *Sternarchus capanemae* has priority over *S. schotti*, but *S. schotti* may qualify for validity as a *nomen protectum*.

Distribution: Amazon River basin, Brazil (Albert, 2003a).

Sternarchella sima Starks, 1913

Sternarchella sima Starks, 1913: 22, pl. 4. Type locality: Pará [Brazil]. Syntypes (4): SU 22220 (3), AMNH 3864 (1); each approx. 6 inches. Caption to plate indicates illustrated specimen as the type, if recognizable; if not, all 4 original specimens need to be treated as syntypes.

Distribution: Mainstream channels of Amazon and Orinoco rivers, Brazil and Venezuela (Albert, 2003a).

Sternarchella terminalis (Eigenmann, Allen, 1942)

Porotergus terminalis Eigenmann, Allen, 1942: 324. Type locality: Iquitos [Peru]. Holotype: CAS 54912; 210 mm TL.

Distribution: Amazon River basin Brazil and Peru (Albert, 2003a).

STERNARCHOGITON Eigenmann, 1905
(5 species)

Sternarchogiton Eigenmann, in Eigenmann, Ward, 1905: 160, 164. Type species: *Sternarchus nattereri* Steindachner, 1868. Type by original designation. Gender: masculine.

Oedemognathus Myers, 1936: 115. Type species: *Oedemognathus exodon* Myers, 1936. Type by original designation. Gender: masculine.

Revision: de Santana, Crampton (2007).

Key to species: de Santana, Crampton (2007); de Santana, Vari (2010a).

Sternarchogiton labiatus de Santana, Crampton, 2007

Sternarchogiton labiatus de Santana, Crampton, 2007: 397, figs. 6, 7. Type locality: Brazil Amazonas Rio Tefé, Toco Preto, Município de Tefé, 3°47.31'S, 64°59.91'W. Holotype: MCP 37544; 104 mm TL.

Distribution: Tefé River and lower Rio Negro, Amazon River basin, Brazil (de Santana, Crampton, 2007).

Sternarchogiton nattereri (Steindachner, 1868)

Sternarchus Nattereri Steindachner, 1868a: 176. Type locality: [Manaus, Brazil]. Holotype: NMW 65014; 8''2''' TL [208 mm (de Santana, Crampton, 2007)]. Described in more detail in Steindachner (1868b: 251, pl. 2, fig. 1) with locality as: Barra do Rio negro.

Oedemognathus exodon Myers, 1936: 115. Type locality: Río Ampiyacu, Eastern Peru. Holotype: USNM 102040; 202 mm TL.

Remarks: Synonymy follows de Santana, Crampton (2007) and Cox Fernandes *et al.* (2009).

Distribution: Large river channels of Amazon River basin (de Santana, Crampton, 2007).

Sternarchogiton porcinum Eigenmann, Allen, 1942

Sternarchogiton porcinum Eigenmann, Allen, 1942: 325, pl. 16 (fig. 1). Type locality: Río Huallaga, Yurimaguas [Peru]. Holotype: CAS 28810; 300 mm TL. Photograph of holotype in de Santana, Crampton (2007: fig. 4).

Distribution: Huallaga, Napo and Amazon rivers, Peru and Orinoco River, Venezuela (de Santana, Crampton, 2007).

Sternarchogiton preto de Santana, Crampton, 2007

Sternarchogiton preto de Santana, Crampton, 2007: 393, fig. 5. Type locality: Brazil, Amazonas, Rio Tefê, Toco Preto, Município de Tefê, 3°47.31'S, 64°59.91'W. Holotype: MCP 37553; 198 mm TL.

Distribution: Amazon basin, Brazil and Peru and Orinoco basin, Venezuela (de Santana, Crampton, 2007).

Sternarchogiton zuanoni de Santana, Vari, 2010

Sternarchogiton zuanoni de Santana, Vari, 2010a: 160, figs.1, 2, Type locality: Brazil, Pará, Rio Xingú, Município de Altamira, Cachoeira de Kaituká, 3°12'S, 52°12'W. Holotype: INPA 28356; 178 mm TL.

Distribution: Kaituká Falls, lower Xingu River, Brazil (de Santana, Vari, 2010a).

STERNARCHORHAMPHUS Eigenmann, 1905
(1 species)

Sternarchorhamphus Eigenmann, in Eigenmann, Ward, 1905: 160, 165. Type species: *Sternarchus mulleri* [sic, *Sternarchus muelleri*] Steindachner, 1881. Type by original designation. Gender: masculine.

Sternarchorhamphus muelleri (Steindachner, 1881)

Sternarchus (*Rhamphosternarchus*) *Mülleri* Steindachner, 1881a: 99. Type locality: Pará [Brazil]. Lectotype: NMW 65328:1 (261 mm LEA [larger than paralectotype NMW 65328:2]), apparently designated in Campos-da-Paz (1995: 35, 36), if not earlier. Described in more detail in Steindachner (1881c: 15) with type locality as: Amazonestrom bei Pará.

Remarks: Redescribed in Campos-da-Paz (1995).

Distribution: Amazon River basin, Orinoco River, and some coastal rivers in vicinity of Amazon mouth (Campos-da-Paz, 1995).

STERNARCHORHYNCHUS Castelnau, 1855
(32 species)

Sternarchorhynchus Castelnau, 1855: 95. Type species: *Sternarchorhynchus Mulleri* Castelnau, 1855. Type by monotypy. Gender: masculine.

Rhamphosternarchus Günther, 1870: 4. Type species: *Sternarchus oxyrhynchus* Müller, Troschel, 1849. Type by subsequent designation by Eigenmann, Ward (1905: 166). Gender: masculine. Originally proposed as a subgenus of *Sternarchus*.

Revision: de Santana, Vari (2010b).

Key: Campos da Paz (2000); de Santana, Vari (2010b).

Sternarchorhynchus axelrodi de Santana, Vari, 2010

Sternarchorhynchus axelrodi de Santana, Vari, 2010b: 275, figs. 26, 27. Type locality: Brazil: Goiás, Município de Minaçu/Cavalcante, Rio Tocantins, at future site of Usina Hidroelétrica Serra da Mesa (*ca.*, 13°44'S, 48°08'W). Holotype: MNRJ 31279; 444 mm TL.

Distribution: Tocantins River, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus britskii Campos-da-Paz, 2000

Sternarchorhynchus britskii Campos-da-Paz, 2000a: 528, fig. 9. Type locality: Brazil, Mato Grosso do Sul, Rio Paraná at Ilha Solteira, approx. 20°30'S, 51°00'W. Holotype: MZUSP 52923; 261 mm TL, 243 mm LEA (272 mm TL; (de Santana, Vari, 2010b).

Distribution: Upper Paraná River basin, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus caboclo de Santana, Nogueira, 2006

Sternarchorhynchus caboclo de Santana, Nogueira, 2006: 89, figs. 1b, 2b, 2c. Type locality: Brazil, Roraima, Rio Mucajaí, below Cachoeira Paredão 2. Holotype: INPA 22894; 225 mm TL.

Distribution: Mucajaí River basin, Roraima, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus chaoi de Santana, Vari, 2010

Sternarchorhynchus chaoi de Santana, Vari, 2010b: 286, fig. 31. Type locality: Brazil. Rondônia, Rio Jamari, Porto Velho, diversion canal of Usina Hidroelétrica, Samuel (*ca.* 8°27'S, 63°30'W). Holotype: INPA 28357; 155 mm TL.

Distribution: Jamari River basin, Rondônia, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus cramptoni de Santana, Vari, 2010

Sternarchorhynchus cramptoni de Santana, Vari, 2010b: 288, figs. 32, 33. Type locality: Brazil, Amazonas, Rio Solimões, downstream from mouth of Rio Purus, 3°27'27"S, 60°45'26"W. Holotype: FMNH 115489; 290 mm TL.

Distribution: Amazon River between Iquitos and Trombetas River (de Santana, Vari, 2010b).

Sternarchorhynchus curumim de Santana, Crampton, 2006

Sternarchorhynchus curumim de Santana, Crampton, 2006a: 59, fig. 1. Type locality: Brazil, Amazonas, Rio Tefê, Toco Preto, Municipality of Tefê, 3°47.31'S, 64°59.91'W. Holotype: MCP 38304; 163 mm TL.

Distribution: Tefê River, Amazonas, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus curvirostris (Boulenger, 1887)

Sternarchus (Rhamphosternarchus) curvirostris Boulenger, 1887: 282, pl. 24. Type locality: Canelos [Ecuador]. Syntypes (2): BMNH 1880.12.8.90-91; 125 mm TL (203 mm TL, 188 mm LEA; Campos-da-Paz, 2000).

Remarks: de Santana, Vari (2010b: 295) supported the observation by Campos-da-Paz (2000) that the apparent syntypes of *Sternarchus (Rhamphosternarchus) curvirostris* are substantially longer than that stated in the original description. They further noted that no other specimen(s) of a length that better matched the one reported by Boulenger were found at BMNH.

Distribution: Bobanaza River, Ecuador and, possibly, northeastern Peru (de Santana, Vari, 2010b).

Sternarchorhynchus freemani de Santana, Vari, 2010

Sternarchorhynchus freemani de Santana, Vari, 2010b: 296, fig. 38. Type locality: Guyana, Essequibo River basin, Lower Potaro River at Amatuk (ca. 5°18'N, 59°18'W). Holotype: CAS 72246; 201 mm TL.

Distribution: Lower portions of Essequibo River basin, Guyana (de Santana, Vari, 2010b).

Sternarchorhynchus galibi de Santana, Vari, 2010

Sternarchorhynchus galibi de Santana, Vari, 2010b: 298, fig. 39. Type locality: Suriname, Marowijne District, Lawa River at

Stroomafwaarts Rapids near Anapaikekondre (= Anapaika country, Anapaika at 3°34'N, 109°39'W), Holotype: ZMA 109366; 168 mm TL.

Distribution: Lawa River, Marowijne/Maroni River basin, Suriname and French Guiana (de Santana, Vari, 2010b).

Sternarchorhynchus gnomus de Santana, Taphorn, 2006

Sternarchorhynchus gnomus de Santana, Taphorn, 2006: 2, figs. 1, 2. Type locality: Venezuela, Bolivar, Río Caroni, at the confluence with the Río Claro, 7°54'30"N, 63°02'50"W. Holotype: MCNG 53963; 134 mm TL.

Distribution: Lower Caroni River basin, Venezuela (de Santana, Vari, 2010b).

Sternarchorhynchus goeldii de Santana, Vari, 2010

Sternarchorhynchus goeldii de Santana, Vari, 2010b: 301, fig. 41. Type locality: Brazil, Amazonas, Rio Purus, 3°50'06"S, 61°23'59"W. Holotype: INPA 28378; 306 mm TL.

Distribution: Amazon River basin, Peru and Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus hagedornae de Santana, Vari, 2010

Sternarchorhynchus hagedornae de Santana, Vari, 2010b: 305, figs. 43, 44. Type locality: Peru, Madre de Dios, Manu Marine Biosphere Reserve, Quebrada Pachija, tributary emptying into Río Manu, 3 kilometers upstream of Pakitza (= 11°55'48"S, 71°15'18"W). Holotype: MUSM 30534; 249 mm TL.

Distribution: Upper Madeira River basin, southeastern Peru (de Santana, Vari, 2010b).

Sternarchorhynchus higuchii de Santana, Vari, 2010

Sternarchorhynchus higuchii de Santana, Vari, 2010b: 307, figs. 45, 46. Type locality: Brazil, Amazonas, Rio Uatumã, Cachoeira do Miriti, Presidente Figueiredo, ca. 2°01'S, 59°28'W. Holotype: INPA 28358; 246 mm TL.

Distribution: Uatumã River, Amazonas, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus inpai de Santana, Vari, 2010

Sternarchorhynchus inpai de Santana, Vari, 2010b: 310, figs. 47, 48. Type locality: Brazil, Pará, Rio Mapuera, Cachoeira Porteira, last fall before Rio Trombetas, ca. 1°05'S, 57°02'W. Holotype: INPA 22895; 191 mm TL.

Distribution: Mapuera River, Trombetas River basin, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus jaimiei de Santana, Vari, 2010

Sternarchorhynchus jaimiei de Santana, Vari, 2010b: 312, fig. 49. Type locality: Brazil, Amazonas, Rio Uatumã, Cachoeira do Miriti, Presidente Figueiredo (ca. 2°01'S, 59°28'W). Holotype: INPA 28359; 200 mm TL.

Distribution: Uatumã River, Amazonas, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus kokraimoro de Santana, Vari, 2010

Sternarchorhynchus kokraimoro de Santana, Vari, 2010b: 314, figs. 51, 52. Type locality: Brazil, Pará, Rio Xingú, Cachoeira de Kaituká, at Altamira, 3°12'S, 52°12'W. Holotype: INPA 28360; 197 mm TL.

Distribution: Xingu River at Kaituká Falls, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus mareikeae de Santana, Vari, 2010

Sternarchorhynchus mareikeae de Santana, Vari, 2010b: 317, figs. 53, 54. Type locality: Brazil, Pará, Rio Trombetas, Cachoeira Porteira, last fall before Rio Trombetas, ca. 1°05'S, 57°02'W. Holotype: INPA 22896; 192 mm TL.

Distribution: Trombetas River at Porteira Falls, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus marreroi de Santana, Vari, 2010

Sternarchorhynchus marreroi de Santana, Vari, 2010b: 318, fig. 55. Type locality: Venezuela, Apure, Río Apure, in front of Isla Apurito, left bank (8°00'N, 67°31'W). Holotype: MBUCV-V 15806; 182 mm TL.

Distribution: Lower and middle Orinoco River, Venezuela (de Santana, Vari, 2010b).

Sternarchorhynchus mendesi de Santana, Vari, 2010

Sternarchorhynchus mendesi de Santana, Vari, 2010b: 320, fig. 56. Type locality: Venezuela, Monagas, Department of Marurín, Morichal Largo, Río Guanipa, 5 kilometers south of Aguasay (Aguasay is 9°25'N, 63°44'W), Golfo de Paria drainage. Holotype: MCNG 29129; 155 mm TL.

Distribution: San Juan and Guanipa River basins, Gulf of Paria drainage, Venezuela (de Santana, Vari, 2010b).

Sternarchorhynchus mesensis Campos-da-Paz, 2000

Sternarchorhynchus mesensis Campos-da-Paz, 2000a: 531, fig. 10. Type locality: Brazil, Goiás, Rio Tocantins, Serra da Mesa, municípios Minaçu/Uruaçu, about 13°50'S, 48°19'W. Holotype: MNRJ 17591; 249 mm TL.

Distribution: Upper Tocantins River basin, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus montanus de Santana, Vari, 2010

Sternarchorhynchus montanus de Santana, Vari, 2010b: 324, fig. 59. Type locality: Peru, Amazonas, Rio Marañon, pongo above Borja, 35.5 kilometers northeast of Juan Velasco, Santa Maria de Nieva (4°27'36"S, 77°34'53"W). Holotype: MUSM 31312; 226 mm TL.

Distribution: Marañon River, Peru (de Santana, Vari, 2010b).

Sternarchorhynchus mormyrus (Steindachner, 1868)

Stern. [Sternarchus] mormyrus Steindachner, 1868a: 176. Type locality: [Marabitanos, Brazil]. Syntypes: NMW 65336, NMW 65345; both with regenerated tails. Described in more detail in Steindachner (1868b: 253, pl. 1, fig. 3) with locality as: Marabitanos.

Distribution: Upper Amazon River, Negro, and Orinoco River basins (de Santana, Vari, 2010b).

Sternarchorhynchus oxyrhynchus (Müller, Troschel, 1848)

St. [Sternarchus] oxyrhynchus Müller, Troschel, 1848: 640. Type locality: Essequibo [Guyana]. Holotype or Syntype: ZMB 4086; 16-18 Zoll TL [470 mm TL; Ellis, in Eigenmann 1912: 438, footnote 71]. Described, as new, in more detail in Müller, Troschel (1849: 16, pl. 2, figs. 1, 2).

Sternarchorhynchus Mulleri [sic] Castelnau, 1855: 95. Type locality: la riviere d'Essequibo [Guyana]. Unneeded replacement name for *Sternarchus oxyrhynchus* Müller, Troschel, 1848.

Remarks: See discussion in de Santana, Vari (2010b: 333) regarding the uncertainty about whether Müller, Troschel examined more than one specimen. At present, only a single specimen has been found at ZMB.

Distribution: Orinoco River basin; report of the species in Essequibo River probably erroneous (de Santana, Vari, 2010b).

Sternarchorhynchus retzeri de Santana, Vari, 2010

Sternarchorhynchus retzeri de Santana, Vari, 2010b: 334, figs. 64, 65. Type locality: Brazil, Amazonas, Rio Téfé, Toco Preto, Téfé (3°47'19"S, 64°59'54"W). Holotype: MCP 42636; 372 mm TL (length stated in caption to fig. 64 apparently in error).

Distribution: Broadly distributed in Amazon basin, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus roseni Mago-Leccia, 1994

Sternarchorhynchus roseni Mago-Leccia, 1994: 99, fig. 92. Type locality: Río Apure in front of Jarina, near San Fernando de Apure, Orinoco basin, Apure, Venezuela. Holotype: MBUCV-V 20037; 267 mm TL.

Distribution: Middle Orinoco River basin, Venezuela (de Santana, Vari, 2010b).

Sternarchorhynchus schwassmanni de Santana, Vari, 2010

Sternarchorhynchus schwassmanni de Santana, Vari, 2010b: 341, fig. 69. Type locality: Brazil, Pará, Rio Araguaia, small stream between Rio João do Araguaia (5°23'S, 48°46'W) and São Bento (5°28'S, 48°20'W). Holotype: MHNG 95633; 99 mm TL.

Distribution: Araguaia River, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus severii de Santana, Nogueira, 2006

Sternarchorhynchus severii de Santana, Nogueira, 2006: 86, figs. 1a, 2a. Type locality: Brazil, Roraima, Rio Mucajaí, below Cachoeira Paredão 2. Holotype: INPA 22893; 161 mm TL.

Distribution: Mucajaí River, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus starksi de Santana, Vari, 2010

Sternarchorhynchus starksi de Santana, Vari, 2010b: 344, fig. 71. Type locality: Brazil, Pará, Rio Pará between Rio Boa Vista and Rio Tocantins, between towns of Boa Vista and Abaetetuba (1°45'30"S, 49°29'17"W). Holotype: INPA 28377; 231 mm TL.

Distribution: Lower Amazon River, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus stewarti de Santana, Vari, 2010

Sternarchorhynchus stewarti de Santana, Vari, 2010b: 346, fig. 72. Type locality: Peru, Amazonas, Río Marañón, log riffle, 1.57 kilometers east-north-east of Juan Velasco Santa Maria de Nieva (4°50'S, 77°51'W). Holotype: MUSM 30409; 182 mm TL.

Distribution: Rivers of eastern Ecuador and southeastern Peru (de Santana, Vari, 2010b).

Sternarchorhynchus taphorni de Santana, Vari, 2010

Sternarchorhynchus taphorni de Santana, Vari, 2010b: 349, fig. 74. Type locality: Peru, Departamento de San Martín, Río Huallaga, Uchiza (8°29'59"S, 76°22'59"W). Holotype: MUSM 6635; 310 mm TL.

Distribution: Ucayali River basin, Peru (de Santana, Vari, 2010b).

Sternarchorhynchus villasboasi de Santana, Vari, 2010

Sternarchorhynchus villasboasi de Santana, Vari, 2010b: 354, fig. 77. Type locality: Brazil, Pará, Rio Xingú, Cachoeira de Kaituká, at Altamira (3°12'S, 52°12'W). Holotype: INPA 28361; 135 mm TL.

Distribution: Kaituká Falls, Xingu River, Brazil (de Santana, Vari, 2010b).

Sternarchorhynchus yepezi de Santana, Vari, 2010

Sternarchorhynchus yepezi de Santana, Vari, 2010b: 351, figs. 75, 76. Type locality: Venezuela, Portuguesa, Río Portuguesa, fort at Nueva Florida, Santa Rosalía (ca. 8°57'N, 69°01'W). Holotype: MCNG 44286, 280 mm TL.

Distribution: Middle Orinoco River basin, Venezuela (de Santana, Vari, 2010b).

TEMBEASSU Triques, 1998
(1 species)

Tembeassu Triques, 1998: 5. Type species *Tembeassu marauna* Triques, 1998. Type by original designation. Gender: masculine.

Tembeassu marauna Triques, 1998

Tembeassu marauna Triques, 1998: 6, figs. 1, 2, 3. Type locality: Ilha Solteira, Rio Paraná, Mato Grosso do Sul State, Brazil, ca. 20°30'S, 51°00'W. Holotype: MZUSP 48510; 194 mm SL.

Remarks: Placed in *Apteronotus* in Albert (2003), without comment. Treated as valid in *Tembeassu* in Campos-da-Paz (2005).

Distribution: Paraná River basin, Brazil (Triques, 1998).

GYMNOTIDAE Rafinesque, 1815
(2 genera; 41 species)

Gymnotia by Rafinesque, 1815: 91. Type genus: *Gymnotus* L [Linnaeus, 1758].

Carapini Bonaparte, 1850: X [Type genus: apparently *Carapus* Cuvier]. Name invalid - based on a junior homonym.

Electrophoridae Gill, 1872: 18. Type genus: [*Electrophorus* Gill, 1864].

Remarks: Rafinesque (1810: 37) proposed the name Ginnotini for a group that included “*Gymnotus acus* Linnaeus [sic, Brunnich, 1768]” among several other species of eels. Ginnotini is not available as the basis for the family-group name for the

Gymnotidae, even if the spelling discrepancy is overlooked, inasmuch as he did not treat *Gymnotus* as a valid name and, instead, treated *G. acus* as a species in the genus *Carapus*.

Checklist: Campos-da-Paz (2003); Campos-da-Paz (2007a), Brazil.

ELECTROPHORUS Gill, 1864
(1 species)

Electrophorus Gill, 1864: 152. Type species: *Gymnotus electricus* Linnaeus, 1766. Type by monotypy. Gender: masculine.

Electrophorus electricus (Linnaeus, 1766)

Gymnoti tremuli Gronovius, 1760: 27, pl. 3. Type locality: Americam meridionalem. Perhaps not available, but requires further examination.

Gymnotus tremulus Houttuyn, 1764: 111. Type locality: Not stated in the original description. Types: Based on Seba (1758: pl. 34, fig. 6), Gronovius (1760: 27, pl. 3), and Gronovius (1763: 41, pl. 8, fig. 1).

Gymnotus electricus Linnaeus, 1766: 427. Type locality: in Surinamo aliisque Americae meridionalis ostiis fluviorum [= Suriname]. Syntypes (several): Based on several literature sources, including Seba (1758: pl. 34, fig. 6), and Gronovius (1763: 41, pl. 8 fig. 1), from which the description was taken.

Gymnotus Regius Delle Chiaje, 1847: 273, footnote. Type locality: America meridionale. No types known.

Electrophorus multivalvulus Nakashima, 1941: 462, fig. on p. 465. Type locality: la cocha Zapote, del rio Pacaya, departamento de Loreto, Peru. Type (s): Whereabouts unknown. Specific name spelled *multitalvulus* in table on p. 463.

Remarks: Synonymy follows Campos-da-Paz (2003). The names *Gymnoti tremuli* Gronovius, 1760, and *Gymnotus tremulus* Houttuyn, 1764, are probably available and both have priority over *Gymnotus electricus* Linnaeus, 1766. However, it is likely that *G. electricus* meets the criteria for reversal of precedence (ICZN, 1999, Art. 23.9), and as such the name is retained here as valid.

Distribution: Amazon and Orinoco River basins, and Guianas (Campos-da-Paz, 2003).

GYMNOTUS Linnaeus, 1758
(40 species)

Gymnotus Linnaeus, 1758: 246. Type species: *Gymnotus carapo* Linnaeus, 1758. Type by Linnean tautonomy. Gender: masculine.

Carapus Cuvier, 1816: 237. Type species: Not yet found. The only possibilities are *Gymnotus carapo* Linnaeus, 1758, *Gymnotus rostratus* Linnaeus, 1766, *Gymnotus brachiurus* Bloch, 1786 and *Gymnotus fasciatus* Gmelin, 1789. Gender: masculine. Preoccupied by *Carapus Rafinesque*, 1810, in fishes. Müller (1846: 194, footnote 2), may have selected the type species

in the following statement: “Hierher *Carapus fasciatus* (*Gymnotus brachiurus* Bl.)”]

Giton Duméril, 1856: 201. Type species: *Giton fasciata* [= *Gymnotus fasciatus* Gmelin]. Type by monotypy. Gender: feminine. It appears that Duméril intended to list two species in his new genus, by the statements: “*Giton arhea, fasciata*”, as well as an earlier remark that states that he recognized six species in five genera, four of which were clearly monotypic. It is possible that his “*Giton arhea*” is a printing error for *Carapus albus* in Kaup (1856), which together with *Carapus fasciatus* are the only two species Kaup recognized in that genus. Duméril linked *Carapus* to “*Carapus macrourus*”, an unavailable name in Bloch, 1786, which appears to justify the proposal of the genus name *Giton* for *C. albus* and *C. fasciatus*. Since it is not certain that *Giton arhea* is *Gymnotus albus*, we treat *Giton* as having been proposed with a single available species and thus consider *Gymnotus fasciatus* type by monotypy.

Remarks: Inclusion of *Carapus* in the synonymy is tentative, inasmuch as the identity of the type species is still unresolved. “*Gymnotus macrourus* Bloch”, has been incorrectly reported to be the type species (e.g., Jordan, 1917: 101) of *Carapus Cuvier*, inasmuch as it is not an available name.

Phylogeny and biogeography: Albert *et al.* (2005); Lovejoy *et al.* (2010).

Key: Albert, Miller (1995).

Gymnotus anguillaris Hoedeman, 1962

Gymnotus anguillaris Hoedeman, 1962a: 55, figs. 1b, 2. Type locality: Surinam, Coropina Creek, sta. 18, pool. Holotype: ZMA 100338; 228 mm TL.

Distribution: Amazon and Orinoco river basins, and coastal basins of northern South America (Campos-da-Paz, 2003).

Gymnotus arapaima Albert, Crampton, 2001

Gymnotus arapaima Albert, Crampton, 2001: 250, fig. 6. Type locality: Brazil, Amazonas, Paraná Apara, 10 km nw of confluence of Juruá and Solimões rivers, Mamirauá Reserve, 3°20'S, 64°51'W. Holotype: INPA 13505; 195 mm TL.

Distribution: Lake Tefé and vicinity, Amazon River near Manaus, and Trombetas River basin, Brazil (Albert, Crampton, 2001).

Gymnotus ardilai Maldonado-Ocampo, Albert, 2004

Gymnotus ardilai Maldonado-Ocampo, Albert, 2004: 5, figs. 1-4. Type locality: Colombia, Santander, Girón, Río de Oro. Holotype: IAvH-P 3477; 430 mm TL; holotype illustrated in doNascimento *et al.* (2016: fig. 1).

Distribution: Oro River, Magdalena River basin, Colombia (Maldonado-Ocampo, Albert, 2004).

Gymnotus bahianus Campos-da-Paz, Costa, 1996

Gymnotus bahianus Campos-da-Paz, Costa, 1996: 938, figs. 1, 2. Type locality: fazenda Almada, Ilhéus, approximately 14°49'S, 39°02'W, Rio Almada basin, State of Bahia, Brazil. Holotype: MNRJ 12316; 177 mm TL.

Distribution: Almada River basin, Bahia state (Campos-da-Paz, Costa, 1996), Contas River basin, Bahia State, Brazil (Almeida *et al.*, 2015).

Gymnotus capanema Milhomem, Crampton, Pieczarka, Shetka, Silva, Nagamachi, 2012

Gymnotus capanema Milhomem, Crampton, Pieczarka, Shetka, Silva, Nagamachi, 2012: 806, fig. 1. Type locality: Brazil, Pará State, municipality of Capanema, Açaituazinho River, tributary of Amazon Estuary, 01°07'54"S; 47°3'53"W. Holotype: MPEG 15170; 179 mm TL.

Distribution: Amazon River Estuary, Pará, Brazil (Milhomem *et al.*, 2012).

Gymnotus capitimaculatus Rangel-Pereira, 2014

Gymnotus capitimaculatus Rangel-Pereira, 2014: 171, figs. 1-4. Type locality: Brazil, Bahia State: Itamaraju municipality, rio do Ouro, crossing road perpendicular to BR-101, about 7 km north of Itamaraju, 16°57'04"S, 39°33'21"W. Holotype: UFRJ 9785; 131 mm TL.

Distribution: Ouro River, Jucuruçu River basin, Bahia, Brazil (Rangel-Pereira, 2014).

Gymnotus carapo Linnaeus, 1758

Gymnotus carapo Linnaeus, 1758: 246. Type locality: America. Reported possible syntypes: NRM 8224, NRM 64, UUZM 56. Notes in NRM collection suggest that NRM 8224 may not be a type, based on collection information. NRM 64 is clearly not a species of *Gymnotus*, and was identified as a specimen of *Rhabdolichops* by Correa *et al.* (2006). UUZM 56 appears to be the specimen illustrated in Linnaeus (1749: pl. 14, fig. 6) (Wheeler, 1991), which is one of the cited sources for this name.

Gymnotus brachiurus Bloch, 1786: pl. 157 (fig. 1). Type locality: Gewässern von Brasilien [p. 62]. Holotype: Illustrated specimen, whereabouts unknown. Name made available from caption on plate; in text (p. 61) with name as: *Gymnotus brachiurus*, *maxilla inferior longiore* [non binomial]; based on numerous literature sources. Illustrated specimen not reported in, and apparently not located by, Paepke (1999).

Gymnotus albus Gmelin, 1789: 1137. Type locality: Surinami. Syntypes: On *Gymnotum album* Pallas (1769: 36) and Seba (1758: pl. 32, fig. 3).

Gymnotus fasciatus Gmelin, 1789: 1137. Type locality: Brasiliae. Syntypes: On *Gymnotum fasciatum* Pallas (1769: 35), Seba (1758: pl. 32, figs. 1, 2), Carapo Brasiliensibus Marggraf, (1648: 170), and Bloch, (1786: 61, pl. 107, fig. 1),

Gymnotus putaol La Cepède, 1800: 145, 176. Type locality: Brésil. Syntypes: on *Gymnotus fasciatus* Gmelin, "Gymnote putaol" Bonnaterre (1788), and accounts in Pallas (1769: 35), Seba (1758: pl. 32, figs. 1, 2), Marggraf (1648: 170) and *Gymnotus brachiurus* Bloch (1786: pl. 107 [sic, 157], fig. 1).

Remarks: Synonymy must be considered tentative as most names are based on multiple literature sources, which may refer to different species, and lectotype designations have not been found for any of the names. Eschmeyer *et al.* (2016) states that, as formed in Pallas (1769: 36), the names *Gymnotum fasciatum* and *G. album* are not available, which makes the accounts in Gmelin as the source of the available names. [If *G. fasciatus* and *G. albus* were determined to be available from Pallas and both names deemed to refer to a species distinct from *G. carapo* and *G. brachiurus*, *G. fasciatus* would be the valid name, based on the first reviser action of Günther, 1870: 9]. Redescribed in Albert, Crampton (2003b).

Distribution: Amazon and Orinoco drainages, coastal drainages of the Guianas and northeastern Brazil, and Trinidad (Albert, Crampton, 2003b).

Gymnotus cataniapo Mago-Leccia, 1994

Gymnotus cataniapo Mago-Leccia, 1994: 90, fig. 100. Type locality: Lagoon NE of airport of San Carlos de Rio Negro, 1°55'N, 67°02'W, Amazonas, Venezuela. Holotype: MBUCV-V 14736; 253 mm TL.

Distribution: Amazon and Orinoco River basins, and Suriname (Mago-Leccia, 1994).

Gymnotus chaviro Maxime, Albert, 2009

Gymnotus chaviro Maxime, Albert, 2009: 580, figs. 1, 2. Type locality: Peru, Dept. Ucayali, Quebrada Dos y medio, a small terra firme stream about 2 kilometers NW of the town of Breu, on the Alto Yuruá River, 9°31.175'S, 72°45.755'W, 271 meters elevation. Holotype: MUSM 33715; 233 mm TL.

Distribution: Upper Juruá [Yuruá] River basin and Madre de Dios River basin, Peru (Maxime, Albert, 2009).

Gymnotus chimarrao Cognato, Richer-de-Forges, Albert, Crampton, 2008

Gymnotus chimarrao Cognato, Richer-de-Forges, Albert, Crampton, 2008: 377, figs. 2-5. Type locality: Brazil, Rio Grande

do Sul state, Arroio do Meio, Arroio Grande, Taquari drainage, 29°21'09"S, 51°57'28"W, elevation 54 meters. Holotype: UFRGS 6774; 118 mm TL.

Distribution: Arroio Grande, Taquari River drainage, Rio Grande do Sul, Brazil (Cognato *et al.*, 2008).

Gymnotus choco Albert, Crampton, Maldonado-Ocampo, 2003

Gymnotus choco Albert, Crampton, Maldonado[-Ocampo], in Albert, Crampton, 2003b: 26, fig. 3. Type locality: Boca de Pepé, 5°03'N, 77°03'W, Rio Baudó, Chocó Department, Colombia. Holotype: ICNMHN 6621; 237 mm TL.

Distribution: Baudó and Atrato river basins, Colombia (Albert, Crampton, 2003b).

Gymnotus coatesi La Monte, 1935

Gymnotus coatesi La Monte, 1935: 1, fig. 1. Type locality: Amazon River, Brazil. Holotype: AMNH 12624; 180 mm TL.

Rhamphichthys cingulatus Brind, 1935: 5, unnumbered fig. Type locality: one of the side streams which connect with the main stream of the Amazon River on its southern bank, about three hundred miles from Para at the mouth of the river. Syntypes (2): private collection of author, possibly not saved; about 8 inches TL. Brind mentions additional specimens at the New York Aquarium and a pet shop, but it is not clear whether he actually viewed them or was just relaying information of their presence from other sources.

Remarks: Redescribed in Crampton, Albert (2004). Synonymy follows Campos-da-Paz (2000b), with a note suggesting that the holotype of *Gymnotus coatesi* may have been one of the specimens observed by Brind. LaMonte's paper was published on 18 February, 1935, while the footer in Brind's paper indicates that it was part of the issue for February, 1935, but no more precise date of issue was found in the copy at AMNH (D. Shih, pers. commun.). Unless a more precise date is established for Brind's paper that is prior to 18 February, it must be treated as having been published on the last day of February, thereby giving priority to *Gymnotus coatesi*.

Distribution: Lower Amazon River basin, Pará, Brazil (Campos-da-Paz, 2000b).

Gymnotus coropinae Hoedeman, 1962

Gymnotus coropinae Hoedeman, 1962a: 55, fig. 1c. Type locality: Surinam, Coropina Creek, sta. 17. Holotype: ZMA 100185; 49 mm TL.

Remarks: Redescribed in Crampton, Albert (2003).

Distribution: Amazon and Orinoco River basins, and Guiana Shield (Crampton, Albert, 2003).

Gymnotus curupira Crampton, Thorsen, Albert, 2005

Gymnotus curupira Crampton, Thorsen, Albert, 2005: 84, fig. 4. Type locality: Brazil, Amazonas, Rio Tefê, Lago Tefê, Terra firme swamp, 0.5 west of Estrada Agrovila, Igarapé Curupira, Tefê, 3°26'01"S, 64°43'47"W. Holotype: MZUSP 60607; 235 mm TL.

Distribution: Upper Amazon basin of Brazil and Peru (Crampton *et al.*, 2005).

Gymnotus cylindricus La Monte, 1935

Gymnotus cylindricus La Monte, 1935: 2. Type locality: Brook east of Los Amates, Rio Motagua basin, Guatemala. Holotype: AMNH 1358; 182 mm TL.

Remarks: Redescribed in Campos-da-Paz (1996).

Distribution: Atlantic slope drainages of Central America, from Costa Rica to Guatemala (Campos-da-Paz, 1996).

Gymnotus diamantinensis Campos-da-Paz, 2002

Gymnotus diamantinensis Campos-da-Paz, 2002: 187, fig. 1. Type locality: Creek (riacho 1) trib. of rio Preto, upper rio Arinos at rio Tapajós system, road to São Francisco, Diamantino municipality, ca. 14°20'S, 56°30'W, Mato Grosso, Brazil. Holotype: MZUSP 57505; 125 mm TL.

Distribution: Tapajós River basin (Campos-da-Paz, 2002).

Gymnotus esmeraldas Albert, Crampton, 2003

Gymnotus esmeraldas Albert, Crampton, 2003b: 30, fig. 5. Type locality: Hoja Blanca near San Miguel, Rios Cayapas, Río Esmeraldas drainage, Ecuador, 1°05'N, 79°03'W. Holotype: MCZ 58729; 296 mm TL.

Distribution: Esmeraldas and Palenqué river basins, western Ecuador (Albert, Crampton, 2003).

Gymnotus henni Albert, Crampton, Maldonado-Ocampo 2003

Gymnotus henni Albert, Crampton, Maldonado[-Ocampo], in Albert, Crampton, 2003b: 32, fig. 6. Type locality: Creek near mouth of Río Calima, Río San Juan drainage, north of Buenaventura, Valle de Cauca Department, Colombia, 3°53'N, 77°04'W. Holotype: CAS 47290; 308 mm TL.

Distribution: Pacific drainages of Colombia (Albert, Crampton, 2003) and Panama (Alda *et al.*, 2013).

Gymnotus inaequilabiatus (Valenciennes, 1839)

Carapus inaequilabiatus Valenciennes, 1839, in Valenciennes, 1835-42: Poissons pl. 14 (later described in Valenciennes, 1847: 11, as *Carapeus inaequilabiatus*). Type locality: Argentina, Rio de la Plata, near Buenos Aires. Neotype: MNHN 0000-4615; 920 mm TL, designated by Maxime, Albert (2014: 463, fig. 1).

Remarks: Redescribed in Maxime, Albert (2014); specimen previously reported (Bertin, 1948) as holotype (MNHN 0000-4615) is apparently not the illustrated specimen (reported as 0.60 m TL, Valenciennes, 1847: 11).

Distribution: Widely distributed in the La Plata basin including the upper Paraná and the Uruguay rivers, also in Cuiabá basin (Maxime, Albert, 2014).

Gymnotus interruptus Rangel-Pereira, 2012

Gymnotus interruptus Rangel-Pereira, 2012: 365, fig. 10. Type locality: Brazil, Bahia, Riacho Cambiriba, Rio Gongogi drainage, Rio de Contas basin, Guaira balneario, Iguai, 14°36'16.7"S, 40°06'08.7"W, elevation 347 meters. Holotype: UFRJ 8218; 91 mm TL.

Distribution: Gongogi River drainage, de Contas basin, Bahia, Brazil (Rangel-Pereira, 2012).

Gymnotus javari Albert, Crampton, Hagedorn, 2003

Gymnotus javari Albert, Crampton, Hagedorn, in Albert, Crampton, 2003: 39, fig. 9. Type locality: Quebrada Caraná near Buen Suceso, Rio Yavari (Rio Javari), Loreto Department, Peru, 4°22'S, 70°31'W. Holotype: UMMZ 224599; 197 mm TL.

Distribution: Western Amazon basin, Brazil, Ecuador and Peru (Albert, Crampton, 2003).

Gymnotus jonasi Albert, Crampton, 2001

Gymnotus jonasi Albert, Crampton, 2001: 253, fig. 8. Type locality: Brazil, Amazonas, Cano do Lago Rato, Reserve, 3°02'48"S, 65°51'22"W. Holotype: INPA 13507; 114 mm TL.

Distribution: Mamirauá Lake system, Amazon River basin (Albert, Crampton, 2001).

Gymnotus maculosus Albert, Miller, 1995

Gymnotus maculosus Albert, Miller, 1995: 666, fig. 1. Type locality: Diversion of channel from María Linda, 14°04'N, 90°37'W, ca. 20 km East of Escuintla, Departamento Santa Rosa, Guatemala. Holotype: UMMZ 230830; 191 mm TL.

Distribution: Atlantic and Pacific slope drainages of Central America, between Mexico and Costa Rica (Albert, Miller, 1995).

Gymnotus mamiraua Albert, Crampton, 2001

Gymnotus mamiraua Albert, Crampton, 2001: 245, fig. 4. Type locality: Brazil, Amazonas, Cano do Lago Rato, Mamirauá Reserve, 3°02'36"S, 64°51'02"W. Holotype: INPA 13503; 178 mm TL.

Distribution: Mamirauá and Janauacá Lake systems, Upper Amazon River basin, Brazil (Albert, Crampton, 2001).

Gymnotus melanopleura Albert, Crampton, 2001

Gymnotus melanopleura Albert, Crampton, 2001: 258, fig. 14. Type locality: Brazil, Amazonas, Cano do Lago Rato, Mamirauá Reserve, 3°02'36"S, 64°51'02"W. Holotype: INPA 9966; 99 mm TL.

Distribution: Mamirauá Lake system, Amazon River basin, Brazil (Albert, Crampton, 2001).

Gymnotus obscurus Crampton, Thorsen, Albert, 2005

Gymnotus obscurus Crampton, Thorsen, Albert, 2005: 91, fig. 7. Type locality: Brazil, Amazonas, Mamirauá Reserve, Cano do Lago Mamirauá at Comunidade Boca do Mamirauá, 3°06'37"S, 64°47'49"W. Holotype: MZUSP 60604; 215 mm TL.

Distribution: Mouth of Japurá River near Tefé, Amazonas, Brazil (Crampton *et al.*, 2005).

Gymnotus omarorum Richer-de-Forges, Crampton, Albert, 2009

Gymnotus omarorum Richer-de-Forges, Crampton, Albert, 2009: 539, fig. 1. Type locality: Uruguay, Maldonado Department, Río Cisne basin, Laguna del Sauce, 34°50.328'S, 55°06.869'W. Holotype: ZVC-P 6480; 254 mm TL.

Distribution: Uruguay River and coastal drainages of Uruguay (Richer-de-Forges *et al.*, 2009).

Gymnotus onca Albert, Crampton, 2001

Gymnotus onca Albert, Crampton, 2001: 256, fig. 12. Type locality: Brazil, Amazonas, Cano do Lago Rato, Mamirauá Reserve, 3°02'36"S, 64°51'02"W. Holotype: INPA 11512; 116 mm TL.

Distribution: Mamirauá Lake system, Amazon River basin (Albert, Crampton, 2001).

Gymnotus panamensis Albert, Crampton, 2003

Gymnotus panamensis Albert, Crampton, 2003b: 43, fig. 11. Type locality: Small creek into the Río Cricamola, near Konkitu, Bocas del Toro Province, Panama, 8°59'N, 81°55'W. Holotype: CAS 72209; 236 mm TL.

Distribution: Cricamola River, Atlantic slope of Panama (Albert, Crampton, 2003b).

Gymnotus pantanal Fernandes, Albert, Daniel-Silva, Lopes, Crampton, Almeida-Toledo, 2005

Gymnotus pantanal Fernandes, Albert, Daniel-Silva, Lopes, Crampton, Almeida-Toledo, 2005: 4, fig. 1. Type locality: Brazil, Mato Grosso do Sul state, Rio Miranda near Miranda, 20°11'78"S, 56°30'13"W. Holotype: MZUSP 67874; 196 mm TL.

Remarks: This species was first reported as *Gymnotus pantanensis* in Albert *et al.* (2005: fig. 1, tabs 1, 2, 4) with a holotype and elements of a diagnosis. Lacking is an explicit indication that the species is new, as required in ICZN (1999) Art. 16, which thereby renders the name as nomen nudum.

Distribution: Paraná-Paraguay River system, Brazil and Paraguay; Chapare-Mamoré River, Bolivia (Fernandes *et al.*, 2005).

Gymnotus pantherinus (Steindachner, 1908)

Giton fasciatus var. *pantherinus* Steindachner, 1908: 129. Type locality: Gewässern von Santos, Staat Sao Paulo [Brazil]. Syntypes: NMW 11275, NMW 76443-76444; to 25 cm TL; NMW 76443 illustrated in Giora, Malabarba (2016: fig. 5).

Distribution: Coastal drainages in southeastern Brazil (Campos-da-Paz, 2003).

Gymnotus paraguensis Albert, Crampton, 2003

Gymnotus paraguensis Albert, Crampton, 2003b: 34. Type locality: Itapua, Arroyo Tembey, 7.4 kilometers SW of San Rafael, Rio Paraná drainage, Paraguay, 26°35'S, 55°34'W. Holotype: UMMZ 206155; 222 mm TL.

Distribution: Paraguay River basin, Brazil and Paraguay (Albert, Crampton, 2003b).

Gymnotus pedanopterus Mago-Leccia, 1994

Gymnotus pedanopterus Mago-Leccia, 1994: 92, fig. 98. Type locality: Caño Tremblador, where crossed by road from San Carlos de Rio Negro to Solano, upstream portion 01°58'N, 67°00'W, Amazonas, Venezuela. Holotype: MBUCV-V 14738; 215 mm TL.

Distribution: Upper Orinoco and Negro rivers, southern Venezuela (Mago-Leccia, 1994).

Gymnotus refugio Giora, Malabarba, 2016

Gymnotus refugio Giora, Malabarba, 2016: 583, fig. 1. Type locality: Brazil, Rio Grande do Sul State, Amaral Ferrador,

creek in the former Ferrara farm, laguna dos Patos drainage (30°50'54"S 52°23'19"W). Holotype: UFRGS 8752; 172 mm TL.

Distribution: coastal rivers of laguna dos Patos, Tramandaí, Maquiné, and Mampituba river drainages, Rio Grande do Sul and Santa Catarina states, Brazil (Giora, Malabarba, 2016).

Gymnotus stenoleucus Mago-Leccia, 1994

Gymnotus stenoleucus Mago-Leccia, 1994: 94, figs. 99, 101. Type locality: caño Caripo, tributary of Rio Casiquiare, near the bifurcation with Rio Orinoco, Amazonas, Venezuela. Holotype: MBUCV-V 6218; 141 mm TL.

Distribution: Upper Orinoco and Negro rivers, southern Venezuela (Mago-Leccia, 1994).

Gymnotus sylvius Albert, Fernandes-Matioli, 1999

Gymnotus sylvius Albert, Fernandes-Matioli in Albert *et al.*, 1999: 41, fig. 1. Type locality: Brazil, São Paulo State, Rio Ribeira de Iguape, near Miracatu, 24°32'50"S, 47°26'13"W. Holotype: LGP 0925.1 (D48/P1990); 259 mm TL.

Distribution: Ribeira de Iguape and Paraíba do Sul, Atlantic Coast drainages, and Pardo River, Paraná River drainage, Brazil (Albert *et al.*, 1999).

Gymnotus tigre Albert, Crampton, 2003

Gymnotus tigre Albert, Crampton, 2003b: 36, fig. 8. Type locality: Along north shore of Rio Amazonas near Leticia, Colombia, 4°09'S, 69°57'W. Holotype: UF 25552; 411 mm TL.

Distribution: Amazon River basin between Pastaza River, Ecuador and Tapajós River, Brazil (Albert, Crampton, 2003b).

Gymnotus tiquie Maxime, Lima, Albert, 2011

Gymnotus tiquie Maxime, Lima, Albert, 2011: 78, figs. 1, 2. Type locality: Brazil, Amazonas, Rio Tiquié, Comunidade de São José, Igarapé Espuma, 00°13'00"N, 69°36'00"W. Holotype: MZUSP 104507; 177 mm TL.

Distribution: Tiquié River, upper Negro basin, Brazil (Maxime *et al.*, 2011).

Gymnotus ucamara Crampton, Lovejoy, Albert, 2003

Gymnotus ucamara Crampton, Lovejoy, Albert, 2003: 5, fig. 3. Type locality: Peru, Loreto, Rio Ucayali, Rio Pacaya, Cocha Zapote, in Pacaya-Samiria National Reserve, 5°20.03'S, 74°29.08'W. Holotype: UF 126182; 156 mm TL.

Distribution: Ucayali River basin, Peru (Crampton *et al.*, 2003).

Gymnotus varzea Crampton, Thorsen, Albert, 2005

Gymnotus varzea Crampton, Thorsen, Albert, 2005: 94, fig. 8.
Type locality: Brazil, Amazonas, munic. Alvarães, Mamirauá Reserve, Ressaca da Vila Alencar, 3°07'42"S, 64°48'02"W.
Holotype: MZUSP 60601; 173 mm TL.

Distribution: Mouth of Japurá River near Tefé, Amazonas, Brazil (Crampton *et al.*, 2005).

HYPOPOMIDAE Mago-Leccia, 1978
(6 genera; 34 species)

Hypopomidae Mago-Leccia, 1978: 14. Type genus: *Hypopomus* Gill, 1864.

Brachyhypopominae Albert, 2001: 68. Type genus: *Brachyhypopomus* Mago-Leccia, 1994.

Microsternarchini Albert, 2001: 69. Type genus: *Microsternarchus* Fernández-Yépez, 1968.

Checklist: Albert, Crampton (2003a); Campos-da-Paz (2007c), Brazil

Remarks: The genera *Hypopygus* and *Steatogenys*, their synonyms, and the available species-group names that are associated with those genera are moved to the Rhamphichthyidae, following Tagliacollo *et al.* (2016).

AKAWAIO Maldonado-Ocampo, López-Fernández,
Taphorn, Bernard, Crampton, Lovejoy, 2014
(1 species)

Akawaio Maldonado-Ocampo, López-Fernández, Taphorn, Bernard, Crampton, Lovejoy, 2014: 27. Type species *Akawaio penak* Maldonado-Ocampo, López-Fernández, Taphorn, Bernard, Crampton, Lovejoy, 2014, Type by monotypy. Gender: masculine.

Remarks: Name first appeared on-line in 2013, but name not made available until January, 2014.

Akawaio penak Maldonado-Ocampo, López-Fernández,
Taphorn, Bernard, Crampton, Lovejoy, 2014

Akawaio penak Maldonado-Ocampo, López-Fernández, Taphorn, Bernard, Crampton, Lovejoy 2014: 27, fig. 4. Type locality: Guyana, Zone 7, Kamarang, Mazaruni River, 5°56'10.1"N, 60°36'53.8"W. Holotype: CSBD 1654; 208 mm TL.

Remarks: Name first appeared on-line in 2013, but name not made available until January, 2014.

Distribution: Main channel of upper Mazaruni River and its tributaries, Guyana (Maldonado-Ocampo *et al.*, 2014).

BRACHYHYPOPOMUS Mago-Leccia, 1994
(28 species)

Brachyhypopomus Mago-Leccia, 1994: 47. Type species: *Rhamphichthys brevirostris* Steindachner, 1868. Type by original designation. Gender: masculine.

Odontohypopomus Sullivan, Zuanon, Cox Fernandes, 2013: 6. Type species: *Brachyhypopomus (Odontohypopomus) walteri* Sullivan, Zuanon, Cox Fernandes, 2013. Type by original designation. Gender: masculine. Proposed as a subgenus of *Brachyhypopomus*.

Remarks: See Remarks in account of *Hypopomus* for explanation of gender of these two names.

Revision and key: Crampton *et al.* (2016b).

Phylogeny: Crampton *et al.* (2016a).

Brachyhypopomus alberti Crampton, de Santana, Waddell,
Lovejoy, 2016

Brachyhypopomus alberti Crampton, de Santana, Waddell, Lovejoy, 2016b: 653, fig. 4. Type locality: Bolivia, Beni, mun. Riberalta - stream nr. village San José, nr. Riberalta, aff. rio Beni, aff. rio Madeira, rio Amazonas drainage, 10°55'32"S, 66°00'36"W. Holotype: CBF 10284; 97 mm TL.

Distribution: Upper Madeira River and Guaporé River, Brazil, and lower Beni River, Bolivia (Crampton *et al.*, 2016b).

Brachyhypopomus arrayae Crampton, de Santana,
Waddell, Lovejoy, 2016

Brachyhypopomus arrayae Crampton, de Santana, Waddell, Lovejoy, 2016b: 664, fig. 6. Type locality: Bolivia, Beni, Mun. Riberalta - small stream nr. village Puerto Hamburgo, aff. rio Beni, aff. rio Madeira, rio Amazonas drainage, 11°01'52"S, 66°05'39"W. Holotype: UMSS 7048; 77 mm TL.

Distribution: Upper Madeira River basin, especially Beni River, Bolivia, and Madre de Dios River, Peru (Crampton *et al.*, 2016b).

Brachyhypopomus batesi Crampton, de Santana, Waddell,
Lovejoy, 2016

Brachyhypopomus batesi Crampton, de Santana, Waddell, Lovejoy, 2016b: 667, fig. 8. Type locality: Brazil, Amazonas, Mun. Tefé, igarapé Xidarini, aff. lago Tefé (mouthbay of rio Tefé), rio Amazonas drainage, 3°23'52"S, 64°41'17"W. Holotype: MCP 47020; 104 mm TL.

Distribution: Middle reaches of Amazon, Brazil, and upper Negro River, Colombia (Crampton *et al.*, 2016b).

Brachyhypopomus beebei (Schultz, 1944)

Hypopomus beebei Schultz, 1944: 40, fig. 1, pl. 1 (fig. 4). Type locality: Caripito, Venezuela [USNM ledger reports specimen collected at Rio Caripe (Ferraris, Vari, 1992: 5)]. Holotype: USNM 120753; 136 mm TL (tail missing, Ferraris, Vari, 1992: 5); holotype illustrated in Crampton *et al.* (2016b: fig. 9b).

Distribution: Widespread through cis-Andean northern South America (Crampton *et al.*, 2016b).

Brachyhypopomus belindae Crampton, de Santana, Waddell, Lovejoy, 2016

Brachyhypopomus belindae Crampton, de Santana, Waddell, Lovejoy, 2016b: 677, fig. 11. Type locality: Brazil, Amazonas, Mun. Alvarães, Mamirauá Reserve, lago Araçazinho, rio Solimões - Japurá floodplain, rio Amazonas dr., 2°59'35"S, 64°51'33"W. Holotype: MCP 45360; 110 mm TL.

Distribution: Amazon basin near Tefê and Manaus, Brazil (Crampton *et al.*, 2016b).

Brachyhypopomus benjamini Crampton, de Santana, Waddell, Lovejoy, 2016

Brachyhypopomus benjamini Crampton, de Santana, Waddell, Lovejoy, 2016b: 679, fig. 12. Type locality: Peru, Loreto, Mun. Requena, nr. Jenaro Herrera, quebrada Caño Fierro, aff. río Ucayali, rio Amazonas dr., 4°51'59"S, 73°38'48"W. Holotype: MUSM 39915; 126 mm TL.

Distribution: lower Ucayali River and tributaries of Nanay River, near Iquitos, Peru (Crampton *et al.*, 2016b).

Brachyhypopomus bennetti Sullivan, Zuanon, Cox Fernandes, 2013

Brachyhypopomus (Odontohypopomus) bennetti Sullivan, Zuanon, Cox Fernandes, 2013: 14, figs. 6, 7, 8. Type locality: Amazonas, Brazil, floating meadow along side of lake in the Paraná do Paracuúba, near mouth of Rio Negro and entrance to Lago Januári, approx. 15 km due south of Manaus, 03°12.6'S, 059°59.40'W. Holotype: INPA 39560; 215 mm TL.

Distribution: Widely distributed in Amazon River Basin, in whitewater floodplains (Sullivan *et al.*, 2013; Crampton *et al.*, 2016b).

Brachyhypopomus bombilla Loureiro, Silva, 2006

Brachyhypopomus bombilla Loureiro, Silva, 2006: 666, fig. 1. Type locality: Uruguay, Rocha, Departamento Cuarto Palmas stream, Los Patos-Merín system, Ruta 15 kilometer 268, 33°23'43"S, 53°51'53"W. Holotype: ZVC-P 6287; 154 mm TL.

Distribution: Middle Uruguay River basin and Los Patos-Merín basin, Uruguay (Loureiro, Silva, 2006); Paraná River basin, Argentina (Almirón *et al.*, 2010), and Upper Madeira basin (Crampton *et al.*, 2016b).

Brachyhypopomus brevirostris (Steindachner, 1868)

Rhamphichthys brevirostris Steindachner, 1868a: 177. Type locality: [Rio Guaporé, Brazil]. Lectotype: NMW 65040; 165 mm TL. Lectotype designated in Schindler (1937: 23); illustrated in Crampton *et al.* (2016b: fig. 17b). Described in more detail in Steindachner (1868b: 254, pl. 2, fig. 2), with type locality as: Guaporé.

Distribution: Widespread through cis-Andean South America from Orinoco to La Plata River (Crampton *et al.*, 2016b).

Brachyhypopomus bullocki Sullivan, Hopkins, 2009

Brachyhypopomus bullocki Sullivan, Hopkins, 2009: 186, fig. 1. Type locality: Colombia, Meta State, "Flor Amarillo" (río Metica-Meta drainage), Rancho Llano Grande, north of Mozambique Ranch, 4.033°N, 73.050°W. Holotype: ANSP 187477; 221 mm TL.

Distribution: Orinoco and Negro-Branco basins (Sullivan, Hopkins, 2009) and Essequibo River (Crampton *et al.*, 2016b).

Brachyhypopomus cunia Crampton, de Santana, Waddell, Lovejoy, 2016

Brachyhypopomus cunia Crampton, de Santana, Waddell, Lovejoy, 2016b: 706, fig. 20. Type locality: Brazil, Rondônia, Reserva Extrativista do lago do Cuniã, igarapé do Campo, affl. lago Cuniã, rio Madeira floodplain, rio Amazonas dr., 8°19'14"S, 63°28'05"W. Holotype: INPA 37690; 142 mm TL.

Distribution: Madeira River basin, above Machado River, including Guaporé River, Brazil (Crampton *et al.*, 2016b).

Brachyhypopomus diazae (Fernández-Yépez, 1972)

Hypopomus diazi Fernández-Yépez, 1972: 20, pl. 21. Type locality: Estación 138 de el Análise Ictiológico del Complejo Hidrográfico (04), "Río Yaracuy" [Río Alpargatón, Río Yaracuy drainage, Estado Carabobo, Venezuela]. Holotype: whereabouts unknown; 140 mm TL.

Remarks: Name corrected to *diazae*, as it was named for "señorita María sabel (BETTY) Díaz."

Distribution: Northern Venezuela, from Tocuyo River to Patanemo River, and northern Llanos of Orinoco basin (Crampton *et al.*, 2016b).

Brachyhypopomus draco Giora, Malabarba, Crampton, 2008

Brachyhypopomus draco Giora, Malabarba, Crampton, 2008: 161, figs. 1, 2. Type locality: Brazil, Rio Grande do Sul, Parque Estadual de Itapuã Verde, lagoa Verde (30°22'52.4"S, 51°01'25"W). Holotype: MCP 41540; 137 mm LEA.

Distribution: Widely distributed in Rio Grande do Sul State, Brazil, Uruguay River, Tramandaí River, and Laguna dos Patos (Giora *et al.*, 2008); La Plata basin, Argentina (Almirón *et al.*, 2010; Crampton *et al.*, 2016b).

Brachyhypopomus flavipomus Crampton, de Santana, Waddell, Lovejoy, 2016

Brachyhypopomus flavipomus Crampton, de Santana, Waddell, Lovejoy, 2016b: 717, fig. 24. Type locality: Brazil, Amazonas, Mun. Alvarães, Jarauá Lake System, Ressaca do Caetono, rio Solimões - rio Japurá floodplain, rio Amazonas drainage, 2°50'15"S, 64°55'50"W. Holotype: MCP 45366; 92 mm TL.

Distribution: Main stem of upper and middle Amazon River between Ucayali River and Japurá River, in floodplain habitats (Crampton *et al.*, 2016b).

Brachyhypopomus gauderio Giora, Malabarba, 2009

Brachyhypopomus gauderio Giora, Malabarba, 2009: 62, figs. 1, 2, 3. Type locality: [Brazil, Rio Grande do Sul] Palmares do Sul, Channel connecting Lagoa do Casamento and Lagoa dos Gateados (30°28'S, 50°40'W). Holotype: MCP 43280; 149 mm LEA.

Distribution: Laguna dos Patos and Tramandaí River drainage, Brazil; Rio Uruguay; Paraguay River (Giora, Malabarba, 2009); Paraná River basin, Argentina (Almirón *et al.*, 2010; Crampton *et al.*, 2016b).

Brachyhypopomus hamiltoni Crampton, de Santana, Waddell, Lovejoy, 2016

Brachyhypopomus hamiltoni Crampton, de Santana, Waddell, Lovejoy, 2016b: 728, fig. 28. Type locality: Brazil, Amazonas, Mun. Alvarães, Mamirauá Reserve, Ressaca da Vila Alencar, rio Solimões - rio Japurá floodplain, rio Amazonas dr., 3°07'41"S, 64°48'04"W. Holotype: MCP 45482; 97 mm TL.

Distribution: Upper, middle, and lower Amazon, and middle Negro River (Crampton *et al.*, 2016b).

Brachyhypopomus hendersoni Crampton, de Santana, Waddell, Lovejoy, 2016

Brachyhypopomus hendersoni Crampton, de Santana, Waddell, Lovejoy, 2016b: 731, fig. 30b. Type locality: Brazil, Amazonas,

Mun. Maraã, lago Amanã, Igarape Juá Grande, rio Japurá, Amazonas dr., 2°28'50"S, 64°48'50"W. Holotype: MCP 45305; 146 mm TL.

Distribution: Central Amazon near Tefé, from blackwater lakes, and lower rio Negro, Brazil, and from Essequibo drainage, Guyana (Crampton *et al.*, 2016b).

Brachyhypopomus janeiroensis (Costa, Campos-da-Paz, 1992)

Hypopomus janeiroensis Costa, Campos-da-Paz, 1992: 118, figs. 2, 3. Type locality: Brésil, Rio de Janeiro, Corrego Salto-d'água, affluent du Rio Sao Joao [sic, São João], 6 km N. de Silva Jardim, 22°39'S, 42°23'W [sic, probably 22°39'S, 42°23'W]. Holotype: MZUSP 43130; 92 mm TL.

Distribution: São João and Paraíba do Sul River basins, Rio de Janeiro State, Brazil (Crampton *et al.*, 2016b).

Brachyhypopomus jureiae Triques, Khamis, 2003

Brachyhypopomus jureiae Triques, Khamis, 2003: 62, fig. 1. Type locality: Rio do Descalvado, tributary of Rio Una do Prelado, Juréia Ecological Station, State of São Paulo, Brazil. Holotype: DZUFMG 010; 195 mm LEA.

Distribution: Una do Prelado and Ribeira de Iguape drainages, coastal basin, São Paulo state, Brazil (Triques, Khamis, 2003).

Brachyhypopomus menezesi Crampton, de Santana, Waddell, Lovejoy, 2016

Brachyhypopomus menezesi Crampton, de Santana, Waddell, Lovejoy, 2016b: 740, fig. 34. Type locality: Brazil, Bahia, 1 km from community São Marcelo, rio Sapão, aff. rio Preto, rio São Francisco drainage, 11°01'02"S, 45°31'50"W. Holotype: MZUSP 87147; 100 mm TL.

Distribution: Middle and upper São Francisco River basin, Brazil (Crampton *et al.*, 2016b).

Brachyhypopomus occidentalis (Regan, 1914)

Hypopomus occidentalis Regan, 1914: 32. Type locality: Rio Condoto [San Juan basin] Colombia. Syntypes: BMNH 1914.5.18.94-98, BMNH 2012.6.13.1; 41-147 mm TL. Syntype (147 mm TL) illustrated in Crampton *et al.* (2016b: fig. 35b).

Distribution: Magdalena, Atrato, and Catatumbo Rivers, Colombia, Maracaibo Basin, Pacific slope rivers of Colombia and Panama and Sixaola River, Costa Rica (Crampton *et al.*, 2016b).

Brachyhypopomus palenque Crampton, de Santana, Waddell, Lovejoy, 2016

Brachyhypopomus palenque Crampton, de Santana, Waddell, Lovejoy, 2016b: 749, fig. 37. Type locality: Ecuador, Los Ríos, Mun. Buena Fé, Parroquia Patricia Pilar, Centro Científico río Palenque, 45 km S. Santo Domingo, small rain forest stream, aff. río Palenque, río Guayas dr., 00°35'01"S, 79°22'13"W. Holotype: UF 180270; 149 mm TL.

Distribution: Esmeraldas, Guayas and Siete rivers, Pacific drainages, Ecuador (Crampton *et al.*, 2016b).

Brachyhypopomus pinnicaudatus (Hopkins, Comfort, Bastian, Bass, 1990)

Hypopomus pinnicaudatus Hopkins, Comfort, Bastian, Bass, 1990: 350, fig. 1. Type locality: Coastal swamp of French Guiana called "Grand Pripris," 3.5 km northwest of center of old Kourou, 52°40'00"W and 5°10'45"N, approx. 0.1 km N of old Route Nationale # 1. Lectotype: ANSP 163463, 125 mm TL. Lectotype designated by Crampton *et al.* (2016b: 757).

Remarks: Traditional taxonomically formatted description in Hopkins (1991), but necessary elements of a new species description all appeared first in Hopkins *et al.* (1990), thereby making the name available from that publication. Lectotype is specimen intended by Hopkins (1991) to be holotype.

Distribution: Eastern South America from Catatumbo River basin, Orinoco and Guianas to La Plata River basin; Amazon River basin in Peru (Hopkins, 1991; Albert, Crampton, 2003a).

Brachyhypopomus provenzanoi Crampton, de Santana, Waddell, Lovejoy, 2016

Brachyhypopomus provenzanoi Crampton, de Santana, Waddell, Lovejoy, 2016b: 760, fig. 40. Type locality: Venezuela, Amazonas, Mun. San Fernando de Atabapo, caño "CVG" (Corporación Venezolana Guayana), 10.5 km, on San Fernando - Santa Barbara rd., affl. río Orinoco, río Orinoco dr., 3°58'59"N, 67°38'29"W. Holotype: MBUCV-V 35650; 87 mm TL.

Distribution: Upper Orinoco and upper Negro rivers, Venezuela (Crampton *et al.*, 2016b).

Brachyhypopomus regani Crampton, de Santana, Waddell, Lovejoy, 2016

Brachyhypopomus regani Crampton, de Santana, Waddell, Lovejoy, 2016b: 762, fig. 41. Type locality: Brazil, Amazonas, Mamirauá Reserve, cano do lago Rato, rio Solimões - Japurá floodplain, rio Amazonas dr., 3°02'41"S, 64°51'26"W. Holotype: MCP 47022; 128 mm TL.

Distribution: Widely distributed in Amazon basin, and in Orinoco, Essequibo and other coastal drainages of Guyana (Crampton *et al.*, 2016b).

Brachyhypopomus sullivanii Crampton, de Santana, Waddell, Lovejoy, 2016

Brachyhypopomus sullivanii Crampton, de Santana, Waddell, Lovejoy, 2016b: 767, fig. 43. Type locality: Peru, Loreto, Mun. Requena, stream nr. Jenaro Herrera, affl. río Ucayali, Amazonas drainage, 4°54'39"S, 73°39'29"W. Holotype: MUSM 39624; 108 mm TL.

Distribution: Widely distributed throughout Amazon basin, and Orinoco and Essequibo rivers and coastal basins of Pará, Brazil (Crampton *et al.*, 2016b).

Brachyhypopomus verdii Crampton, de Santana, Waddell, Lovejoy, 2016

Brachyhypopomus verdii Crampton, de Santana, Waddell, Lovejoy, 2016b: 772, fig. 45. Type locality: Peru, Loreto, Mun. Maynas, Jenaro Herrera, stream, nr. Jenaro Herrera - Colonia Angamos rd., affl. río Ucayali, Amazonas dr., 4°53'54"S, 73°38'22"W. Holotype: MUSM 35307; 79 mm TL.

Distribution: Tributaries of Marañon and Ucayali rivers, upper Amazon basin, Peru (Crampton *et al.*, 2016b).

Brachyhypopomus walteri Sullivan, Zuanon, Cox Fernandes, 2013

Brachyhypopomus (Odontohypopomus) walteri Sullivan, Zuanon, Cox Fernandes, 2013: 8, figs. 3, 4. Type locality: Amazonas, Brazil, floating meadow alongside of lake in the Paran do Paracuba, near mouth of Rio Negro and entrance to Lago Janauari, approx. 15 km due south of Manaus, 0312.6'S, 05959.4'W. Holotype: INPA 8941; 163 mm TL.

Distribution: Widely distributed in Amazon River Basin (Sullivan *et al.*, 2013); also in Essequibo basin and Paraguay-Paran drainage (Crampton *et al.*, 2016b).

HYPOPOMUS Gill, 1864
(1 species)

Hypopomus Gill, 1864: 152. Type species: *Rhamphichthys mulleri* Kaup, 1856. Type by monotypy. Gender: masculine.

Brachyrhamphichthys Günther, 1870: 6. Type species: *Rhamphichthys artedi* Kaup, 1856. Type by subsequent designation by Eigenmann, Ward (1905: 169). Gender: masculine. Proposed as a subgenus of *Rhamphichthys*.

Parupygus Hoedeman, 1962a: 58. Type species: *Parupygus savannensis* Hoedeman, 1962. Type by monotypy. Gender: masculine.

Remarks: The gender of *Hypopomus* was not stated in Gill (1864); and has been treated as feminine in Mago-Leccia (1994), Eschmeyer (1998), and Eschmeyer *et al.* (2016). However, the name appears to be derived from the transliterated Greek word poma (operculum), that was

assigned a latinized suffix (pomus), thereby falling under the provisions of Art. 30.1.3 of ICZN (1999), which requires that the genus be treated as masculine.

Hypopomus artedi (Kaup, 1856)

Rhamphichthys Artedi Kaup, 1856: 128, fig. 3. Type locality: The Mona, a river in French Guiana, and locality of specimen illustrated in Seba (1758: pl. 32 fig. 2). Syntypes: MNHN 0000-3157; 11 in. TL, and Seba specimen; 17 in. TL.

Rhamphichthys Mulleri Kaup, 1856: 129, fig. 4. Type locality: Cayenne [French Guiana]. Syntypes: (2, larger one 20.6 in. TL) MNHN 0000-3983.

Parupyugus savannensis Hoedeman, 1962a: 58, fig. 5. Type locality: Surinam, Sipaliwini, Paru savannah, sta. 44a. Holotype: ZMA 102375; 220 mm TL.

Parupyugus litaniensis Hoedeman, 1962b: 98, fig. 2, 3b. Type locality: French Guiana, Litany, village Aloiké, sta. 29. Holotype: ZMA 100428; 195 mm SL.

Remarks: Synonymy follows Albert, Crampton (2003a). Eigenmann, Ward (1905: 170) serves as first reviser in treating *R. mulleri* as junior synonym of *R. artedi*, while also providing a key to distinguish between the two “nominal” species. This suggests the current synonymy may need to be reexamined.

Distribution: Widely distributed in Guianas (Albert, Crampton, 2003a).

MICROSTERNARCHUS Fernández-Yépez, 1968
(2 species)

Microsternarchus Fernández-Yépez, 1968: [4]. Type species: *Microsternarchus bilineatus* Fernández-Yépez, 1968. Type by original designation. Gender: masculine.

Microsternarchus bilineatus Fernández-Yépez, 1968

Microsternarchus bilineatus Fernández-Yépez, 1968: [4], unnumbered pl. 2. Type locality: Río San José, affluente del Río Guariquito al SW de Calabozo [Venezuela]. Holotype: MACLPI 65562-B; 83 mm TL. Whereabouts of holotype unknown (Cox Fernandes *et al.*, 2015).

Distribution: Upper Orinoco and Negro River basins (Fernández-Yépez, 1968).

Microsternarchus brevis Cox Fernandes, Nogueira,
Williston, Alves-Gomes, 2015

Microsternarchus brevis Cox Fernandes, Nogueira, Williston, Alves-Gomes, 2015: 215, fig. 1. Type locality: Brazil, Amazonas State, Santa Isabel do Rio Negro, Rio Negro, Igarapé Jaradi, 00°19'05”S, 65°18'31”W. Holotype: INPA 48028; 53 mm TL.

Distribution: Negro River, below São Gabriel da Cachoeira and above the mouth of the Branco River, Brazil (Cox Fernandes *et al.*, 2015).

PROCERUSTERNARCHUS Cox Fernandes, Nogueira,
Alves-Gomes, 2014
(1 species)

Procerusternarchus Cox Fernandes, Nogueira, Alves-Gomes, 2014: 95. Type species *Procerusternarchus pixuna* Cox Fernandes, Nogueira, Alves-Gomes, 2014. Type by original designation. Gender: masculine.

Procerusternarchus pixuna Cox Fernandes, Nogueira,
Alves-Gomes, 2014

Procerusternarchus pixuna Cox Fernandes, Nogueira, Alves-Gomes, 2014: 103, fig. 2. Type locality: Brazil, Amazonas, Rio Negro, São Gabriel da Cachoeira, Igarapé Ducubixi, 0°00'39.2”S, 67°15'34.7”W. Holotype: INPA 33743; 127 mm TL.

Distribution: Negro River basin, Brazil (Cox Fernandes *et al.*, 2014).

RACENISIA Mago-Leccia, 1994
(1 species)

Racenisia Mago-Leccia, 1994: 51. Type species: *Racenisia fimbriipinna* Mago-Leccia, 1994. Type by original designation. Gender: feminine.

Remarks: Treated as a junior synonym of *Microsternarchus* in Albert, Campos-da-Paz (1998), but as valid in Albert (2001) and Albert, Crampton (2003a).

Racenisia fimbriipinna Mago-Leccia, 1994

Racenisia fimbriipinna Mago-Leccia, 1994: 88, figs. 97a, 97b. Type locality: El Pozo de Lucas, San Fernando de Atabapo, Amazonas, Venezuela. Holotype: MBUCV-V 7540; 117 mm TL.

Distribution: Upper Negro and Orinoco rivers, Venezuela (Mago-Leccia, 1994).

RHAMPHICHTHYIDAE Regan, 1911
(5 genera; 27 species)

Rhamphichthyidae Regan 1911: 23, 25. Type genus: *Rhamphichthys* Müller, Troschel, 1848.

Steatogini [sic, = Steatogenyini] Albert, 2001: 69. Type genus: *Steatogenys* Boulenger, 1898.

Checklist: Ferraris (2003); Campos-da-Paz (2007b), Brazil.

Remarks: The genera *Hypopygus* and *Steatogenys*, their synonyms, and the available species-group names that are associated with those genera are moved here from the Hypopomidae, following Tagliacollo *et al.* (2016).

***GYMNORHAMPHICHTHYS* Ellis, 1912**
(5 species)

Gymnorhamphichthys Ellis, in Eigenmann, 1912: 423, 436. Type species: *Gymnorhamphichthys hypostomus* Ellis, 1912. Type by monotypy. Gender: masculine. Also appeared as new in Ellis (1913: 139).

Urumarã Miranda Ribeiro, 1920: 6. Type species: *U[rumarã] rondoni* Miranda Ribeiro, 1920. Type by monotypy. Gender: feminine (?).

Review: Nijssen *et al.* (1976).

***Gymnorhamphichthys bogardusae* Lundberg, 2005**

Gymnorhamphichthys bogardusi Lundberg, 2005: 2, figs. 1, 2b. Type locality: Venezuela, Delta Amacuro State, Río Orinoco, 114 n mi from sea buoy in Boca Grande navigation channel, 8°36'N, 61°45'W. Holotype: MBUCV-V 32800; 178 mm TL.

Distribution: Mainstream of Orinoco River and its tributaries draining the llanos, Venezuela (Lundberg, 2005).

Remarks: Gender of the species name changed to reflect the stated etymology in the original description.

***Gymnorhamphichthys britskii* Carvalho, Ramos, Albert, 2011**

Gymnorhamphichthys britskii Carvalho, Ramos, Albert, 2011: 401, figs. 1, 3a. Type locality: Brazil, Mato Grosso, Rosário Oeste, Córrego Embaúba, tributary to Río Cuiabá, 14°55'S, 56°27'W. Holotype: MZUSP 106814; 180 mm SL.

Distribution: Paraguay and Paraná basins (Carvalho *et al.*, 2011).

***Gymnorhamphichthys hypostomus* Ellis, 1912**

Gymnorhamphichthys hypostomus Ellis, in Eigenmann, 1912: 436. Type locality: San Joaquin, Bolivia. Holotype: FMNH 54554; 215 mm TL. Described in more detail, as new, and illustrated in Ellis (1913: 139, pl. 23, fig. 2).

Distribution: Upper Mamoré River basin, western tributaries of Amazon and Orinoco rivers (Nijssen *et al.*, 1976).

***Gymnorhamphichthys rondoni* (Miranda Ribeiro, 1920)**

U. [Urumarã] rondoni Miranda Ribeiro, 1920: 6. Type locality: Rio Dezesete de Fevereiro, afluyente da margem esquerda do Alto Cautário, valle do Amazonas [Brazil]. Holotype: MNRJ 3631.

Gymnorhamphichthys hypostomus petiti Géry, Vu, 1964: 486, pl. 1. Type locality: Ilha do Bananal, haut Rio Araguaia, Brésil. Holotype: GSC 340, 122 mm TL (now MHNG 21670.015, 85 mm LEA; Carvalho, 2013).

Remarks: Synonymy follows Nijssen *et al.* (1976), but *Gymnorhamphichthys petiti* included in the materials examined as a valid species in Carvalho *et al.* (2011).

Distribution: Widely distributed in Amazon, upper Paraná, and Orinoco River basins and coastal rivers of the Guianas (Nijssen *et al.*, 1976).

***Gymnorhamphichthys rosamariae* Schwassmann, 1989**

Gymnorhamphichthys rosamariae Schwassmann, 1989: 159, fig. 2. Type locality: Upper Rio Negro at Rosa Maria, State of Amazonas, Brazil 0.5°S, 64°W. Holotype: MZUSP 30202; 305 mm TL.

Distribution: Upper Negro River basin, Brazil (Schwassmann, 1989).

***HYPOPYGUS* Hoedeman, 1962**
(9 species)

Hypopygus Hoedeman, 1962b: 99. Type species: *Hypopygus lepturus* Hoedeman, 1962. Type by monotypy. Gender: masculine.

Stegostenopos Triques, 1997: 32. Type species: *Stegostenopos cryptogenes* Triques, 1997. Type by original designation. Gender: masculine.

Phylogeny and revision: de Santana, Crampton (2011).

Key to species: de Santana, Crampton (2011); Peixoto *et al.* (2013).

Remarks: Synonymy follows de Santana, Crampton (2011).

***Hypopygus benoneae* Peixoto, Dutra, de Santana, Wosiacki, 2013**

Hypopygus benoneae Peixoto, Dutra, de Santana, Wosiacki, 2013: 232, fig. 1. Type locality: Brazil, Pará, Melgaço, tributary of Igarapé Açú, lower Rio Anapu drainage, 1°48'15.4"S, 51°28'32.2"W. Holotype: MPEG 23603; 73 mm TL.

Distribution: Anapu River, Amazon drainage, Pará, Brazil (Peixoto *et al.*, 2013).

Hypopygus cryptogenes (Triques, 1997)

Stegostenopos cryptogenes Triques, 1997: 33, fig. 5. Type locality: Igarapé (creek) Sirinau, right margin of Rio Cuieiras, ca. 25 km from its mouth on Rio Negro, ca. 2°70'S, 60°40'W, Brazil. Holotype: MZUSP 47985; 93 mm SL.

Distribution: Lower and middle Negro River basin and Preto da Eva River, Amazon basin, Brazil (de Santana, Crampton, 2011).

Hypopygus hoedemani de Santana, Crampton, 2011

Hypopygus hoedemani de Santana, Crampton, 2011: 1125, fig. 19. Type locality: Brazil Amazonas, Igarapé Toari, Rio Preto de Eva drainage, 2°47'35"S, 59°38'21"W. Holotype: INPA 30375; 53 mm TL.

Distribution: Negro and Preto da Eva drainages, Amazon basin, Brazil (de Santana, Crampton, 2011).

Hypopygus isbruckeri de Santana, Crampton, 2011

Hypopygus isbruckeri de Santana, Crampton, 2011: 1127, fig. 21. Type locality: Venezuela. Amazonas, Caño Magua, forest stream, approximately 1 km from Magua, 13 km and 126° from San Fernando de Atabapo, Rio Orinoco drainage, 3°58'50.2"N, 67°36'28.1"W. Holotype: UF 175390; 90 mm TL.

Distribution: San Fernando de Atabapo, Orinoco River drainage, Amazonas, Venezuela (de Santana, Crampton, 2011).

Hypopygus lepturus Hoedeman, 1962

Hypopygus lepturus Hoedeman, 1962b: 99, fig. 4. Type locality: Surinam: Maroni basin. Holotype: RMNH 19466; 73 mm TL.

Distribution: Major drainages of Amazon River basin, Orinoco River, coastal drainages of the Guianas and northern tributaries of Paraguay River (de Santana, Crampton, 2011).

Hypopygus minissimus de Santana, Crampton, 2011

Hypopygus minissimus de Santana, Crampton, 2011: 1141, fig. 25. Type locality: Venezuela Amazonas Caño Viejita, moriche palm swamp in savannah, road from San Fernando de Atabapo to Santa Bárbara, 16.5 km and 142° from San Fernando de Atabapo, Rio Orinoco drainage, 3°55'59.0"N, 67°36'34.2"W. Holotype: UF 175389; 54 mm TL.

Distribution: Upper Orinoco River basin and tributary of Casiquiare canal, Venezuela (de Santana, Crampton, 2011).

Hypopygus neblinae Mago-Leccia, 1994

Hypopygus neblinae Mago-Leccia, 1994: 86, fig. 96. Type locality: Río Baria, 3 km downriver of Neblina base camp, Amazonas, Venezuela. Holotype: MBUCV-V 14694; 122 mm TL.

Distribution: Upper Orinoco, Meta, and Casiquiare basins, Venezuela, Negro and Preto da Eva river basins, Brazil (de Santana, Crampton, 2011).

Hypopygus nijsseni de Santana, Crampton, 2011

Hypopygus nijsseni de Santana, Crampton, 2011: 1146, figs. 23b, 29. Type locality: Brazil, Amazonas, Igarapé Repartimento, 1.5 km downstream from Estrada Agrovila, ca. 7 km and 230° from Tefê, municipality of Tefê, tributary of Lago Tefê, Rio Tefê drainage, 3°24'30"S, 64°44'12"W. Holotype: MCP 44650; 96 mm TL.

Distribution: Small streams in vicinity of Tefê, Amazon Basin, Brazil (de Santana, Crampton, 2011).

Hypopygus ortegai de Santana, Crampton, 2011

Hypopygus ortegai de Santana, Crampton, 2011: 1148, figs. 23c, 30. Type locality: Peru, Loreto, unnamed stream, 2 km north of km 3.9 on road from Jenaro Herrera to Colonia Angamos, 4°53'01"S, 73°38'10"W. Holotype: MUSM 35305; 107 mm TL.

Distribution: Vicinity of Iquitos and Jenaro Herrera, Peru, in small tributaries of Amazon River (de Santana, Crampton, 2011).

IRACEMA Triques, 1996
(1 species)

Iracema Triques, 1996b: 91. Type species: *Iracema caiana* Triques, 1996. Type by original designation. Gender: feminine.

Iracema caiana Triques, 1996

Iracema caiana Triques, 1996b: 91, fig. 1. Type locality: Jauaperi River, beach ca. 40 to 50 km above its mouth on the Rio Negro, ca. 1°05'S, 61°35'W, on the border of Amazonas and Roraima States, Brazil. Holotype: MZUSP 8952; 356 mm SL.

Remarks: Redescribed with comments on phylogenetic position in Carvalho, Albert (2011).

Distribution: Jauaperi River, Negro River drainage, Brazil (Triques, 1996b; Carvalho, Albert, 2011).

RHAMPHICHTHYS Müller, Troschel, 1846
(9 species)

Rhamphichthys Müller, Troschel, in Müller, 1846: 194 (footnote 2). Type species: *Gymnonotus rostratus* Bloch, Schneider, 1801 [= *Gymnotus rostratus* Linnaeus, 1766]. Type by monotypy. Gender: masculine.

Altona Duméril, 1856: 201. Type species: *Altona rostrata* [*Gymnotus rostratus* Linnaeus, 1766]. Type by monotypy. Gender: feminine. Single included species written as *Altona rostrata*, apparently referring to *Gymnotus rostratus* Linnaeus.

Key: Carvalho, Albert, 2015 (Amazon basin species).

Rhamphichthys apurensis (Fernández-Yépez, 1968)

Gymnorhamphichthys apurensis Fernández-Yépez, 1968: [6], [pl. 4]. Type locality: Río Bucaral (Paso Don Pancho), afluente del Río Apure [Orinoco basin, Venezuela]. Holotype: MBUCV-V 10838; 354 mm TL.

Remarks: Inclusion in *Rhamphichthys* follows Schwassmann (1989).

Distribution: Orinoco River basin (Fernández-Yépez, 1968).

Rhamphichthys atlanticus Triques 1999

Rhamphichthys atlanticus Triques, 1999a: 3, fig. 4. Type locality: Viana Lake, Pindaré-Mearim river system, MA, Brazil, approximately 3°14'S, 45°01'W. Holotype: MZUSP 43612; 673 mm SL.

Remarks: Validity questioned by Carvalho, Albert (2015).

Distribution: Pindaré-Mearim River basin, Brazil (Triques, 1999a).

Rhamphichthys drepanium Triques, 1999

Rhamphichthys drepanium Triques, 1999a: 1, figs. 2, 3. Januári Lake, at confluence of Rio Negro and Rio Solimões, Manaus County, Amazonas, Brazil, approximately 3°20'S, 60°12'W. Holotype: MZUSP 6893; 384 mm SL.

Distribution: Negro River, middle Amazon River and Orinoco River (Triques, 1999a).

Rhamphichthys hahni (Meinken, 1937)

Sternarchorhamphus hahni Meinken, 1937: 79, fig. 3. Type locality: mittleren Paraná [Corrientes, Argentina]. Holotype: ZMB 31367; 267 mm TL.

Remarks: Inclusion in *Rhamphichthys* follows Campos-da-Paz, Paepke (1994).

Distribution: Paraná River basin, Argentina (Meinken, 1937).

Rhamphichthys heleios Carvalho, Albert, 2015

Rhamphichthys heleios Carvalho, Albert, 2015: 35, figs. 1, 2, 3. Type locality: Brazil, Amazonas, Iranduba, confluence of Rio Negro and Solimões at Costa do Catalão, 3°09'S, 59°54'W. Holotype: INPA 42309; 372 mm LEA.

Distribution: Amazon River above the Madeira River, and in Guaporé River, Brazil (Carvalho, Albert, 2015).

Rhamphichthys lineatus Castelnau, 1855

Rhamphichthys lineatus Castelnau, 1855: 87, pl. 47 (fig. 1). Type locality: un lac de la rivière d'Ucayale. Holotype: MNHN 0000-3982; 54 cm TL.

Distribution: Amazon basin (Carvalho, Albert, 2015).

Rhamphichthys longior Triques, 1999

Rhamphichthys longior Triques, 1999a: 4. Paru Lake (formed in the confluence of the Rios Trombetas and Paru-do-Oeste) at Oriximiná, PA, Brazil, approximately 1°45'S, 55°52'W. Holotype: MZUSP 48507; 800 mm SL.

Remarks: Validity questioned by Carvalho, Albert (2015), but name not assigned to any other species.

Distribution: Paru Lake, lower Amazon River basin (Triques, 1999a).

Rhamphichthys pantherinus Castelnau, 1855

Rhamphichthys pantherinus Castelnau, 1855: 86, pl. 46 (fig. 3). Type locality: un lac près de l'Ucayale. Holotype: MNHN 0000-3993; 76 cm TL.

Rhamphichthys marmoratus Castelnau, 1855: 86, pl. 46 (fig. 2). Type locality: l'Araguay [Brazil]. Holotype: MNHN 0000-3959; 65 cm TL.

Remarks: Günther (1870: 5) serves as first reviser treating *Rhamphichthys pantherinus* as senior synonym of *R. marmoratus* (as well as *R. lineatus*). Later, apparently starting with Eigenmann, Eigenmann (1891: 62), *R. marmoratus* was treated as valid over *R. pantherinus*, in error.

Distribution: Amazon, upper Orinoco and Essequibo River basins (Carvalho, Albert, 2015, as *R. marmoratus*).

Rhamphichthys rostratus (Linnaeus, 1766)

Gymnotus rostratus Linnaeus, 1766: 428. Type locality: America. Syntypes: On Seba (1758: pl. 32, fig. 5) and Gronovius (1763: 41).

Gymnotus longirostratus La Cepède, 1800: 145, 178. Type locality: l'Amérique méridionale. Syntypes: On several literature sources, including account of *Gymnotus rostratus* in Gmelin (1789), Seba (1758: pl. 32, fig. 5), Gronovius (1763: 41) and others.

Rhamphichthys Blochii Kaup, 1856: 133, fig. 9. Type locality: America. Syntypes: On specimen described and illustrated in Bloch, Schneider (1801: 522, pl. 106) as *Gymnonotus rostratus*, then preserved in Berlin Museum; 27.8 in. TL, and Seba (1758: pl. 32, fig. 5).

Rhamphichthys Reinhardti Kaup, 1856: 132, fig. 8. Type locality: unknown. Holotype: MNHN 0000-3956, 28.8 in. TL.

Rhamphichthys Schneideri Kaup, 1856: 136, fig. 11. Type locality: Cayenne. Syntypes: (2, one 2.57 in TL) at MNHN, possibly MNHN 0000-3957.

Rhamphichthys Schomburgki Kaup, 1856: 135, fig. 10. Type locality: Rivers of Demerara, British Guiana. Syntypes: (at least 3, all from Schomburgk collections), Berlin Museum, Darmstadt, and MNHN 0000-3958.

Remarks: Synonymy tentative. Günther (1870: 5) would serve as first reviser if *R. blochii* was found to be a valid species distinct from *R. rostratus* and *R. longirostratus*, and *R. reinhardti* its (junior) synonym. Eigenmann, Eigenmann (1891: 62) later took the opposite approach and treated *R. reinhardti* as valid over *R. blochii*. Steindachner (1868: 258) would serve as first reviser if *R. schomburgki* was found to be a valid species distinct from *R. rostratus* and *R. longirostratus*, and *R. schneideri* its (junior) synonym (status of *R. reinhardti* and *R. blochii* is unresolved).

Distribution: Amazon, Essequibo and coastal rivers of Guianas (Carvalho, Albert, 2015).

***STEATOGENYS* Boulenger, 1898**
(3 species)

Steatogenys Boulenger, 1898: 428. Type species: *Rhamphichthys elegans* Steindachner, 1880. Type by monotypy. Gender: feminine.

Tateichthys La Monte, 1929: 1. Type species: *Tateichthys duidae* La Monte, 1929. Type by monotypy. Gender: masculine.

Revision: Schwassmann (1984).

***Steatogenys duidae* (La Monte, 1929)**

Tateichthys duidae La Monte, 1929: 1, fig. 1. Type locality: Burned Mountain Creek, ca. 5 mi. northeast of Caño Pescado, 350 feet elevation, Mt. Duida neighborhood, Venezuela. Holotype: AMNH 9599; 149 mm TL.

Distribution: Orinoco basin and parts of Amazon basin (Crampton *et al.*, 2004a).

***Steatogenys elegans* (Steindachner, 1880)**

Rhamphichthys (Brachyrhamphichthys) elegans Steindachner, 1880: 89 (footnote). Type locality: Mündung des Rio negro. Syntypes: (2) NMW 76413; 17 1/3 and 19 cm TL.

Rhamphichthys (Brachyrhamphichthys) mirabilis Steindachner, 1880: 104 (figure caption), pl. 9 (figs. 1, 1a). Name on caption to plate; likely an unintentional alternate (although still available) name for *Rhamphichthys (Brachyrhamphichthys) elegans*.

Remarks: Eigenmann, Ward (1905: 171) treated *Rhamphichthys (Brachyrhamphichthys) elegans* [as *Steatogenes elegans*] as valid over *Rhamphichthys (Brachyrhamphichthys) mirabilis*, thereby serving as first reviser.

Distribution: Negro and Amazon River basin, Brazil and Peru; Demarara River, Guyana, and possibly Orinoco River (Schwassmann, 1984; Crampton *et al.*, 2004a).

***Steatogenys ocellatus* Crampton, Thorsen, Albert, 2004**

Steatogenys ocellatus Crampton, Thorsen, Albert, 2004: 81, fig. 2. Type locality: Brazil, Amazonas, Mouth of Rio Baré, Municipality of Maraã, 2°09'54"S, 64°42'48"W. Holotype: MCP 31908; 238 mm TL.

Distribution: Amanã and Tefé lakes, Amazon River basin, Brazil and Itaya River, Peru (Crampton, Thorsen, Albert, 2004).

STERNOPYGIDAE Cope, 1871
(7 genera; 45 species)

Sternopygidae Cope, 1871: 454, 455. Type genus: [*Sternopygus* Müller, Troschel, 1848]

Eigenmanninae Mago-Leccia, 1978: 14. Type genus: *Eigenmannia* Jordan, Evermann, 1896

Review: Mago-Leccia (1978), Venezuela.

Phylogeny: Lundberg, Mago-Leccia (1986); Albert, Fink (1996); Huelen *et al.* (2005); Correa *et al.* (2006).

Checklist: Albert (2003b); Campos-da-Paz (2007a), Brazil.

Remarks: The names Archaeogymnotoidea and Archaeogymnotinae, which appear in Mago-Leccia (1978: 14), are not available inasmuch as they are not based on available generic names (ICZN 1999: Art. 11.7.1.1). *Archolaemus*, *Eigenmannia*, *Rhabdoliclops*, and *Distocyclus* were removed from the Sternopygidae and placed into the Eigenmannidae in Alves-Gomes *et al.* (1995) and Alves-Gomes (1998).

Sternopygidae incertae sedis
(1 species)

Eigenmannia goajira Schultz, 1949: 63, pl. 1 (fig. b). Type locality: Rio Socuy, 3 km above its mouth [Maracaibo Lake basin, Venezuela]. Holotype: USNM 121596, 500 mm TL (377 mm LEA, Dutra *et al.*, 2014).

Remarks: Position of this species within the family is unresolved (Dutra *et al.*, 2014).

Distribution: Lake Maracaibo basin (Schultz, 1949).

ARCHOLAEMUS Korrington, 1970
(6 species)

Archolaemus Korrington, 1970: 267. Type species: *Archolaemus blax* Korrington, 1970. Type by original designation. Gender: masculine.

Revision: phylogeny and key to species: Vari *et al.* (2012).

Archolaemus blax Korrington, 1970

Archolaemus blax Korrington, 1970: 268, figs. 1, 2. Type locality: Porto Nacional, Rio Tocantins, Estado de Goiás, Brazil. Holotype: CAS 24743; 435 mm TL.

Remarks: Redescribed in Schwassmann, Carvalho (1985).

Distribution: Tocantins River basin, Brazil (Korrington, 1970; Vari *et al.*, 2012).

Archolaemus ferreirai Vari, de Santana, Wosiacki, 2012

Archolaemus ferreirai Vari, de Santana, Wosiacki, 2012: 683, fig. 3. Type locality: Brazil, Roraima, Rio Mucajaí, Cochoeira Paredão 2 (2°57'N, 61°27'W). Holotype: INPA 3757; 183 mm TL.

Distribution: Mucajaí and Uraricoera rivers, Roraima, Brazil (Vari *et al.*, 2012).

Archolaemus janeae Vari, de Santana, Wosiacki, 2012

Archolaemus janeae Vari, de Santana, Wosiacki, 2012: 686, fig. 5. Type locality: Brazil, Pará, Rio Iriri, just upriver of its mouth into Rio Xingú, Município de Altamira, 3°48'54"S, 52°37'09"W. Holotype: INPA 30832; 160 mm TL.

Distribution: Xingu and upper Tapajós river basins, Brazil (Vari *et al.*, 2012).

Archolaemus luciae Vari, de Santana, Wosiacki, 2012

Archolaemus luciae Vari, de Santana, Wosiacki, 2012: 689, figs. 6, 7. Type locality: Brazil, Pará, Rio Trombetas, Cachoeira Porteira, below Furo nas Pedras, 1°05'S, 57°02'W. Holotype: INPA 20960; 267 mm TL.

Distribution: Several tributaries of lower Amazon River basin and Araguari River (Amapá), Brazil (Vari *et al.*, 2012).

Archolaemus orientalis Stewart, Vari, de Santana, Wosiacki, 2012

Archolaemus orientalis Stewart, Vari, de Santana, Wosiacki, in Vari *et al.*, 2012: 692, fig. 8. Type locality: Brazil, Minas Gerais, Rio São Francisco system, Rio Piracutu basin, Município Buritizério, Rio do Sono (17°18'S, 45°20'59"W). Holotype: MPEG 21508; 156 mm TL.

Distribution: São Francisco River, Minas Gerais, Brazil (Vari *et al.*, 2012).

Archolaemus santosi Vari, de Santana, Wosiacki, 2012

Archolaemus santosi Vari, de Santana, Wosiacki, 2012: 695, fig. 10. Type locality: Brazil, Rondônia, Rio Jamari, above site of Usina Hidroelétrica Samuel (8°27'S, 63°30'W). Holotype: INPA 20966; 197 mm TL.

Distribution: Jamari River, Rondônia, Brazil (Vari *et al.*, 2012).

DISTOCYCLUS Mago-Leccia, 1978
(2 species)

Distocyclus Mago-Leccia, 1978: 17, 25. Type species: *Eigenmannia conirostris* Eigenmann, Allen, 1942. Type by original designation. Gender: masculine.

Remarks: Revised in Dutra *et al.* (2014) prior to publication of *Distocyclus guchereauae*.

Distocyclus conirostris (Eigenmann, Allen, 1942)

Eigenmannia conirostris Eigenmann, Allen, 1942: 316, pl. 16 (figs. 2, 5). Type locality: Iquitos [Peru]. Holotype and Paratypes (5): CAS 41753 (3), USNM 323935 (1). A holotype was distinguished from paratypes in the original description only by length (300 mm) and numerous body measurements. Of the five original specimens (270-346 mm), none of the four examined by Dutra *et al.* (2014) fit the stated size of the holotype. The fifth specimen, which thus appears to be the holotype, is unaccounted for.

Distribution: Broadly distributed in the Amazon, Orinoco and Essequibo basins (Dutra *et al.*, 2014).

Distocyclus guchereauae Meunier, Jégu, Keith, 2014

Distocyclus guchereauae Meunier, Jégu, Keith, 2014: 223, fig. 1. Type locality: French Guiana, Maroni drainage, Tampoc River, Saut Pierkuru (2°49'N; 53°32'W). Holotype: MNHN 2000-5927; 271 mm TL.

Distribution: Litany and Tampoc rivers, Maroni River basin, French Guiana (Meunier *et al.*, 2014).

EIGENMANNIA Jordan, Evermann, 1896
(16 species)

Cryptops Eigenmann, 1894: 626. Type species: *Sternopygus humboldtii* Steindachner [1878]. Type by original designation. Gender: masculine. Preoccupied by *Cryptops* Leach, 1814, replaced by *Eigenmannia* Jordan, Evermann, 1896.

Eigenmannia Jordan, Evermann, 1896: 340 (key), 341. Type species: *Sternopygus humboldtii* Steindachner, 1878. Type by being a replacement name. Gender: feminine. Replacement for *Cryptops* Eigenmann, 1894, preoccupied by *Cryptops* Leach, 1814.

Revision and key: Peixoto *et al.* (2015), *E. trilineatus* group.

Eigenmannia antonioi Peixoto, Dutra, Wosiacki, 2015

Eigenmannia antonioi Peixoto, Dutra, Wosiacki, 2015: 387, figs. 2, 3. Type locality: Brazil, Pará, Rio Anapu at Floresta Nacional de Caxiuanã, Município de Portel, Rio Amazonas basin, 2°05'0.7"S, 51°29'43.8"W. Holotype: MPEG 10181; 205 mm TL.

Distribution: Anapu River at Floresta Nacional de Caxiuanã, lower Amazon River, Pará, Brazil (Peixoto *et al.*, 2015).

Eigenmannia besouro Peixoto, Wosiacki, 2016

Eigenmannia besouro Peixoto, Wosiacki, 2016: 263, fig. 1. Type locality: Brazil, Bahia, São Desidério, Sítio Grande, rio São Francisco basin, rio Grande, 12°25'40.09"S 45°05'10"W. Holotype: MZUSP 57890; 92 mm LEA.

Distribution: São Francisco River, Bahia, Brazil (Peixoto, Wosiacki, 2016).

Eigenmannia desantanai Peixoto, Dutra, Wosiacki, 2015

Eigenmannia desantanai Peixoto, Dutra, Wosiacki, 2015: 392, figs. 7, 8. Type locality: Brazil, Mato Grosso, Rio Cuiabá, Baía de Chacororé, Rio Paraguai basin, Município de Barão de Malgaço, 16°14'58.9"S, 55°52'44.4"W. Holotype: MPEG 31306; 167 mm TL.

Distribution: Cuiabá River, Paraguay River basin, Mato Grosso, Brazil (Peixoto *et al.*, 2015).

Eigenmannia guairaca Peixoto, Dutra, Wosiacki, 2015

Eigenmannia guairaca Peixoto, Dutra, Wosiacki, 2015: 394, figs. 9, 10. Type locality: Brazil, Paraná, Riacho Água do Ó, tributary

of Paranapanema River, upper Rio Paraná basin, Município de Santa Fé, 23°01'08"S, 51°51' 37.8"W. Holotype: MPEG 31307; 173 mm TL.

Distribution: Riacho Água do Ó, tributary of Paranapanema River, upper Paraná River basin, Paraná, Brazil (Peixoto *et al.*, 2015).

Eigenmannia humboldtii (Steindachner, 1878)

Sternopygus Humboldtii Steindachner, 1878: 91. Type locality: Magdalenen-Stromes [Colombia]. Syntypes (2): NMW 64988 (1), NMW 64989 (1); 41 ½ and 45 cm TL. Described in more detail and illustrated in Steindachner (1879: 71, pl. 14, fig. 3).

Distribution: Northern portions of South America (Albert, 2003b).

Eigenmannia limbata (Schreiner, Miranda Ribeiro, 1903)

Sternopygus limbatus Schreiner, Miranda Ribeiro, 1903: 71. Type locality: Amazonas [Brazil]. Holotype: MNRJ 1186; 370 mm TL.

Remarks: Treated as synonym of *Eigenmannia virescens* in Fowler (1951), but as valid in Albert (2003b).

Distribution: Guianas and Amazon River basin (Albert, 2003b).

Eigenmannia macrops (Boulenger, 1897)

Sternopygus macrops Boulenger, 1897: 305. Type locality: Higher Potaro River district, British Guiana. Holotype: BMNH 1897.8.6.1; 230 mm TL.

Remarks: Name written as *Eigenmannia microps* in Eigenmann (1910: 449), apparently a lapsus calami and not treated here as an available name.

Distribution: Guianas and Amazon River basin (Albert, 2003b).

Eigenmannia matintapereira Peixoto, Dutra, Wosiacki, 2015

Eigenmannia matintapereira Peixoto, Dutra, Wosiacki, 2015: 396, figs. 11, 12. Type locality: Brazil, Amazonas, Rio Uneixui, Rio Negro basin, Município de Santa Isabel do Rio Negro, 0°21'45.0"S, 65°04'13.0"W. Holotype: MZUSP 109618; 231 mm TL, 153 mm LEA.

Distribution: Uneixui and Urubaxi Rivers, Negro River basin, Amazonas, Brazil (Peixoto *et al.*, 2015).

Eigenmannia microstoma (Reinhardt, 1852)

Sternopygus microstomus Reinhardt, 1852: 147. Type locality: Lagoa Santa, Brazil. Syntypes: BMNH 1868.7.8.2-3 (2); ZMUC P2516-P2520 [formerly ZMUC 21-26] (5); 120-246 mm TL, 101-177 mm LEA (Peixoto *et al.*, 2015). ? ZMB 9183 (1).

Remarks: Redescribed in Peixoto *et al.* (2015).

Distribution: São Francisco River basin, Minas Gerais, Brazil (Peixoto *et al.*, 2015).

Eigenmannia muirapinima Peixoto, Dutra, Wosiacki, 2015

Eigenmannia muirapinima Peixoto, Dutra, Wosiacki, 2015: 401, figs. 15, 16. Type locality: Brazil, Pará, Rio Amazonas, Igarapé Santo Antônio, tributary of Rio Amazonas, [Município de Juruti], Brazil, 2°09'15.9"S, 56°05'17.9"W. Holotype: MPEG 21778, 139 mm TL.

Distribution: Igarapé Santo Antônio and Lago Jará, tributaries of Amazon River, Pará, Brazil (Peixoto *et al.*, 2015).

Eigenmannia nigra Mago-Leccia, 1994

Eigenmannia nigra Mago-Leccia, 1994: 77, figs. 86a, 86b. Type locality: Caño Urama, above Santa Lucía, Rio Negro system, Amazonas, Venezuela. Holotype: MBUCV-V 14184; 476 mm TL.

Distribution: Negro River basin and Casiquiare, Venezuela, Colombian Amazon, and Rupununi River basins (Mago-Leccia, 1994).

Eigenmannia pavulagem Peixoto, Dutra, Wosiacki, 2015

Eigenmannia pavulagem Peixoto, Dutra, Wosiacki, 2015: 403, figs. 17, 18. Type locality: Brazil, Pará, Igarapé Paraquequara, tributary of Rio Capim, Rio Guamá basin, Município de Paragominas, 3°14'50" S, 47°45'50" W. Holotype: MPEG 6887; 263 mm TL.

Distribution: Capim River, Guamá River basin, Pará, Brazil (Peixoto *et al.*, 2015).

Eigenmannia trilineata López, Castello, 1966

Eigenmannia trilineata López, Castello, 1966a: 8, fig. on p. 9. Type locality: [Argentina] Río de la Plata, Núñez. Holotype: MACN 5470 (illustrated in Peixoto *et al.*, 2015: figs. 19, 20); 178 mm TL (165 mm TL; Peixoto *et al.*, 2015).

Remarks: Redescribed in Peixoto *et al.* (2015).

Distribution: La Plata basin and lower Río Paraná basin, Argentina (Peixoto *et al.*, 2015).

Eigenmannia vicentespelaea Triques, 1996

Eigenmannia vicentespelaea Triques, 1996a: 3, figs. 4, 5. Type locality: Gruta São Vicente II, 13°35'00"S, 46°22'30"W, Rio São Vicente system, Rio Tocantins basin, at São Domingos, State of Goiás, Brazil. Holotype: MZUSP 42605; 120 mm SL (148 mm TL, Peixoto *et al.*, 2015).

Remarks: Redescribed in Bichuette, Trajano (2006) and Peixoto *et al.* (2015).

Distribution: Caves in São Vicente River basin, Tocantins River system (Triques, 1996a, Peixoto *et al.*, 2015).

Eigenmannia virescens (Valenciennes, 1836)

Sternachus virescens Valenciennes, 1836, in Valenciennes, 1835-42: Poissons pl. 13 (fig. 2). Type locality: Amérique méridionale. Type or types: whereabouts unknown. Name made available by caption to figure; mentioned in Valenciennes (1847: 11), without locality or descriptive characters. The illustrated specimen was probably deposited at MNHN, but not reported as such in Bertin (1948).

St. [Sternopygus] lineatus Müller, Troschel, 1848: 640. Type locality: Guiana, im See Amucu. Syntypes: ZMB 4083, 6-10 Zoll TL. Described, as new, in more detail in Müller, Troschel, (1849: 14).

Sternopygus tumifrons Müller, Troschel, 1849: 14. Type locality: Südamerika. Holotype: ZMB 4084, 8 Zoll TL.

Remarks: Synonymy follows Albert (2003b).

Distribution: lower Paraná River basin and La Plata River (Peixoto *et al.*, 2015).

Eigenmannia waiwai Peixoto, Dutra, Wosiacki, 2015

Eigenmannia waiwai Peixoto, Dutra, Wosiacki, 2015: 410, figs. 23, 24. Type locality: Brazil, Pará, Rio Mapuera [near Cachoeira Porteira], Rio Trombetas basin, Município de Oriximiná, 1°05'S, 57°02'W. Holotype: INPA 37594; 224 mm TL, 146 mm LEA.

Distribution: Mapuera River, Trombetas basin, Pará, Brazil (Peixoto *et al.*, 2015).

† ***HUMBOLDTICHTHYS*** Gayet, Meunier, 2000
(1 species)

† *Ellisella* Gayet, Meunier, 1991: 473. Type species: † *Ellisella kirschbaumi* Gayet, Meunier, 1991. Type by original designation. Gender: feminine. Preoccupied by *Ellisella* Gray, 1858 (Coelenterata); replaced by † *Humboldtichthys* Gayet, Meunier, 2000.

† *Humboldtichthys* Gayet, Meunier, 2000: 104. Type species: † *Ellisella kirschbaumi* Gayet, Meunier, 1991. Type by being a replacement name. Gender: masculine. Replacement for † *Ellisella* Gayet, Meunier (1991), preoccupied by *Ellisella* Gray, 1858.

- † *Humboldtichthys kirschbaumi* (Gayet, Meunier, 1991)
- † *Ellisella kirschbaumi* Gayet, Meunier, 1991: 473, figs. 1, 2, 3. Type locality: Río Moile, Bolívia (Mioceno superior). Holotype: CST RL1596-4. Described in more detail in Gayet *et al.* (1994) and Albert, Fink (2007).
- Remarks: Treated as the sister to a group encompassing all gymnotiforms except the Apterontidae in Gayet *et al.* (1994) but as incertae sedis within the Sternopygidae in Albert, Fink (2007).
- JAPIGNY** Meunier, Jégu, Keith, 2011
(1 species)
- Japigny* Meunier, Jégu, Keith, 2011: 48. Type species: *Japigny kirschbaum* Meunier, Jégu, Keith, 2011. Type by original designation. Gender: feminine. [Gender declared in account of genus].
- Japigny kirschbaum*** Meunier, Jégu, Keith, 2011
- Japigny kirschbaum* Meunier, Jégu, Keith, 2011: 48, figs. 1, 2. Type locality: French Guiana, Mana River, Saut Fracas. Holotype: MNHN 2008-1201; 156 mm TL.
- Distribution: Approuague, Mana, and Maroni Rivers, French Guiana (Meunier *et al.*, 2011).
- RHABDOLICHOPS** Eigenmann, Allen, 1942
(10 species)
- Rhabdolichops* Eigenmann, Allen, 1942: 316. Type species: *Rhabdolichops longicaudatus* Eigenmann, Allen, 1942. Type by monotypy. Gender: masculine.
- Guichthys* Fernández-Yépez, 1968: [5]. Type species: *Guichthys caviceps* Fernández-Yépez, 1968. Type by original designation. Gender: masculine.
- Revision with key to species: Lundberg, Mago-Leccia (1986).
- Phylogeny: Correa *et al.* (2006).
- Rhabdolichops caviceps*** (Fernández-Yépez, 1968)
- Guichthys caviceps* Fernández-Yépez, 1968: [5], [pl. 3]. Type locality: Río Apure Seco, al SW. de San Fernando de Apure, Estado Apure [Venezuela]. Holotype: MACLPI 51101; 98 mm TL.
- Remarks: Holotype not located by Lundberg, Mago-Leccia (1986).
- Distribution: Orinoco and Amazon River basins, in deepwater channels (Lundberg, Mago-Leccia, 1986).
- Rhabdolichops eastwardi*** Lundberg, Mago-Leccia, 1986
- Rhabdolichops eastwardi* Lundberg, Mago-Leccia, 1986: 76, figs. 17, 18, 19. Type locality: Venezuela, Río Orinoco, old shipping channel south of Isla Portuguesa, Delta Amacuro, 8°37'N, 61°48'W. Holotype: MBUCV-V 10443; 193 mm TL.
- Distribution: Orinoco and Amazon River basins, in deep channels (Lundberg, Mago-Leccia, 1986).
- Rhabdolichops electrogrammus*** Lundberg, Mago-Leccia, 1986
- Rhabdolichops electrogrammus* Lundberg, Mago-Leccia, 1986: 70, figs. 13, 14. Type locality: Venezuela, Río Orinoco, near s. shore of Caño Araguaito, Delta Amacuro, 8°40'N, 61°59'W. Holotype: MBUCV-V 10489; 226 mm TL.
- Distribution: Orinoco, Negro and Branco River basins, Brazil, Venezuela (Lundberg, Mago-Leccia, 1986).
- Rhabdolichops jegui*** Keith, Meunier, 2000
- Rhabdolichops jegui* Keith, Meunier, 2000: 402, figs. 1, 2. Type locality: Guyane française, rivière Litany (Maroni), Atecume Pata, 3°17'45"N, 54°04'13"W. Holotype: MNHN 1999-1024; 215 mm TL.
- Distribution: Maroni and Mana River basins (Keith, Meunier, 2000).
- Rhabdolichops lundbergi*** Correa, Crampton, Albert, 2006
- Rhabdolichops lundbergi* Correa, Crampton, Albert, 2006: 34, figs. 1b, 2b. Type locality: Brazil, Amazonas, Río Japurá, near Boca do Lago Mamirauá, Municipality Alvarães, 3°07.67'S, 64°46.43'W. Holotype: MCP 36037; 151 mm TL.
- Distribution: Japurá River near mouth, Amazon River basin, Brazil (Correa *et al.*, 2006).
- Rhabdolichops navalha*** Correa, Crampton, Albert, 2006
- Rhabdolichops navalha* Correa, Crampton, Albert, 2006: 35, figs. 1c, 2c. Type locality: Brazil, Amazonas, Río Tefé, Toco Preto, Municipality Tefé, 3°47.31'S, 64°59.91'W. Holotype: MCP 36046; 161 mm TL.
- Distribution: main channel of Tefé River, Amazonas, Brazil (Correa *et al.*, 2006).
- Rhabdolichops nigrimans*** Correa, Crampton, Albert, 2006
- Rhabdolichops nigrimans* Correa, Crampton, Albert, 2006: 30, figs. 1a, 2a. Type locality: Brazil, Amazonas, Río Tefé,

Municipality of Tefé, 3°43.41'S, 64°59.93'W. Holotype: MCP 36048; 273 mm TL.

Distribution: Tefé River and vicinity, Amazonas, Brazil (Correa *et al.*, 2006).

Rhabdolichops stewarti Lundberg, Mago-Leccia, 1986

Rhabdolichops stewarti Lundberg, Mago-Leccia, 1986: 79, fig. 19. Type locality: Brazil, Rio Tapajós, 26 km east of Jacaréacanga, Pará State, 6°43'S, 57°40'W. Holotype: ANSP 158687; 165 mm TL.

Distribution: Orinoco and Tapajós River basins (Lundberg, Mago-Leccia, 1986).

Rhabdolichops troscheli (Kaup, 1856)

Sternopygus Troscheli Kaup, 1856: 139. Type locality: British Guiana. Lectotype: ZMB 4085; 428 mm TL. Lectotype designated in Lundberg, Mago-Leccia (1986: 83).

Sternopygus axillaris Günther, 1868: 481. Type locality: Para [Brazil]. Holotype: BMNH 1848.11.8.31; size not reported.

Rhabdolichops longicaudatus Eigenmann, Allen, 1942: 317, pl. 16 (figs. 3, 4). Type locality: Iquitos [Peru]. Holotype: CAS 41752; 497 mm TL.

Remarks: Synonymy follows Lundberg, Mago-Leccia (1986).

Distribution: Amazon River basin, Brazil and Peru; possibly also in Guyana (Lundberg, Mago-Leccia, 1986).

Rhabdolichops zareti Lundberg, Mago-Leccia, 1986

Rhabdolichops zareti Lundberg, Mago-Leccia, 1986: 74, figs. 15, 16. Type locality: Venezuela, North bank of Río Orinoco at Isla Tres Caños, Delta Amacuro, 8°40'N, 62°0'W. Holotype: MBUCV-V 14242; 201 mm TL.

Distribution: In river channels and lagoons of Orinoco mainstream and Apuré River, Venezuela (Lundberg, Mago-Leccia, 1986).

STERNOPYGUS Müller, Troschel, 1846
(8 species)

Sternopygus Müller, Troschel, in Müller, 1846: 194 (footnote 2). Type species: *Gymnotus aequilabiatus* Humboldt, 1805. Type by subsequent designation, herein. Gender: masculine.

Gymnotes Gill, 1864: 152. Type species: *Gymnotus aequilabiatus* Humboldt, 1805]. Type by monotypy. Gender: masculine.

Hildatia Fernández-Yépez, 1968: [3]. Type species: *Hildatia brasiliensis* Fernández-Yépez, 1968. Type by original designation. Gender: feminine.

Remarks: *Sternopygus* appeared first with reference to “*Gymnotus macrurus* Bl. [=Bloch (1786, 59, pl. 157, fig. 2)] und 4 andere Arten.” That reference to *Gymnotus macrurus* Bl. appears to be the basis for a type species designation, except that the name was not binomial and, instead, was the beginning of “*Gymnotus macrurus maxilla superior longiore*,” a diagnosis for the species listed as *Gymnotus carapo* in both the text and figure caption. Subsequent authors reported that the type species is *Gymnotus macrurus* Bloch, Schneider, 1801, but Müller referenced that publication as Bl. Schn., as was done for *Gymnotus rostratus* in the paragraph on *Rhamphichthys* in the same footnote. As no available species names were listed in the account of *Sternopygus*, it is necessary to select a type species from among the first listed nominal species in a subsequent account of the genus, following Code Art. 67.2.2 (ICZN, 1999). Müller, Troschel (1848) was the next publication that treated *Sternopygus* as a valid name. Therein, four nominal species were listed as being included in the genus: *S. virescens* (Valenciennes, 1836), *S. lineatus* Müller, Troschel, 1848, *Sternopygus macrurus* Müller, Troschel, 1848, and *Gymnotus aequilabiatus* Humboldt, 1805. No designations from among those names has been found. Instead, *Gymnotus macrurus* Bloch, Schneider, 1801, which was listed first in the account of *Sternopygus* in Müller, Troschel (1849), has been widely reported as the type species, first by Eigenmann (1910). However, as *Gymnotus macrurus* Bloch, Schneider was not included in the account of *Sternopygus* in Müller, Troschel (1848), it cannot be validly selected as the type species. Inasmuch as two of the names available for selection as type species are currently assigned to the genus *Eigenmannia*, it is necessary to select a type that will stabilize *Sternopygus* as well as not disrupt the validity of *Eigenmannia*. To accomplish those goals, we select herein *Gymnotus aequilabiatus* Humboldt, 1805, as type of *Sternopygus*.

Phylogeny: Hulen *et al.* (2005).

Checklist: Crampton, Hulen, Albert (2004b).

Key: Albert, Fink (1996); Hulen *et al.* (2005).

Sternopygus aequilabiatus (Humboldt, 1805)

Gymnotus aequilabiatus Humboldt, 1805: 47, pl. 10 (figs. 1, 2). Type locality: la Rivière de la Madeleine [Colombia]. Holotype: whereabouts unknown; 750 mm TL.

Sternopygus dariensis Meek, Hildebrand, 1916: 309, pl. 26. Type locality: Marrigante, Río Tuyra, Panama. Holotype: FMNH 8949; 300 mm TL.

Remarks: Synonymy follows Crampton, Hulen, Albert (2004b).

Distribution: Magdalena River basin (Humboldt, 1805); Tuyra River, Atlantic slope, Panama (Meek, Hildebrand, 1916).

Sternopygus arenatus (Eydoux, Souleyet, 1842)

Carapus arenatus Eydoux, Souleyet, 1842: 210, pl. 8 (fig. 2). Type locality: la rivière de Guayaquil (Amérique meridionale). Syntypes (2): MNHN 0000-3809; 60 cm TL.

Distribution: Guayaquil River basin, Ecuador (Eydoux, Souleyet, 1842).

Sternopygus astrabes Mago-Leccia, 1994

Sternopygus astrabes Mago-Leccia, 1994: 79, fig. 87. Type locality: Caño Pozo Azul, Aqua Linda, approx. 23 km NE of Puerto Ayacucho, Amazonas, Venezuela, 5°51'N, 67°31'W. Holotype: MBUCV-V 14182; 196 mm TL.

Sternopygus castroi Triques, 1999b: 21, fig. Type locality: Brazil, Amazonas, Igarape Jaradá, Rio Cuieiras, 40 km from mouth of Rio Negro. Holotype: MZUSP 48912; 178 mm SL.

Remarks: Synonymy follows Hulen *et al.* (2005).

Distribution: Orinoco, Casiquiare, and Negro River basins (Mago-Leccia, 1994).

Sternopygus branco Crampton, Hulen, Albert, 2004

Sternopygus branco Crampton, Hulen, Albert, 2004a: 250, fig. 3. Type locality: Brazil, Amazonas, Confluence of Rio Solimões and Rio Japurá, Comunidade Caborini, Municipality of Alvarães, 3°09'08"S, 64°47'04"E. Holotype: MCP 32451; 405 mm TL.

Distribution: Main channel of Amazon River between Negro and Japurá rivers and lower Negro River, Brazil (Crampton, Hulen, Albert, 2004a).

Sternopygus macrurus (Bloch, Schneider, 1801)

Gymnotus macrurus Bloch, Schneider, 1801: 522. Type locality: Brasilia. Syntype: ZMB 8701 (stuffed). Described and illustrated earlier as: *Gymnotus carapo*, and *Gymnotus macrourus* maxilla superior longiore, in Bloch (1786: 59, pl. 157, fig. 2), but also based on *Gymnotus carapo* Linnaeus (1758: 427) and *G. carapo* in Gmelin (1789: 1136). As such, the specimen at ZMB must be considered a syntype and not a holotype as widely reported.

Carapus macrourus Cuvier, 1829: 357 (footnote 2). Type locality: [Brazil]. Holotype: Illustrated specimen in Bloch (1786: pl. 157, fig. 2). Name made available by reference to "Gymnotus macrourus, Bl., 157, 2."

Sternopygus macrurus Müller, Troschel, 1848: 640 (second footnote). Type locality: [Brazil]. Holotype: Illustrated specimen in Bloch (1786: pl. 157, fig. 2). Name made available by reference to "Gymnotus macrurus [sic, macrourus], Bl., *Carapus macrurus* [sic, macrourus] Cuv."

Sternopygus Marcgravii Reinhardt, 1852: 146. Type locality: Rio das Velhas [Rio São Francisco, Brazil]. Syntypes: BMNH 1868.7.8.1 (1); ZMUC P2512 [formerly ZMUC 7] (1), ZMUC P2515 [formerly ZMUC 16] (1) (Nielsen, 1974: 48).

Carapus sanguinolentus Castelnau, 1855: 85, pl. 46 (fig. 1). Type locality: rivière d'Urubamba [Peru]. Holotype: MNHN 0000-3971, 22 cm TL.

Hildatia brasiliensis Fernández-Yépez, 1968: [3], [pl. 1]. Type locality: Sarapo Piauhy, Brazil. Holotype: MCZ 9461; 282 mm TL.

Remarks: Synonymy follows Albert (2003b). Redescribed from specimens from the Paraguay River, Argentina, by López, Castello (1966b).

Distribution: Widely distributed across continent east of Andes, as well as Magdalena River basin (Albert, 2003b); Uruguay River, Brazil (Bertaco, Cardoso, 2004).

Sternopygus obtusirostris Steindachner, 1881

Sternopygus obtusirostris Steindachner, 1881b: 143, pl. 2 (fig. 3). Type locality: Amazonen-Strom bei Teffê [Brazil]. Lectotype: MCZ 9413, 235 mm TL, designated in Crampton, Hulen, Albert (2004b: 122). Initial syntypes: MCZ 9413 (1), MCZ 9453 (1), MCZ 9425 (1), and NMW 64977 (1), from Amazonen-Strom bei Teffê, See Alexo und Manacapouru, Rio Puty, Rio Madeira [Brazil]; 17-50 cm TL.

Remarks: Redescribed in Crampton, Hulen, Albert (2004b). Treated as a junior synonym of *Sternopygus macrurus* Bloch, Schneider in Albert, Fink (1996) and Crampton, Hulen, Albert (2004a); treated as valid in Mago-Leccia (1994), Albert (2003b) and Campos-da-Paz (2007a).

Distribution: Main stem of Amazon River and lower Negro River basin (Albert, 2003b).

Sternopygus pejeraton Schultz, 1949

Sternopygus pejeraton Schultz, 1949: 60, pl. 1 (fig. a). Type locality: Río Apón, about 35 km south of Rosario, in the Maracaibo basin [Venezuela]. Holotype: USNM 121752; 505 mm TL.

Distribution: Lake Maracaibo basin (Schultz, 1949; Albert, 2003b).

Sternopygus xingu Albert, Fink, 1996

Sternopygus xingu Albert, Fink, 1996: 90, figs. 7, 8, 9. Type locality: Brazil, Mato Grosso do Sul, tributary of Batovi River, Waura Indian Village, sta. X, Rio Xingú. Holotype: MZUSP 48374; 182 mm TL.

Distribution: Xingu and Tocantins River basins (Albert 2003b).

Inquirendae

Gymnonotus Bloch, Schneider, 1801: 521. Type species: Not yet found. Gender: masculine. Included species: *G. electricus*, *G. carapo*, *G. macrurus*, *G. rostratus*, *G. acus*, *G. albus*. Widely reported as an unjustified emendation for *Gymnotus*, but not so indicated in the account.

Gymnotus aequilabiatius nigriceps Ihering, 1907: 285. Type locality: [Brazil] Boa Vista, Est. Maranhão. Syntypes (2): MZUSP [no catalog number stated]; 25, 28 cm TL. Types not found by Britski (1969) in MZUSP collection.

Sternopygus carapus Günther, 1870: 7. Type locality: Tropical America. Types: On numerous specimens and literature accounts. Name perhaps intended as a correction for *Gymnotus carapo* Linnaeus, which is listed in the account, but its status as an unjustified emendation is confounded by the range of specimens and other literature citations included in the account.

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References

- Albert JS. Species diversity and phylogenetic systematics of American knifefishes (Gymnotiformes, Teleostei). Ann Arbor: Museum of Zoology, University of Michigan; 2001. (Miscellaneous Publications; 190).
- Albert JS. Apterodontidae (Ghost knifefishes). In: Reis RE, Kullander SO, Ferraris CJ, Jr., organizers. Check list of the freshwater fishes of South and Central America. Porto Alegre: Edipucrs. 2003a. p.497-502.
- Albert JS. Sternopygidae (Glass knifefishes, Rattail knifefishes). In: Reis RE, Kullander SO, Ferraris CJ, Jr., organizers. Check list of the freshwater fishes of South and Central America. Porto Alegre: Edipucrs; 2003b. p.487-491.
- Albert JS, Campos-da-Paz R. Phylogenetic systematics of Gymnotiformes with diagnoses of 58 clades: a review of available data. In: Malabarba LR, Reis RE, Vari RP, Lucena ZMS, Lucena CAS, editors. Phylogeny and classification of Neotropical fishes. Porto Alegre: Edipucrs; 1998. p.419-446.
- Albert JS, Crampton WGR. Five new species of *Gymnotus* (Teleostei: Gymnotiformes) from an Upper Amazon floodplain, with descriptions of electric organ discharges and ecology. Ichthyol Explor Freshw. 2001; 12(3):241-66.
- Albert JS, Crampton WGR. Hypopomidae (Bluntnose knifefishes). In: Reis RE, Kullander SO, Ferraris CJ, Jr., organizers. Check list of the freshwater fishes of South and Central America. Porto Alegre: Edipucrs; 2003a. p.494-496.
- Albert JS, Crampton WGR. Seven new species of the Neotropical electric fish *Gymnotus* (Teleostei, Gymnotiformes) with a redescription of *G. carapo* (Linnaeus). Zootaxa. 2003b; 287(1):1-54.
- Albert JS, Crampton WGR. Diversity and phylogeny of Neotropical electric fishes (Gymnotiformes). In: Bullock TH, Hopkins CD, Popper AN, Fay RR, editors. Electroreception. New York: Springer. 2005. p.360-409.
- Albert JS, Crampton WGR. *Pariosternarchus amazonensis*: a new genus and species of Neotropical electric fish (Gymnotiformes: Apterodontidae) from the Amazon River. Ichthyol Explor Freshw. 2006; 17(3):267-74.
- Albert JS, Crampton WGR. A new species of electric knifefish, genus *Compsaraia* (Gymnotiformes: Apterodontidae) from the Amazon River, with extreme sexual dimorphism in snout and jaw length. Syst Biodivers. 2009; 7(1):81-92.
- Albert JS, Crampton WGR, Thorsen DH, Lovejoy NR. Phylogenetic systematics and historical biogeography of the Neotropical electric fish *Gymnotus* (Teleostei: Gymnotidae). Syst Biodivers. 2005; 2(4):375-417.
- Albert JS, Fernandes-Matioli FMC, Almeida-Toledo LF. New species of *Gymnotus* (Gymnotiformes, Teleostei) from Southeastern Brazil: toward the deconstruction of *Gymnotus carapo*. Copeia. 1999; 1999(2):410-21.
- Albert JS, Fink WL. *Sternopygus xingu*, a new species of electric fish from Brazil (Teleostei: Gymnotoidei), with comments on the phylogenetic position of *Sternopygus*. Copeia. 1996; 1996(1):85-102.
- Albert JS, Miller RR. *Gymnotus maculosus*, a new species of electric fish (Chordata: Teleostei: Gymnotoidei) from Middle America, with a key to species of *Gymnotus*. Proc Biol Soc Wash. 1995; 108(4):662-78.
- Alda F, Picq S, De León LF, González R, Walz H, Bermingham E, Krahe R. First record of *Gymnotus henni* (Albert, Crampton, Maldonado, 2003) in Panama: phylogenetic position and electrical signal characterization. Check List. 2013; 9(3):655-59.
- Almeida JS, Miguez VH, Diniz D, Affonso PRAM. A unique sex chromosome system in the knifefish *Gymnotus bahianus* with inferences about chromosomal evolution of Gymnotidae. J Hered. 2015; 106(2):177-83.
- Almirón A, Casciotta J, Ciotek L, Giorgis P, Soneira P, Ruiz Díaz F. Pisces, Gymnotiformes, Hypopomidae, *Brachyhypopomus* Mago-Leccia, 1994: first country record of three species of the genus, Argentina. Check List. 2010; 6(4):572-75.
- Alonso de Arámburu AS. *Porotergus ellisi* una nueva especie de gimnótido de la Argentina (Pisces: Gymnotoidei). Notas Mus La Plata Zool. 1957; 19 (177):153-59.
- Alves-Gomes JA. The phylogenetic position of the South American electric fish genera *Sternopygus* and *Archolaemus* (Ostariophysi, Gymnotiformes) according to 12S and 16S mitochondrial DNA sequences. In: Malabarba LR, Reis RE, Vari RP, Lucena ZMS, Lucena CAS, editors. Phylogeny and classification of Neotropical fishes. Porto Alegre: Edipucrs; 1998. p.447-460.

- Alves-Gomes JA. The mitochondrial phylogeny of the South American electric fish (Gymnotiformes) and an alternative hypothesis for the otophysan historical biogeography. In: Grande T, Poyato-Ariza FJ, Diogo R, editors. Gonorynchiformes and Ostariophysan relationships: a comprehensive review. Science Publishers: Enfield. 2010. p.517-565
- Alves-Gomes JA, Ortí G, Haygood M, Heiligenberg W, Meyer A. Phylogenetic analysis of the South American electric fishes (Order Gymnotiformes) and the evolution of their electrogenic system: a synthesis based on morphology, electrophysiology and mitochondrial sequence data. *Mol Biol Evol.* 1995; 12(2):298-318.
- Bertaco VA, Cardoso AR. Ocorrência de *Sternopygus macrurus* (Bloch, Schneider, 1801) (Gymnotiformes: Sternopygidae) na bacia do Rio Uruguai, Rio Grande do Sul, Brasil. *Comun Mus Ciênc Tecnol PUCRS, Sér Zool.* 2004; 17(2):129-34.
- Bertin L. Catalogue des types de poissons du Muséum national d'Histoire Naturelle. 3e partie - Ostariophysaires (Characiformes, Gymnotiformes). Paris: Imprimerie nationale. 1948.
- Bichuette ME, Trajano E. Morphology and distribution of the cave knifefish *Eigenmannia vicentespelaea* Triques, 1996 (Gymnotiformes: Sternopygidae) from central Brazil, with an expanded diagnosis and comments on subterranean evolution. *Neotrop Ichthyol.* 2006; 4(1):99-105.
- Bloch ME. Naturgeschichte der ausländischen Fische. 1786; Part 2(2). Berlin. plates. 156-157.
- Bloch ME, Schneider JG. Systema ichthyologiae iconibus CX illustratum. Post obitum auctoris opus inchoatum absolvit, correxit, interpolavit. Berlin: Bibliopolio Sanderiano Commisum. 1801.
- Bonaparte CL. Conspectus systematis ichthyologiae; Editio reformata 1850, Lugduni Batavorum, [not seen]. 1850.
- Bonnaterre [JP]. Tableau encyclopédique et méthodique des trois règnes de la nature: Ichthyologie. Paris: Chez Panckoucke; 1788. (Encyclopédie méthodique; 129).
- Boulenger GA. An account of the fishes collected by Mr. C. Buckley in eastern Ecuador. *Proc Zool Soc London.* 1887; 55(2):274-83.
- Boulenger GA. Description of a new gymnotine fish of the genus *Sternopygus*. *Ann Mag Nat Hist.* 1897; 20(117):305.
- Boulenger GA. On a collection of fishes from the Rio Jurua, Brazil. *Trans Zool Soc Lond.* 1898; 14(7):421-28.
- Brind WL. Hunting the "tiger knife fish" in the Amazons. *Aquarium News.* 1935; 2(2):8-10.
- Britski HA. Lista dos tipos de peixes das coleções do Departamento de Zoologia da Secretaria da Agricultura de São Paulo. *Pap Avulsos Zool.* 1969; 22:197-215.
- Brünnich MT. Ichthyologia massiliensis, sistens piscium descriptiones eorumque apud incolas nomina. Hafniae et Lipsiae: Apud Rothii Viduam et Proft. 1768.
- Buckup PA, Menezes NA, Ghazzi MS, editors. Catálogo das espécies de peixes de água doce do Brasil. Rio de Janeiro: Museu Nacional; 2007 (Museu Nacional. Série livros; 23).
- Campos-da-Paz R. Revision of the South American freshwater fish genus *Sternarchorhamphus* Eigenmann, 1905 (Ostariophysi: Gymnotiformes: Apterodontidae), with notes on its relationships. *P Biol Soc Wash.* 1995; 108(1):29-44.
- Campos-da-Paz R. Redescription of the Central American electric fish *Gymnotus cylindricus* (Ostariophysi: Gymnotiformes: Gymnotidae), with comments on character ambiguity within the ostariophysan clade. *J Zool.* 1996; 240(2):371-82.
- Campos-da-Paz R. New species of *Megadontognathus* from the Amazon basin, with phylogenetic and taxonomic discussions on the genus (Gymnotiformes: Apterodontidae). *Copeia.* 1999; 1999(4):1041-49.
- Campos-da-Paz R. On *Sternarchorhynchus* Castelnau: a South American electric knifefish, with descriptions of two new species (Ostariophysi: Gymnotiformes: Apterodontidae). *Copeia.* 2000a; 2000(2):521-35.
- Campos-da-Paz R. Taxonomic status of *Rhamphichthys cingulatus* Brind, with a more precise arrangement of the type-locality of *Gymnotus coatesi* LaMonte (Ostariophysi: Gymnotiformes). *Copeia.* 2000b; 2000(4):1114-17.
- Campos-da-Paz R. *Gymnotus diamantinensis*, a new species of electric knifefish from upper rio Arinos basin, Brazil (Ostariophysi: Gymnotidae). *Ichthyol Explor Freshw.* 2002; 13(2):185-92.
- Campos-da-Paz R. Gymnotidae (Naked-backed knifefishes). In: Reis RE, Kullander SO, Ferraris CJ, Jr., organizers. Check list of the freshwater fishes of South and Central America. Porto Alegre: Edipucrs; 2003. p.483-486.
- Campos-da-Paz R. Previously undescribed dental arrangement among electric knifefishes, with comments on the taxonomic and conservation status of *Tembeassu marauna* Triques (Otophysi: Gymnotiformes: Apterodontidae). *Neotrop Ichthyol.* 2005; 3(3):395-400.
- Campos-da-Paz R. Família Sternopygidae. In: Buckup PA, Menezes NA, Ghazzi MS, editors. Catálogo das espécies de peixes de água doce do Brasil. Rio de Janeiro: Museu Nacional. 2007a. p.121-122.
- Campos-da-Paz R. Família Rhamphichthyidae. In: Buckup PA, Menezes NA, Ghazzi MS, editors. Catálogo das espécies de peixes de água doce do Brasil. Rio de Janeiro: Museu Nacional. 2007b. p.122-123.
- Campos-da-Paz R. Família Hypopomidae. In: Buckup PA, Menezes NA, Ghazzi MS, editors. Catálogo das espécies de peixes de água doce do Brasil. Rio de Janeiro: Museu Nacional. 2007c. p.123.
- Campos-da-Paz R, Albert JS. The gymnotiform "eels" of Tropical America: a history of classification and phylogeny of the South American electric knifefishes (Teleostei: Ostariophysi: Siluriphysi). In: Malabarba LR, Reis RE, Vari RP, Lucena ZMS, Lucena CAS, editors. Phylogeny and classification of Neotropical fishes. Porto Alegre: Edipucrs; 1998. p.401-418.
- Campos-da-Paz R, Buckup PA. Família Gymnotidae. In: Buckup PA, Menezes NA, Ghazzi MS, editors. Catálogo das espécies de peixes de água doce do Brasil. Rio de Janeiro: Museu Nacional. 2007. p.120-121.
- Campos-da-Paz R, Costa WJEM. *Gymnotus bahianus* sp. nov., a new gymnotid fish from eastern Brazil (Teleostei: Ostariophysi: Gymnotiformes), with evidence for the monophyly of the genus. *Copeia.* 1996; 1996(4):937-44.

- Campos-da-Paz R, Paepke HJ. On *Sternarchorhamphus hahni*, a member of the rhamphichthyid genus *Rhamphichthys* (Ostariophysi: Gymnotiformes). *Ichthyol Explor Freshw*. 1994; 5(2):155-59.
- Carvalho TP. Systematics and evolution of the toothless knifefishes Rhamphichthyoidea Mago-Leccia (Actinopterygii: Gymnotiformes): diversification in South American freshwaters. [PhD. Dissertation]. Lafayette: University of Louisiana at Lafayette; 2013.
- Carvalho TP, Albert JS. Redescription and phylogenetic position of the enigmatic Neotropical electric fish *Iracema caiana* Triques (Gymnotiformes: Rhamphichthyidae) using x-ray computed tomography. *Neotrop Ichthyol*. 2011; 9(3):457-69.
- Carvalho TP, Albert JS. A new species of *Rhamphichthys* (Gymnotiformes: Rhamphichthyidae) from the Amazon basin. *Copeia*. 2015; 103(1):34-41.
- Carvalho TP, Ramos CS, Albert JS. A new species of *Gymnorhamphichthys* (Gymnotiformes: Rhamphichthyidae) from the Paraná-Paraguay basin. *Copeia*. 2011; 2011(3):400-06.
- Castelnaud F. Poissons. In: Animaux nouveaux ou rares recueillis pendant l'expédition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro a Lima, et de Lima au Para. Paris: Chez P. Bertrand; 1855.
- Cognato D, Richer-de-Forges MM, Albert JS, Crampton WGR. *Gymnotus chimarrao*, a new species of electric fish (Gymnotiformes: Gymnotidae) from southern Brazil. *Ichthyol Explor Freshw*. 2007; 18(4):375-82.
- Cope ED. Contribution to the ichthyology of the Lesser Antilles. *Trans Am Philos Soc*. 1871; 14(3):445-83.
- Cope ED. Synopsis of the fishes of the Peruvian Amazon, obtained by Professor Orton during his expeditions of 1873 and 1877. *Proc Am Philos Soc*. 1878; 17(101):673-701.
- Correa SB, Crampton WGR, Albert JS. Three new species of the Neotropical electric fish *Rhabdolichops* (Gymnotiformes: Sternopygidae) from the central Amazon, with a new diagnosis of the genus. *Copeia*. 2006; 2006(1):27-42.
- Costa WJEM, Campos-da-Paz R. Description d'une nouvelle espèce de poisson électrique du genre néotropical *Hypopomus* (Siluriformes: Gymnotoidei: Hypopomidae) du sud-est du Brésil. *Rev Fr Aquariol Herpétol*. 1991; 18(4):117-20.
- Cox Fernandes C, Lundberg JC, Riginos C. Largest of all electric-fish snouts: hypermorphic facial growth in male *Apteronotus hasemani* and the identity of *Apteronotus anas* (Gymnotiformes: Apterodontidae). *Copeia*. 2002; 2002(1):52-61.
- Cox Fernandes C, Lundberg JC, Sullivan JP. *Oedemognathus exodon* and *Sternarchogiton nattereri* (Apterodontidae, Gymnotiformes): the case for sexual dimorphism and conspecificity. *Proc Acad Nat Sci Philadelphia*. 2009; 158(1):193-207.
- Cox Fernandes C, Nogueira A, Alves-Gomes JA. *Procerusternarchus pixuna*, a new genus and species of electric knifefish (Gymnotiformes: Hypopomidae, Microsternarchini) from the Negro River, South America. *Proc Acad Nat Sci Philadelphia*. 2014; 163(1):95-118.
- Cox Fernandes C, Nogueira A, Williston A, Alves-Gomes JA. A new species of electric knifefish from the rio Negro, Amazon basin (Gymnotiformes: Hypopomidae, Microsternarchini). *Proc Acad Nat Sci Philadelphia*. 2015; 164(1):213-27.
- Crampton WGR, Albert JS. Redescription of *Gymnotus coropinae* (Gymnotiformes, Gymnotidae), an often misidentified species of Neotropical electric fish, with notes on natural history and electric signals. *Zootaxa*. 2003; 348(1):1-20.
- Crampton WGR, Albert JS. Redescription of *Gymnotus coatesi* (Gymnotiformes, Gymnotidae): a rare species of electric fish from the lowland Amazon basin, with descriptions of osteology, electric signals, and ecology. *Copeia*. 2004; 2004(3):525-33.
- Crampton WGR, de Santana CD, Waddell JC, Lovejoy NR. Phylogenetic systematics, biogeography, and ecology of the electric fish genus *Brachyhypopomus* (Ostariophysi: Gymnotiformes). *PLoS ONE*. 2016a; 11(10):e0161680.
- Crampton WGR, de Santana CD, Waddell JC, Lovejoy NR. A taxonomic revision of the Neotropical electric fish genus *Brachyhypopomus* (Ostariophysi: Gymnotiformes: Hypopomidae), with descriptions of 15 new species. *Neotrop Ichthyol*. 2016b; 14(4):639-790.
- Crampton WGR, Hulen KG, Albert JS. *Sternopygus branco*: a new species of Neotropical electric fish (Gymnotiformes: Sternopygidae) from the lowland Amazon basin, with descriptions of osteology, ecology, and electric organ discharges. *Copeia*. 2004a; 2004(2):245-59.
- Crampton WGR, Hulen KG, Albert JS. Redescription of *Sternopygus obtusirostris* (Gymnotiformes: Sternopygidae) from the Amazon basin, with description of osteology, ecology and electric organ discharges. *Ichthyol Explor Freshw*. 2004b; 15(2):121-34.
- Crampton WGR, Lovejoy NR, Albert JS. *Gymnotus ucumari*: a new species of Neotropical electric fish from the Peruvian Amazon (Ostariophysi: Gymnotidae), with notes on ecology and electric organ discharges. *Zootaxa*. 2003; 277(1):1-18.
- Crampton WGR, Thorsen DH, Albert JS. *Steatogenys ocellatus*: a new species of Neotropical electric fish (Gymnotiformes: Hypopomidae) from the lowland Amazon Basin. *Copeia*. 2004; 2004(1):78-91.
- Crampton WGR, Thorsen DH, Albert JS. Three new species from a diverse, sympatric assemblage of the electric fish *Gymnotus* (Gymnotiformes: Gymnotidae) in the lowland Amazon Basin, with notes on ecology. *Copeia*. 2005; 2005(1):82-99.
- Cuvier, G. Le règne animal distribué d'après son organisation pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Tome II, Les reptiles, les poissons, les mollusques et les annélides. Paris: Chez Deterville. 1816 [1817].
- Delle Chiaje S. 1847. Notizia su due Gimnoti elettrici dall' America recati vivi in Napoli. *Nuovi Ann Sci Nat, Bologna* (Ser. 2), 8:268-73.
- DoNascimento C, Cárdenas-Bautista JS, Acosta KG, González-Alvarado A, Medina CA. Illustrated and online catalog of type specimens of freshwater fishes in the Colección de Peces Dulceacuáticos of Instituto de Investigación de Recursos Biológicos Alexander von Humboldt (IAvH-P), Colombia. *Zootaxa*. 2016; 4171(3):401-38.

- Duméril AMC. Ichthyologie analytique ou essai d'une classification naturelle des poissons, à l'aide de tableaux synoptiques. Paris: Typographie de Firmin Didot frères, fils et cie. 1856.
- Dutra GM, de Santana CD, Vari RP, Wosiacki WB. The South American electric glass knifefish genus *Distocyclus* (Gymnotiformes: Sternopygidae): Redefinition and revision. *Copeia*. 2014; 2014(2):345-54.
- Eigenmann CH. Catalogue of the fresh-water fishes of tropical and south temperate America. Bloomington: Indiana University; 1910. (Series: Reports of the Princeton University Expeditions to Patagonia 1896-1899; vol 3, pt. 4).
- Eigenmann CH. The freshwater fishes of British Guiana, including a study of the ecological grouping of species, and the relation of the fauna of the plateau to that of the lowlands. Pittsburgh: Carnegie Institute; 1912. (Series: Memoirs of the Carnegie museum; vol 5).
- Eigenmann CH. The fishes of western South America. Part I, The freshwater fishes of northwestern South America, including Colombia, Panama, and the Pacific slopes of Ecuador and Peru, together with an appendix upon the fishes of the Rio Meta in Colombia. Pittsburgh: Carnegie Institute; 1923. (Series: Memoirs of the Carnegie museum; vol 9).
- Eigenmann CH, Allen WR. Fishes of western South America. I. The intercordilleran and Amazonian lowlands of Peru. II. The high pampas of Peru, Bolivia, and northern Chile. With a revision of the Peruvian Gymnotidae, and of the genus *Orestias*. Lexington: University of Kentucky; 1942.
- Eigenmann CH, Eigenmann RS. A catalogue of the fresh-water fishes of South America. *Proc U S Natl Mus*. 1891; 14(842):1-81.
- Eigenmann CH, Fisher HG. The Gymnotidae of trans-Andean Colombia and Ecuador. *Contrib Zool Lab Indiana Univ*. 1914; 141(25):235-37.
- Eigenmann CH, Ward DP. The Gymnotidae. *Proc Wash Acad Sci*. 1905; 7:159-86.
- Ellis MM. The gymnotid eels of tropical America. Pittsburgh: Published by the authority of the Board of Trustees of the Carnegie Institute; 1913. (Series: Memoirs of the Carnegie Museum; vol 6, 3). 109-195, pls. 15-23.
- Eschmeyer WN, editor. Catalog of Fishes. Center for Biodiversity Research and Information, Special Publication 1. San Francisco: California Academy of Sciences. 1998.
- Eschmeyer WN, Ferraris CJ, Jr., Long D, Hoang M. Species of Fishes. In: Eschmeyer WN, editor. Catalog of Fishes. Center for Biodiversity Research and Information, Special Publication 1. San Francisco: California Academy of Sciences. 1998. p. 25-1820.
- Eschmeyer WN, Fricke R, van der Laan R, editors. Catalog of fishes: genera, species, references. [Electronic version]. San Francisco: California Academy of Sciences. 2016. [Date of access 2016 July 1]. Available from: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>
- Eydoux JFT, Souleyet FA. Poissons. Paris: A. Bertrand; 1842. (Series: Voyage autour du monde exécuté pendant les années 1836 et 1837 sur la corvette la Bonite, commandée par M. Vaillant; Vol 1, pt. 2).
- Fernandes FMC, Albert JS, Daniel-Silva MFZ, Lopes CE, Crampton WGR, Almeida-Toledo LF. A new *Gymnotus* (Teleostei: Gymnotiformes: Gymnotidae) from the pantanal matogrossense of Brazil and adjacent drainages: continued documentation of a cryptic fauna. *Zootaxa*. 2005; 933(1):1-14.
- Fernández-Yépez A. Contribución al conocimiento de los peces Gymnotiformes. *Evencias*. 1968; 20:1-7.
- Fernández-Yépez A. Análisis ictiológico del complejo hidrográfico (04) "Rio Yaracuy". Dirección de Obras Hidráulicas, Ministerio de Obras Públicas, República de Venezuela. 1972.
- Ferraris CJ, Jr. Rhamphichthyidae (Sand knifefishes). In: Reis RE, Kullander SO, Ferraris CJ, Jr., organizers. Check list of the freshwater fishes of South and Central America. Porto Alegre: Edipucrs; 2003. p.492-493.
- Ferraris CJ, Jr., Vari RP. Catalog of type specimens of recent fishes in the National Museum of Natural History, Smithsonian Institution, 4: Gonorynchiformes, Gymnotiformes, and Siluriformes (Teleostei: Ostariophysi). Washington: Smithsonian Institution Press; 1992 (Smithsonian Contribution to zoology, 535).
- Fowler HW. A collection of fresh-water fishes from Colombia, obtained chiefly by Brother Nicéforo Maria. *Proc Acad Nat Sci Philadelphia*. 1943; 95:223-66.
- Fowler HW. Fresh-water fishes from northwestern Colombia. *Proc Acad Nat Sci Philadelphia*. 1944; 96:227-48.
- Gayet M, Meunier FJ. Première découverte de Gymnotiformes fossils (Pisces, Ostariophysi) dans le Miocène supérieur de Bolivie. *Comptes rendus des séances de l'Académie des sciences. (Série 2, Mécanique, physique, chimie, sciences de la terre, sciences de l'univers)*. 1991; 313(4):471-76.
- Gayet M, Meunier FJ. Rectification of the nomenclature of the genus name *Ellisella* Gayet, Meunier, 1991 (Teleostei, Ostariophysi, Gymnotiformes) in *Humboldtichthys* nom. nov. *Cybio*. 2000; 24(1):104.
- Gayet M, Meunier FJ, Kirschbaum F. *Ellisella kirschbaumi* Gayet, Meunier, 1991, Gymnotiforme fossile de Bolivie et ses relations phylogénétiques au sein des formes actuelles. *Cybio*. 1994; 18(3):273-306.
- Géry J, Vu T-T. *Gymnorhamphichthys hypostomus petiti* ssp. nov. un curieux poisson gymnotoïde arénicole. *Vie Milieu Suppl*. 1964; 17:485-98.
- Gill TN. [Several points in ichthyology and conchology]. *Proc Acad Nat Sci Philadelphia*. 1864; 16(3):151-52.
- Gill TN. Arrangement of the families of fishes, or classes Pisces, Marsipobranchii, and Leptocardii. Washington: Smithsonian Institution; 1872. (Smithsonian Miscellaneous Collections, Vol 11).
- Giora J, Malabarba LR. *Brachyhypopomus gauderio*, new species, a new example of underestimated species diversity of electric fishes in the southern South America (Gymnotiformes: Hypopomidae). *Zootaxa*. 2009; 2093(1):60-68.
- Giora J, Malabarba LR. *Gymnotus refugio*, a new and endangered species of electric fish of the *Gymnotus pantherinus* species-group from southern Brazil (Gymnotiformes: Gymnotidae). *Zootaxa*. 2016; 4066(5):581-90.

- Giora J, Malabarba LR, Crampton WGR. *Brachyhypopomus draco*, a new sexually dimorphic species of Neotropical electric fish from southern South America (Gymnotiformes: Hypopomidae). *Neotrop Ichthyol.* 2008; 6(2):159-68.
- Gmelin JF. Caroli a Linné. *Systema naturae per regna tria naturae: secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis.* 13th ed. Tom. 1, pars 3. Lipsiae: impensis Georg. Emanuel. Beer. 1789.
- Godoy MP. Nova espèce de *Sternarchella* Eigenmann (Pisces, Gymnonoti, Sternarchidae). *Ver Bras Biol.* 1968; 28(4):351-55.
- Gronovius LT. *Gymonti tremuli descriptio, atque experimenta cum eo instituta.* *Acta Helv Phys-Math-Anat-Bot-Med.* 1760; 4:26-35.
- Gronovius LT. *Zoophylacii Gronoviani: fasciculus primus exhibens animalia quadrupeda, amphibia atque pisces, quae in museo suo adservat, rite examinavit, systematice disposuit, descripsit atque iconibus illustravit.* *Lugduni Batavorum: Apud Theodorum Haak et Socium et Samuelem et Johannem Luchtmans.* 1763.
- Günther A. Diagnoses of some new freshwater fishes from Surinam and Brazil, in the collection of the British Museum. *Ann Mag Nat Hist.* 1868; 1(6):475-81.
- Günther A. *Catalogue of the Physostomi, containing the families Gymnotidae, Symbranchidae, Muraenidae, Pegasidae, and of the Lophobranchii, Plectognathi, Dipnoi, Ganoidei, Chondropterygii, Cyclostomata, Leptoecardi, in the British Museum.* London: British Museum (Natural History); 1870. (Catalogue of the fishes in the British Museum, Vol 8).
- Hilton EJ, Cox Fernandes C. Sexual dimorphism in *Apteronotus bonapartii* (Gymnotiformes: Apterontidae). *Copeia.* 2006; 2006(4):826-33.
- Hilton EJ, Cox Fernandes C, Sullivan JP, Lundberg JC, Campos-da-Paz R. Redescription of *Orthosternarchus tamandua* (Boulenger, 1898) (Gymnotiformes, Apterontidae), with reviews of its ecology, electric organ discharges, external morphology, osteology, and phylogenetic affinities. *Proc Acad Nat Sci Philadelphia.* 2007; 156:1-25.
- Hoedeman JJ. Notes on the ichthyology of Surinam and other Guianas. 9. New records of gymnotid fishes. *Bull Aquat Biol.* 1962a; 3(26):53-60.
- Hoedeman JJ. Notes on the ichthyology of Surinam and other Guianas. 11. New gymnotoid fishes from Surinam and French Guiana, with additional records and a key to the groups and species from Guiana. *Bull Aquat Biol.* 1962b; 3(30):97-108.
- Hopkins CD. *Hypopomus pinnicaudatus* (Hypopomidae), a new species of gymnotiform fish from French Guiana. *Copeia.* 1991; 1991(1):151-61.
- Hopkins CD, Comfort NC, Bastian J, Bass AH. Functional analysis of sexual dimorphism in an electric fish, *Hypopomus pinnicaudatus*, order Gymnotiformes. *Brain Behav Evol.* 1990; 35(6):350-67.
- Houttuyn M. *De Visschen.* Amsterdam: F. Houttuyn; 1764. (Natuurlyke historie of uitvoerige beschryving der dieren, planten en mineraalen, volgens het samenstel van den Heer Linnaeus. Met naauwkeurige afbeeldingen; Eerste Deels [Vol 1], Zevende Stuk [part 7]).
- Hulen KG, Crampton WGR, Albert JS. Phylogenetic systematics and historical biogeography of the Neotropical electric fish *Sternopygus* (Teleostei: Gymnotiformes). *Syst Biodivers.* 2005; 3(4):407-32.
- Humboldt FHA, von. Mémoire sur une nouvelle espèce de gymnote de la rivière de la Madeleine, pl. 10. In: *Voyage de Humboldt et Bonpland. Deuxième partie: Observations de Zoologie et d'Anatomie compare, premier volume* (1811). F. Schæll, G. Doufour et comp., Paris. (Volume issued in parts: p. 1-48 in 1805; Sherborn, 1899). 1805 pp.46-48.
- ICZN [International Commission on Zoological Nomenclature]. *International Code of Zoological Nomenclature.* Fourth edition. London, International Trust for Zoological Nomenclature. 1999.
- Ihering R, von. Os Peixes da agua doce do Brazil. I parte. *Rev Mus Paul.* 1907; 7:258-336.
- Ivanyisky III SJ, Albert JS. Systematics and biogeography of Sternarchellini (Gymnotiformes: Apterontidae): Diversification of electric fishes in large Amazonian rivers. *Neotrop Ichthyol.* 2014; 12(3):565-84.
- Jordan DS. (Assisted by Barton Warren Evermann). *The genera of fishes, from Linnaeus to Cuvier, 1758-1833, seventy-five years, with the accepted type of each. A contribution to the stability of scientific nomenclature.* Stanford University, CA: The University; 1917. (Stanford University Publications. University Series; 27).
- Jordan DS. *A classification of fishes including families and genera as far as known.* Stanford University, CA: The University; 1923. (Stanford University Publications. University Series, Biological Sciences; Vol 3(2)).
- Jordan DS, Evermann BW. *The fishes of North and Middle America: a descriptive catalogue of the species of fishlike vertebrates found in the waters of North America, north of the Isthmus of Panama. Part I.* Washington: Smithsonian Institution; 1896. (Bulletin of the United States National Museum, 47).
- Kaup JJ. *Catalogue of the apodal fish in the collection of the British Museum.* London: Pub. by order of the Trustees. 1856.
- Keith P, Meunier FJ. *Rhabdolichops jegui*, une nouvelle espèce de Sternopygidae (Gymnotiformes) de Guyane française. *Cybio.* 2000; 24(4):401-10.
- Korringa M. A new gymnotoid fish from the Rio Tocantins, Brazil. *Proc Calif Acad Sci.* 1970; 38(13):265-71.
- La Cépède BGE. *Histoire naturelle des poissons, vol. 2.* Paris: Chez Plassan. l'An VIII de la République (1800).
- La Monte F. Two new fishes from Mt. Duida, Venezuela. *American Museum Novitates.* 1929; 373:1-4.
- La Monte F. Two new species of *Gymnotus*. *American Museum Novitates.* 1935; 781:1-3.
- Linnaeus C. *Amoenitates Academicæ seu dissertationes variae Physicæ, Medicæ, Botanicæ, antehac seorsim editæ nunc collect et auctæ cum tabulis æneis.* Holmiae et Lipsiae: Apud Godofredum Kiesewetter. 1749.
- Linnaeus C. *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis.* Tomus I. 10th ed, reformata. Holmiae: Impensis Direct. Laurentii Salvii. 1758.

- Linnaeus C. *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*, Tomus I. 12th ed, reformata. Holmiae: Impensis direct. Laurentii Salvii. 1766.
- López RB, Castello HP. *Eigenmannia trilineata* (Teleostomi, Sternopyginae) nueva especie hallada en el Río de la Plata. *Comun Mus Argent Cienc Nat "Benardino Rivadavia"* (Zool). 1966a; 4(2):7-12.
- López RB, Castello HP. *Sternopygus macrurus* (Bloch y Schneider) (Teleostomi, Sternopyginae) primera cita para la Argentina. *Comun Mus Argent Cienc Nat "Benardino Rivadavia"* (Zool). 1966b; 4(3):10-16.
- Loureiro M, Silva A. A new species of *Brachyhypopomus* (Gymnotiformes, Hypopomidae) from northeast Uruguay. *Copeia*. 2006; 2006(4):665-73.
- Lovejoy NR, Lester K, Crampton WGR, Marques FP, Albert JS. Phylogeny, biogeography, and electric signal evolution of Neotropical knifefishes of the genus *Gymnotus* (Osteichthyes: Gymnotidae). *Mol Phylogenet Evol*. 2010; 54(1):278-90.
- Lundberg JG. *Gymnorhamphichthys bogardusi*, a new species of sand knifefish (Gymnotiformes: Rhamphichthyidae) from the Río Orinoco, South America. *Not Nat Acad Nat Sci Philadelphia*. 2005; 479:1-4.
- Lundberg JG, Cox Fernandes C. A new species of South American ghost knifefish (Apteronotidae: *Adontosternarchus*) from the Amazon Basin. *Proc Acad Nat Sci Philadelphia*. 2007; 156:27-37.
- Lundberg JG, Cox Fernandes C, Albert JS, Garcia M. *Magosternarchus*, a new genus with two new species of electric fishes (Gymnotiformes: Apteronotidae) from the Amazon River basin, South America. *Copeia*. 1996; 1996(3):657-70.
- Lundberg JG, Cox Fernandes C, Campos-da-Paz R, Sullivan JP. *Sternarchella calhamazon* n. sp., the Amazon's most abundant species of apteronotid electric fish, with a note on the taxonomic status of *Sternarchus capanemae* Steindachner, 1868 (Gymnotiformes, Apteronotidae). *Proc Acad Nat Sci Philadelphia*. 2013; 162(1):157-73.
- Lundberg JG, Mago-Leccia F. A review of *Rhabdolichops* (Gymnotiformes, Sternopygidae), a genus of South American freshwater fishes, with descriptions of four new species. *Proc Acad Nat Sci Philadelphia*. 1986; 138(1):53-85.
- Mago-Leccia F. Los peces de la familia Sternopygidae de Venezuela. *Acta Cient Venez*. 1978; 29(suppl. 1):1-89.
- Mago-Leccia F. Electric fishes of the continental waters of America. Caracas: Fundacion para el Desarrollo de las Ciencias Fisicas, Matematicas y Naturales. 1994.
- Mago-Leccia F, Lundberg JC, Baskin JN. Systematics of the South American freshwater fish genus *Adontosternarchus* (Gymnotiformes, Apteronotidae). *Contrib Sci (Los Angel)*. 1985; 358:1-19.
- Maldonado-Ocampo JA, Albert JS. Species diversity of gymnotiform fishes (Gymnotiformes, Teleostei) in Colombia. *Biota Colombiana*. 2003; 4(2):147-65.
- Maldonado-Ocampo JA, Albert JS. *Gymnotus ardilai*: a new species of Neotropical electric fish (Ostariophysi: Gymnotidae) from the Río Magdalena Basin of Colombia. *Zootaxa*. 2004; 759(1):1-10.
- Maldonado-Ocampo JA, de Santana CD. New records of *Apteronotus eschmeyer* (Gymnotiformes: Apteronotidae) in the Magdalena-Cauca hydrographic region, Colombia. *Dahlia*. 2005; 8:25-27.
- Maldonado-Ocampo JA, de Santana CD, Crampton WGR. On *Apteronotus magdalenensis* (Miles, 1945) (Gymnotiformes: Apteronotidae): a poorly known species endemic to the río Magdalena basin, Colombia. *Neotrop Ichthyol*. 2011; 9(3):505-14.
- Maldonado-Ocampo JA, López-Fernández H, Taphorn DC, Bernard CR, Crampton WGR, Lovejoy NR. *Akawaio penak*, a new genus and species of Neotropical electric fish (Gymnotiformes, Hypopomidae) endemic to the upper Mazaruni River in the Guiana Shield. *Zool Scr*. 2014; 43(1):24-33.
- Marggraf G. *Historiæ rerum naturalium Brasiliæ*. Lugduni Batavorum [Leiden]: Franciscum Hackium. 1648.
- Maxime EL, Albert JS. A new species of *Gymnotus* (Gymnotiformes: Gymnotidae) from the Fitzcarrald Arch of southeastern Peru. *Neotrop Ichthyol*. 2009; 7(4):579-85.
- Maxime EL, Albert JS. Redescription of the tuvirão, *Gymnotus inaequilabiatus* Valenciennes, 1839, using high-resolution X-ray computed tomography. *Copeia*. 2014; 2014(3):462-72.
- Maxime EL, Lima FCT, Albert JS. A new species of *Gymnotus* (Gymnotiformes: Gymnotidae) from Rio Tiquié in northern Brazil. *Copeia*. 2011; 2011(1):77-81.
- Meek SE, Hildebrand SF. New species of fishes from Panama. *Field Mus Nat Hist Pub Zool Ser*. 1913; 10(8):77-91.
- Meek SE, Hildebrand SF. The fishes of the fresh waters of Panama. *Field Mus Nat Hist Pub Zool Ser*. 1916; 10(15):217-374.
- Meinken H. Beiträge zur Fischfauna des mittleren Paraná, III. *Blätter für Aquarien und Terrarien-Kunde*. 1937; 48(4):73-80.
- Meunier FJ, Jégu M, Keith P. A new genus and species of Neotropical electric fish, *Japigny kirschbaum* (Gymnotiformes: Sternopygidae), from French Guiana. *Cybio*. 2011; 35(1):47-53.
- Meunier FJ, Jégu M, Keith P. *Distocyclus guchereauae* a new species of Neotropical electric fish, (Gymnotiformes: Sternopygidae), from French Guiana. *Cybio*. 2014; 38(3):223-30.
- Miles C. Some newly recorded fishes from the Magdalena River system. *Caldasia*. 1945; 3(15):453-64.
- Milhomem SSR, Crampton WGR, Pieczarka JC, Shetka GH, Silva DS, Nagamachi CY. *Gymnotus capanema*, a new species of electric knife fish (Gymnotiformes, Gymnotidae) from eastern Amazonia, with comments on an unusual karyotype. *J Fish Biol*. 2012; 80(4):802-15.
- Miranda Ribeiro A. Peixes (excl. Characinidae). *Historia Natural: Zoologia*. Comissão de Linhas Telegraficas Estrategicas de Matto-Grosso ao Amazonas. 1920; 58(Annexo 5):1-15, 17 pls.
- Müller J. Über den Bau und die Grenzen der Ganoiden und über das natürliche System der Fische. *Abh Königlichen Akad Wiss Be*. 1846; 117-216.
- Müller J, Troschel FH. Fische. In: Schomburgk R. *Reisen in Britisch-Guiana in den Jahren 1840-1844. Nebts einer Fauna und Flora Guiana's. Dritter Theil [Thl. 3]: Versuch einer Fauna und Flora von Britisch-Guiana*. Leipzig: J. J. Weber. 1848. p.618-644.

- Müller J, Troschel FH. Horae ichthyologicae. III Beschreibung und Abbildung neuer Fische. Berlin: Von Veit. 1849.
- Myers GS. A new genus of gymnotid eels from the Peruvian Amazon. P Biol Soc Wash. 1936; 49:115-16.
- Nakashima S. Una nueva especie de anguila eléctrica del Perú. Boletín del Museo de Historia Natural "Javier Prado". 1941; 5(19):461-65.
- Neumann D. Type catalogue of the ichthyological collection of the Zoologische Staatssammlung München. Part II: Fish types inventoried after 25 April 1944. Spixiana. 2011; 34(2):231-86.
- Nijssen H, Isbrücker IJH, Géry J. On the species of *Gymnorhamphichthys* Ellis, 1912, translucent sand-dwelling gymnotid fishes from South America (Pisces, Cypriniformes, Gymnotoidei). Stud Neotrop Fauna E. 1976; 11(1-2):37-63.
- Paepke HJ. Bloch's fish collection in the Museum für Naturkunde der Humboldt-Universität zu Berlin: an illustrated catalog and historical account. Ruggell: Gantner; 1999. (Theses Zoologica; Vol. 32).
- Pallas PS. Spicilegia zoologica: quibus novae imprimis et obscurae animalium species iconibus, descriptionibus atque commentariis illustrantur. Fasciculus septimus [fasc. 7]. Berolini: Prostant apud Gottl. August. Lange. 1769.
- Peixoto LAW, Dutra GM, de Santana CD, Wosiacki WB. A new species of the electric fish genus *Hypopygus* (Gymnotiformes: Hypopomidae) from the lower Amazon basin, Brazil. Copeia. 2013; 2013(2):232-37.
- Peixoto LAW, Dutra GM, Wosiacki WB. The electric glass knifefishes of the *Eigenmannia trilineata* species-group (Gymnotiformes: Sternopygidae): monophyly and description of seven new species. Zool J Linn Soc-Lond. 2015; 175(2):384-414.
- Peixoto LAW, Wosiacki WB. *Eigenmannia besouro*, a new species of the *Eigenmannia trilineata* species-group (Gymnotiformes: Sternopygidae) from the rio São Francisco basin, northeastern Brazil. Zootaxa. 2016; 4126(2):262-70.
- Peters W. Über die von Hrn. Dr. C. Sachs in Venezuela gesammelten Fische. Monatsberichte der Königlich Preussische Akademie des Wissenschaften zu Berlin. 1877; 1877:469-73.
- Rafinesque CS. Indice d'ittologia Siciliana, ossia: catalogo metodico dei nomi Latini, Italiani, e Siciliani dei pesci, che si rinvencono in Sicilia. Disposti secondo un metodo naturale. Eseguito da un appendice che contiene la descrizione di alcuni nuovi pesci siciliani. Illustrato da due piante. Messina: Presso Giovanni del Nobolo. 1810.
- Rafinesque CS. Analyse de la nature: or, Tableau de l'univers et des corps organisés. Palerme: Aux dépens de l'auteur. 1815.
- Rangel-Pereira FS. *Gymnotus interruptus*, a new species of electric fish from the Rio de Contas basin, Bahia, Brazil (Teleostei: Gymnotiformes: Gymnotidae). Vertebr Zool. 2012; 62(3):363-70.
- Rangel-Pereira FS. *Gymnotus capitimaculatus*, a new species of electric fish from rio Jucuruçu basin, northeastern Brazil (Ostariophysi: Gymnotiformes: Gymnotidae). Vertebr Zool. 2014; 64(2):169-75.
- Regan CT. The classification of the teleostean fishes of the order Ostariophysi. - I. Cyprinoidea. Ann Mag Nat Hist. 1911; 8(8):13-32.
- Regan CT. Fishes from the Condoto River, Colombia, collected by Dr. H. G. F. Spurrell. Ann Mag Nat Hist. 1914; 14(8):31-33.
- Reinhardt JT. Om svømmeblaeren hos Familien Gymnotini. Vidensk Medd Naturhist Foren. 1852; 1852:135-49.
- Reis RE, Kullander SO, Ferraris CJ, Jr., organizers. Check list of the freshwater fishes of South and Central America. Porto Alegre: Edipucrs; 2003.
- Richer-de-Forges MM, Crampton WGR, Albert JS. A new species of *Gymnotus* (Gymnotiformes, Gymnotidae) from Uruguay: description of a model species in neurophysiological research. Copeia. 2009; 2009(3):538-44.
- de Santana CD. *Apteronotus caudimaculosus* n. sp. (Gymnotiformes: Apterontidae), a sexually dimorphic black ghost knifefish from the Pantanal, western Brazil, with a note on the monophyly of the *A. albifrons* species complex. Zootaxa. 2003; 252(1):1-11.
- de Santana CD, Castillo O, Taphorn D. *Apteronotus magoi*, a new species of ghost knifefish from the Rio Orinoco basin, Venezuela (Gymnotiformes: Apterontidae). Ichthyol Explor Freshw. 2006; 17(3):275-80.
- de Santana CD, Cox Fernandes C. A new species of sexually dimorphic electric knifefish from the Amazon Basin, Brazil (Gymnotiformes: Apterontidae). Copeia. 2012; 2012(2):283-92.
- de Santana CD, Crampton WGR. *Sternarchorhynchus curumim* (Gymnotiformes: Apterontidae), a new species of tube-snouted ghost electric knifefish from the lowland Amazon basin, Brazil. Zootaxa. 2006a; 1166(1):57-68.
- de Santana CD, Crampton WGR. Redescription of the ghost knifefish *Apteronotus spurrellii* from trans-Andean Colombia (Gymnotiformes: Apterontidae). Ichthyol Explor Freshw. 2006b; 17(2):115-20.
- de Santana CD, Crampton WGR. Revision of the deep-channel electric fish genus *Sternarchogiton* (Gymnotiformes: Apterontidae). Copeia. 2007; 2007(2):387-402.
- de Santana CD, Crampton WGR. A review of the South American electric fish genus *Porotergus* (Gymnotiformes: Apterontidae) with description of a new species. Copeia. 2010; 2010(1):165-75.
- de Santana CD, Crampton WGR. Phylogenetic interrelationships, taxonomy, and reductive evolution in the Neotropical electric fish genus *Hypopygus* (Teleostei, Ostariophysi, Gymnotiformes). Zool J Linn Soc-Lond. 2011; 163(4):1096-156.
- de Santana CD, Lehmann PA. *Apteronotus camposdapazi*, a new species of black ghost electric knifefish, from the Rio Tocantins basin, Brazil (Gymnotiformes: Apterontidae). Ichthyol Explor Freshw. 2006; 17(3):261-66.
- de Santana CD, Maldonado-Ocampo JA. Redescription of *Apteronotus mariae* (Eigenmann, Fisher, 1914) and the taxonomic status of *Apteronotus jurubidae* (Fowler, 1944) (Gymnotiformes: Apterontidae). Zootaxa. 2004; 632(1):1-14.

- de Santana CD, Maldonado-Ocampo JA. *Apteronotus milesi*, new species of ghost knifefish (Gymnotiformes: Apteronotidae) from the Cauca River, with a key to apteronotids from the Magdalena-Cauca basin, Colombia. *Ichthyol Explor Freshw.* 2005; 16(3):223-30.
- de Santana CD, Maldonado-Ocampo JA, Crampton WGR. *Apteronotus galvisi*, a new species of electric ghost knifefish from the Río Meta basin, Colombia (Gymnotiformes: Apteronotidae). *Ichthyol Explor Freshw.* 2007; 18(2):117-24.
- de Santana CD, Maldonado-Ocampo JA, Severi W, Mendes GN. *Apteronotus eschmeyeri*, a new species of ghost knifefish from the Magdalena Basin, Colombia (Gymnotiformes: Apteronotidae). *Zootaxa.* 2004; 410(1):1-11.
- de Santana CD, Nogueira A. Two new species of *Sternarchorhynchus* Castelnau from the Amazon Basin, Brazil (Gymnotiformes: Apteronotidae). *Ichthyol Explor Freshw.* 2006; 17(1):85-92.
- de Santana CD, Taphorn DC. *Sternarchorhynchus gnomus*, a new species of electric knifefish from the lower Rio Caroni, Venezuela (Gymnotiformes: Apteronotidae). *Ichthyol Explor Freshw.* 2006; 17(1):1-8.
- de Santana CD, Vari RP. The South American electric catfish genus *Platyurosternarchus* (Gymnotiformes: Apteronotidae). *Copeia.* 2009; 2009(2):233-44.
- de Santana CD, Vari RP. New rheophilic species of electric knifefish from the rapids and waterfalls of the lower Rio Xingu, Brazil (Gymnotiformes: Apteronotidae). *Copeia.* 2010a; 2010(1):160-64.
- de Santana CD, Vari RP. Electric fishes of the genus *Sternarchorhynchus* (Teleostei, Ostariophysi, Gymnotiformes); phylogenetic and revisionary studies. *Zool J Linn Soc-Lond.* 2010b; 159:223-371.
- de Santana CD, Vari RP. New species of *Adontosternarchus* (Gymnotiformes, Apteronotidae) from the Rio Purus basin, Brazil. *Copeia.* 2012; 2012(3):535-40.
- de Santana CD, Vari RP. Brown ghost electric fishes of the *Apteronotus leptorhynchus* species-group (Ostariophysi, Gymnotiformes); monophyly, major clades, and revision. *Zool J Linn Soc-Lond.* 2013; 168(3):564-96.
- Schindler O. Bermukungen zu *Hypopomus brevirostris* (Steind.). *Zool Anz.* 1937; 119:19-25.
- Schindler O. Über Gymnotiden aus dem Stromgebiet des Rio Paraná. In: Krieg H, editor. Tier und Umwelt in Südamerika; biologische Arbeiten aus der Deutsch-iberoamerikanischen Arbeitsgemeinschaft München (Ibero-Amerikanische Studien; 13). Hamburg: C. Behre. 1940. p.92-107.
- Schlesinger G. Die Gymnoten: eine phylogenetisch-ethologische Studie. *Zool Jahrb Allg Zool.* 1910; 29:613-40.
- Schreiner C, Miranda Ribeiro A. A coleção de peixes do Museu Nacional do Rio de Janeiro. *Arch Mus Nac (Rio de J.).* 1903; 12:67-109 (apparently also as a separate, p.1-42 [separate not seen]).
- Schultz LP. Two new species of fishes (Gymnotidae, Loricariidae) from Caripito, Venezuela. *Zoologica (N. Y.).* 1944; 29(1):39-44.
- Schultz LP. A further contribution to the ichthyology of Venezuela. *Proc U S Natl Mus.* 1949; 99(3235):1-211.
- Schwassmann HO. Species of *Steatogenys* Boulenger (Pisces, Gymnotiformes, Hypopomidae). *Bol Mus Para Emilio Goeldi Cienc Nat, Nova Serie, Zoologia.* 1984; 1(1):97-114.
- Schwassmann HO. *Gymnorhamphichthys rosamariae*, a new species of knifefish (Rhamphichthyidae, Gymnotiformes) from the upper Rio Negro, Brazil. *Stud Neotrop Fauna E.* 1989; 24(3):157-67.
- Schwassmann HO, Carvalho ML. *Archolaemus blax* Korringa (Pisces, Gymnotiformes, Sternopygidae): a redescription with notes on ecology. *Spixiana.* 1985; 8(3):231-40.
- Seba A. Locupletissimi rerum naturalium thesauri accurata descriptio, et iconibus artificiosissimis expressio, per universam physices historiam. Opus, cui, in hoc rerum genere, nullum par exstitit. Ex toto terrarum orbe collegit, digessit, descripsit, et depingendum curavit. Tomus III. Amstelædami: J. Wetstenium, & Gul. Smith, & Janssonio-Waesbergios. 1758.
- Sherborn CD. A note on the date of the parts of "Humboldt and Bonpland's voyage: observations de zoologie. *Ann Mag Nat Hist.* 1899; 3(7):428.
- Sherborn CD, Griffin FJ. On the dates of publication of the Natural History portions of Alcide d'Orbigny's 'Voyage Amérique Méridionale.' *Ann Mag Nat Hist.* 1934; 13(10):130-34.
- Starks EC. The fishes of the Stanford expedition to Brazil. Stanford University, CA: The University; 1913. (Stanford University Publications. University Series).
- Steindachner F. Abhandlung über die Gymnotiden des Wiener Museums. *Anz Kaiser Akad Wisse Math-Nat Wiss Kl.* 1868a; 5(20):176-77.
- Steindachner F. Die Gymnotidae des k. k. Hof-Naturalienkabinetes zu Wien. *Sitzungsber Kaiser Akad Wiss Math-Naturwiss Kl. Abt i, Mineral, Bot, Zool, Anat, Geol Paläont.* 1868b; 58:249-64.
- Steindachner F. Zur Fischfauna des Magdalenen-Stromes. *Anz Kaiser Akad Wisse Math-Nat Wiss Kl.* 1878; 15(12):88-91.
- Steindachner F. Zur Fisch-fauna des Magdalenen-Stromes. *Denkschr Kaiser Akad Wisse Math-Naturwiss Kl.* 1879; 39:19-78.
- Steindachner F. Zur Fisch-Fauna des Cauca und der Flüsse bei Guayaquil. *Denkschr Kaiser Akad Wisse Math-Naturwiss Kl.* 1880; 42:55-104.
- Steindachner F. Beiträge zur Kenntniss der Flussfische Südamerika's (III) und Ichthyologische Beiträge (XI). *Anz Kaiser Akad Wisse Math-Nat Wiss Kl.* 1881a; 18(11):97-100.
- Steindachner F. Beiträge zur Kenntniss der Flussfische Südamerika's. II. *Denkschr Kaiser Akad Wisse Math-Naturwiss Kl.* 1881b; 43:103-46.
- Steindachner F. Beiträge zur Kenntniss der Flussfische Südamerika's. III. *Denkschr Kaiser Akad Wisse Math-Naturwiss Kl.* 1881c; 44:1-18.
- Steindachner F. Über eine während der brasilianischen Expedition entdeckte *Brachyplatystoma* -Art aus dem Rio Parnahyba und über eine dicht gefleckte und gestrichelte Varietät von *Giton fasciatus* aus den Gewässern von Santos (Staat Sao Paulo). *Anz Kaiser Akad Wisse Math-Nat Wiss Kl.* 1908; 45(9):126-30.

- Sullivan JP, Hopkins CD. *Brachyhypopomus bullocki*, a new species of electric knifefish (Gymnotiformes: Hypopomidae) from northern South America. Proc Acad Nat Sci Philadelphia. 2009; 158:183-92.
- Sullivan JP, Zuanon J, Cox Fernandes C. Two new species and a new subgenus of toothed *Brachyhypopomus* electric knifefishes (Gymnotiformes, Hypopomidae) from the central Amazon and considerations pertaining to the evolution of a monophasic electric organ discharge. ZooKeys. 2013; 327:1-34.
- Swainson W. On the natural history and classification of fishes, amphibians, reptiles, or monocardian animals. London: Longman, Orme, Brown, Green and Longmans. 1838. (Cabinet cyclopaedia. Natural history; Vol. 1).
- Swainson W. On the natural history and classification of fishes, amphibians, reptiles, or monocardian animals. London: Longman, Orme, Brown, Green and Longmans. 1839. (Cabinet cyclopaedia. Natural history; Vol. 2).
- Tagliacollo VA, Bernt MJ, Craig JM, Oliviera C, Albert JS. Model-based total evidence phylogeny of Neotropical electric knifefishes (Teleostei, Gymnotiformes). Mol Phylogenet Evol. 2016; 95:20-33. First issued electronically: November, 2015.
- Triques ML. Filogenia dos gêneros de Gymnotiformes (Actinopterygii, Ostariophysi), com base em caracteres esqueléticos. Comun Mus Ciênc PUCRS, sér zool. 1993; 6:85-130.
- Triques ML. *Eigenmannia vicentespelaeae*, a new species of cave dwelling electrogenic Neotropical fish (Ostariophysi [sic]: Gymnotiformes: Sternopygidae). Revue fr Aquariol. 1996a; 23(1-2):1-4.
- Triques ML. *Iracema caiana*, a new genus and species of electrogenic Neotropical freshwater fish (Rhamphichthyidae: Gymnotiformes: Ostariophysi: Actionopterygii). Revue fr Aquariol. 1996b; 23(3-4):91-92.
- Triques ML. *Stegostenopos cryptogenes*, new genus and species of Hypopomidae electrogenic Neotropical fish from the Rio Negro system, Brazil (Actinopterygii: Ostariophysi: Gymnotiformes). Revue fr Aquariol. 1997; 24(1-2):31-36.
- Triques ML. *Tembeassu marauna*, new genus and species of electrogenic Neotropical fish (Ostariophysi: Gymnotiformes: Apterontidae). Revue fr Aquariol. 1998; 25(1-2):5-10.
- Triques ML. Three new species of *Rhamphichthys* Müller et Troschel, 1846 (Ostariophysi: Gymnotiformes: Rhamphichthyidae). Revue fr Aquariol. 1999a; 26(1-2):1-6.
- Triques ML. *Sternopygus castroi*, a new species of Neotropical freshwater electric fish, with new synapomorphies to the genus (Sternopygidae: Gymnotiformes: Teleostei). Stud Neotrop Fauna E. 1999b; 35(1):19-26.
- Triques ML. Análise cladística dos caracteres de anatomia externa e esquelética de Apterontidae (Teleostei: Gymnotiformes). Lundiana. 2005; 6(2):121-49.
- Triques ML. *Parapteronotus bonapartii* (Castelnau), considerado sinônimo sênior de *Parapteronotus hasemani* (Ellis) (Teleostei, Apterontidae). Rev Bras Zool. 2007a; 24(1):84-86.
- Triques ML. Família Apterontidae. In: Buckup PA, Menezes NA, Ghazzi MS, editors. Catálogo das espécies de peixes de água doce do Brasil. Rio de Janeiro: Museu Nacional. 2007b. p.123-125.
- Triques ML. *Apterontus acidops*, new species of long-snouted electric fish (Teleostei: Gymnotiformes: Apterontidae) from the upper rio Paraná basin in Brazil, with a key to the apterontid species from the area. Vertebr Zool. 2011; 61(3):299-306.
- Triques ML, Khamis DK. *Brachyhypopomus jureiae*, a new species of freshwater Neotropical electric fish (Teleostei: Gymnotiformes: Hypopomidae) from a coastal stream of southeastern Brazil. Lundiana. 2003; 4(1):61-64.
- Valenciennes A. Poissons plates. In: d'Orbigny A. 1835-1847, Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Paris: Bertrand et Levrault. 1835-42. Date of publication of plates follows Sherborn, Griffin (1934); [pl. 13 in 1836, 14 in 1839].
- Valenciennes A. Poissons [text]. Catalogue des principaux espèces de poissons, rapportées de l'Amérique méridionale (p. 1-11). In: d'Orbigny, A. 1835-1847, Voyage dans L'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1832 et 1833. Vol. 5 (pt. 2). Paris and Strasbourg: Bertrand et Levrault. 1847.
- Vari RP, de Santana CD, Wosiacki WB. South American electric knifefishes of the genus *Archolaemus* (Ostariophysi, Gymnotiformes): undetected diversity in a clade of rheophiles. Zool J Linn Soc-Lond. 2012; 165(3):670-99.
- Wheeler AC. The Linnaean fish collection in the Zoological Museum of the University of Uppsala. Zool J Linn Soc-Lond. 1991; 103(2):145-95.

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