

Annotated Checklist of the Freshwater Fishes of Peru

HERNÁN ORTEGA
and
RICHARD P. VARI

SMITHSONIAN CONTRIBUTIONS TO ZOOLOGY • NUMBER 437

SERIES PUBLICATIONS OF THE SMITHSONIAN INSTITUTION

Emphasis upon publication as a means of "diffusing knowledge" was expressed by the first Secretary of the Smithsonian. In his formal plan for the Institution, Joseph Henry outlined a program that included the following statement: "It is proposed to publish a series of reports, giving an account of the new discoveries in science, and of the changes made from year to year in all branches of knowledge." This theme of basic research has been adhered to through the years by thousands of titles issued in series publications under the Smithsonian imprint, commencing with *Smithsonian Contributions to Knowledge* in 1848 and continuing with the following active series:

Smithsonian Contributions to Anthropology
Smithsonian Contributions to Astrophysics
Smithsonian Contributions to Botany
Smithsonian Contributions to the Earth Sciences
Smithsonian Contributions to the Marine Sciences
Smithsonian Contributions to Paleobiology
Smithsonian Contributions to Zoology
Smithsonian Folklife Studies
Smithsonian Studies in Air and Space
Smithsonian Studies in History and Technology

In these series, the Institution publishes small papers and full-scale monographs that report the research and collections of its various museums and bureaux or of professional colleagues in the world of science and scholarship. The publications are distributed by mailing lists to libraries, universities, and similar institutions throughout the world.

Papers or monographs submitted for series publication are received by the Smithsonian Institution Press, subject to its own review for format and style, only through departments of the various Smithsonian museums or bureaux, where the manuscripts are given substantive review. Press requirements for manuscript and art preparation are outlined on the inside back cover.

Robert McC. Adams
Secretary
Smithsonian Institution

SMITHSONIAN CONTRIBUTIONS TO ZOOLOGY • NUMBER 437

Annotated Checklist of the Freshwater Fishes of Peru

Hernán Ortega and Richard P. Vari

SMITHSONIAN PUBLICATIONS



SMITHSONIAN INSTITUTION PRESS

City of Washington

1986

ABSTRACT

Ortega, Hernán, and Richard P. Vari. Annotated Checklist of the Freshwater Fishes of Peru. *Smithsonian Contributions to Zoology*, number 437, 25 pages, 1 figure, 1 table, 1986.—Listed here are 736 species of native and introduced fishes of 301 genera for the freshwaters of Peru. Eighty-five percent of the species inhabit the Amazonian drainages of the eastern portion of the country, 5.3% of the ichthyofauna occurs in the Lago Titicaca drainage basin of the Andean altiplano, 2.8% of the fishes are found in high-altitude Andean rivers, and only 5% of the species live in the widely separated rivers of the xeric Pacific coastal slope. Introduced species constitute 1.8% of the fauna and are largely utilized in fish culture. The number of species cited for the fresh waters of Peru has increased 31.5% since the last checklist by Fowler (1945a), and species described since that compilation represent 18.7% of the ichthyofauna.

RESUMEN

Se presenta una lista sistemática anotada que comprende 736 especies de peces nativos e introducidos que habitan las aguas continentales del Perú. El 85% de las especies habitan la región oriental del país que corresponde a la red de drenaje del Río Amazonas; un 5.3% ocurre en la cuenca del Lago Titicaca; el 2.8% en diferentes cuerpos de agua de los Andes y solamente el 5% de las especies viven en los ríos de la costa que conforman la extensa cuenca del Océano Pacífico. Las especies introducidas constituyen el 1.8% y son utilizadas principalmente en piscicultura.

Las especies descritas desde el último catálogo (Fowler, 1945a) representan el 18.7%, pero, las registradas para la ictiofauna peruana desde ese entonces alcanzan el 31.5%.

La mayor parte de la información proviene de una revisión bibliográfica basada en el *Zoological Record* (hasta 1981) y en publicaciones periódicas (inclusive de 1985); otra considerable parte, del examen directo de material biológico colectado desde 1971 y depositado en diferentes colecciones ictiológicas, siendo las principales: AMNH, MZUSP, USM, y USNM.

La clasificación en la lista está de acuerdo a Lauder y Liem (1983) con las familias reconocidas por Greenwood et al. (1966) con las modificaciones de Lauder y Liem (1983) y Parenti (1982) para Osteoglossiformes y Cyprinodontiformes respectivamente.

En la lista las categorías superiores están ordenadas filogenéticamente, los géneros y las especies son listados alfabéticamente dentro de las familias. A continuación del género y especie se menciona el autor y año de la descripción; la cuenca de drenaje que habita en el país; el nombre común que se conoce y la referencia bibliográfica que indica su registro para el Perú. En otros casos se refiere el Museo donde esta depositado el material biológico o si consiste en una comunicación personal de alguno de los especialistas que actualmente se encuentra investigando diferentes grupos taxonómicos de la ictiofauna continental sudamericana.

OFFICIAL PUBLICATION DATE is handstamped in a limited number of initial copies and is recorded in the Institution's annual report, *Smithsonian Year*. SERIES COVER DESIGN: The coral *Montastrea cavernosa* (Linnaeus).

Library of Congress Cataloging in Publication Data
Ortega, Hernán.

Annotated checklist of the freshwater fishes of Peru.
(Smithsonian contributions to zoology ; no. 437)

Summary in Spanish.

Bibliography: p.

Supt. of Docs. no.: SI 1.27:437

1. Fishes—Fresh-water—Peru. 2. Fishes—Peru. I. Vari, Richard P. II. Title. III. Series.
QL1.S54 no. 437 510s [597.092'985] 86-600237 [QL632.P5]

Contents

	<i>Page</i>
Introduction	1
Methods	3
Abbreviations	5
Acknowledgments	5
List of Freshwater Fishes of Peru	6
ELASMOBRANCHIOMORPHI	6
POTAMOTRYGONIDAE	6
OSTEICHTHYES	6
DIPNOI	6
LEPIDOSIRENIDAE	6
ACTINOPTERYGII	6
OSTEOGLOSSOMORPHA	6
OSTEOGLOSSIDAE	6
ARAPAIMIDAE	6
CLUPEOMORPHA	6
CLUPEIDAE	6
ENGRAULIDIDAE	6
SALMONIFORMES	6
SALMONIDAE	6
OSTARIOPHYSI	6
CYPRINIFORMES	6
CYPRINIDAE	6
CHARACIFORMES	6
CHARACIDAE	6
GASTEROPELECIDAE	10
CYNODONTIDAE	10
HEMIODONTIDAE	10
ERYTHRINIDAE	10
CTENOLUCIDAE	10
LEBIASINIDAE	10
PARODONTIDAE	11
PROCHILODONTIDAE	11
CURIMATIDAE	11
ANOSTOMIDAE	11
CHILODONTIDAE	12
SILURIFORMES	12
GYMNOTOIDEI	12
GYMNOTIDAE	12
ELECTROPHORIDAE	12
APTERONOTIDAE	12

STERNOPYGIDAE	12
HYPOPOMIDAE	13
RHAMPHICHTHYIDAE	13
SILUROIDEI	13
ARIIDAE	13
DORADIDAE	13
AUCHENIPTERIDAE	13
AGENEIOSIDAE	14
ASPREDINIDAE	14
PIMELODIDAE	14
HYPOPTHALMIDAE	15
CETOPSIDAE	15
TRICHOMYCTERIDAE	15
HELOGENIDAE	16
CALLICHTHYIDAE	16
LORICARIIDAE	16
ASTROBLEPIDAE	18
SCOLOPLACIDAE	18
ATHERINOMORPHA	18
ATHERINIDAE	18
BELONIDAE	18
CYPRINODONTIDAE	18
RIVULIDAE	19
POECILIIDAE	19
SYNBRANCHIFORMES	19
SYNBRANCHIDAE	19
PERCIFORMES	19
MUGILIDAE	19
SCIAENIDAE	20
NANDIDAE	20
CICHLIDAE	20
ELEOTRIDIDAE	21
GOBIIDAE	21
GERREIDAE	21
ANABANTIDAE	21
PLEURONECTIFORMES	21
SOLEIDAE	21
TETRAODONTIFORMES	21
TETRAODONTIDAE	21
Literature Cited	22

Annotated Checklist of the Freshwater Fishes of Peru

Hernán Ortega and Richard P. Vari

Introduction

The soaring mountains, numerous extensive intercordilleran valleys, broad expanses of the Amazonian rainforest to the east of the Andes, and xeric regions along the Pacific coast give Peru what is probably the greatest diversity of habitats of any country in South America. Amazonian Peru also has both numerous white water rivers carrying heavy sediment loads from the Andes, and acidic blackwater rivers originating in and draining the lowland rain forests. Differences in the chemistry and primary productivity of these water types are reflected to varying degrees in the composition of the associated fish communities. The large number of niches resulting from the diversity of such geological and ecological features is compounded in Amazonian Peru as a consequence of the contributions to the ichthyofauna by the headwaters of a number of the major tributaries of the Amazon River. In the north and central portions of Peru these include three large systems, the Río Napo, Río Marañón and Río Ucayali, which together constitute one of the major drainage complexes of the entire Amazon basin. The eastern portions of the country are partially drained by short

upper segments of the Río Purus and Río Jurua, while the southeastern region of the Peru encompasses a large portion of the Río Madre de Dios, one of the major tributaries of the Río Madeira (Figure 1). Although the headwaters of these rivers often are very short distances from each other in Peru, their junctions lie thousands of river kilometers downstream in Brazil. Those great distances, associated physical barriers such as rapids, and differences in water chemistry are reflected in the significantly different ichthyofaunas of the various basins. These factors and others result in a remarkably rich fresh-water ichthyofauna.

The very geological factors that contribute to this species diversity also have made it very difficult to effectively survey the Peruvian fauna. A variety of expeditions have sampled the ichthyofauna of Peru since the early part of the nineteenth century (see Eigenmann and Allen (1942:18–21) for an historical account), but numerous, often large, rivers remain effectively uncollected, and no region of the country has been adequately surveyed. The continuing description of many new fish species from all areas of Peru clearly testifies to the need for further sampling of and research on the Peruvian fresh-water fish community. Equally importantly, numerous species previously described from elsewhere in Neotropical fresh waters are steadily being found within the boundaries of the country, particularly in the Amazon basin. This lack

Hernán Ortega, Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Apartado 11434, Lima 14, Peru; and Richard P. Vari, Division of Fishes, Department of Vertebrate Zoology, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560.

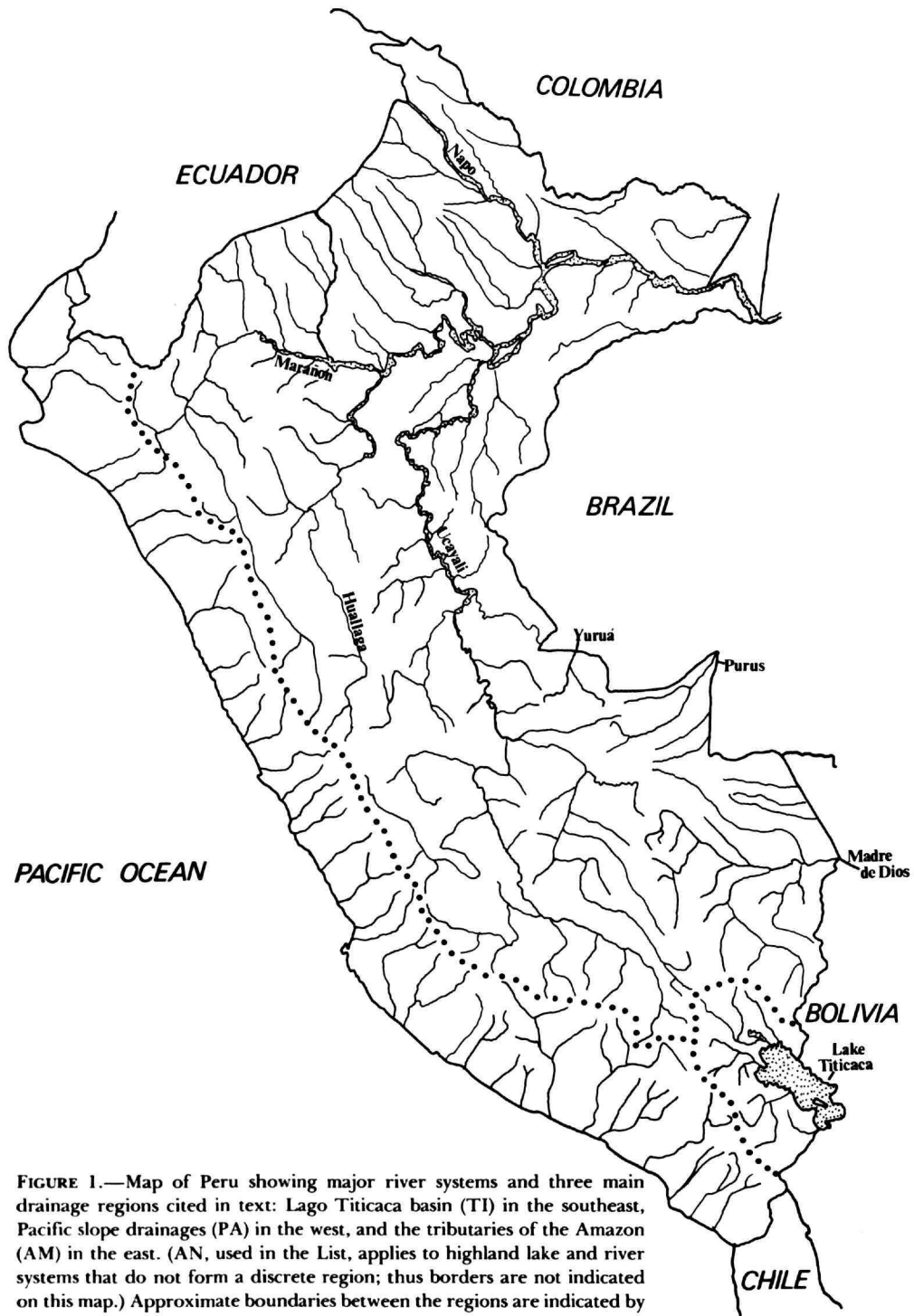


FIGURE 1.—Map of Peru showing major river systems and three main drainage regions cited in text: Lago Titicaca basin (TI) in the southeast, Pacific slope drainages (PA) in the west, and the tributaries of the Amazon (AM) in the east. (AN, used in the List, applies to highland lake and river systems that do not form a discrete region; thus borders are not indicated on this map.) Approximate boundaries between the regions are indicated by dotted lines.

of knowledge about the composition of the freshwater fish fauna is primarily an outgrowth of the geographic and ecological spottiness of collecting efforts to date, compounded by the pervasive need for thorough revisionary studies of all components of the South American fish fauna that was emphasized by Böhlke, Weitzman, and Meneses (1978).

The most recent compilations of the freshwater fishes of Peru are over four decades old (Eigenmann and Allen, 1942; Fowler, 1945a) and nearly one-fifth of the species recognized in this checklist have been described since that time. Furthermore, a number of revisionary studies that have appeared in the intervening decades have added numerous species to the known fauna of the country, have synonymized a variety of nominal forms recognized as distinct in earlier listings, and have corrected at least some of the previous erroneous citations of species as elements of the Peruvian freshwater fish community. The extent of these changes is partially reflected by the fact that the number of freshwater fish species cited from Peru in this checklist is 31.5% larger than the total presented by Fowler (1945a). These large-scale modifications have made apparent the need for the updated listing of the Peruvian freshwater fish fauna.

We recognize that numerous systematic problems at all taxonomic levels characterize many of the major components of the ichthyofauna. At the same time, we also realize that many of the questions are unfortunately unlikely to be resolved in the near or even somewhat distant future. The lack of recent critical review of most fish groups in the fauna means that some of the species included in the checklist on the basis of literature records may represent erroneous citations of other already described species, or may alternatively represent currently unrecognized synonyms. Similarly, we fully expect that numerous undescribed species will eventually be found within the limits of the country, and that many already described species not known presently from Peru will progressively be discovered to occur within its boundaries. The morass of such

problems cannot, however, be addressed within the scope of this work.

METHODS.—The magnitude of the Peruvian freshwater fish fauna in conjunction with the limited number of researchers who have revised or are revising components of that community means that a variety of taxa have not been dealt with critically since Fowler's compilations (1945a,b, 1948–1954). In such instances the reader will be referred back to those publications for a more detailed listing of references to the occurrence of the species in question in Peru. Publications subsequent to Fowler (1945a) that describe new species from localities in Peru or cite species previously described from elsewhere in the Neotropics as components of the Peruvian freshwater fish fauna are noted in the text and listed in the "Literature Cited" section. The list is derived from information in the Zoological Record through 1981, Fowler's compilations (1945a,b, 1948–1954), diverse publications that have appeared since that time, and material collected in various regions of Peru by the senior author since 1971. Those collecting efforts have revealed a number of species not recorded in the literature as elements of the Peruvian ichthyofauna. A series of researchers have generously assisted us in refining the checklist for the groups of their expertise on the basis of ongoing research. These are Stanley H. Weitzman (Characidae, Gasteropelecidae, and Lebiasinidae), Marilyn J. Weitzman (Lebiasinidae), Lynne R. Parenti (Cyprinodontidae), Sven O. Kullander (Cichlidae), Francisco Mago-Leccia (Gymnotoidei), Gareth J. Nelson (Engraulididae), Han Nijssen and Isaac J. Isbrücker (Loricariidae and Callichthyidae), Ricardo Rosa (Potamotrygonidae), and Wayne C. Starnes (Parodontidae). In a number of instances the citation of species as elements of the Peruvian freshwater ichthyofauna is based on personal communications from one of those researchers. The listing of Peruvian species of the family Curimatidae represents the results of ongoing studies by the junior author.

The classification in the following checklist is largely that of Lauder and Liem (1983), with the

TABLE 1.—Number of genera and species in the families of freshwater fishes known to occur in Peru.

Family	Genera	Species	Family	Genera	Species
Potamotrygonidae	2	3	Auchenipteridae	8	13
Lepidosirenidae	1	1	Ageneiosidae	2	4
Osteoglossidae	1	1	Aspredinidae	4	7
Arapaimidae	1	1	Pimelodidae	27	60
Clupeidae	3	4	Hypophthalmidae	1	2
Engraulididae	3	6	Cetopsidae	3	4
Salmonidae	1	1	Trichomycteridae	8	24
Cyprinidae	5	5	Helogenidae	1	1
Characidae	67	178	Callichthyidae	6	20
Gasteropelecidae	3	6	Loricariidae	31	89
Cynodontidae	3	4	Astroblepidae	1	15
Hemiodontidae	5	8	Scoloplacidae	1	1
Erythrinidae	3	4	Atherinidae	1	2
Ctenoluciidae	1	2	Belonidae	2	3
Lebiasinidae	6	19	Cyprinodontidae	1	40
Parodontidae	3	3	Rivulidae	2	14
Prochilodontidae	3	8	Poeciliidae	2	2
Curimatidae	6	30	Synbranchidae	1	2
Anostomidae	8	19	Mugilidae	1	2
Chilodontidae	1	1	Sciaenidae	2	3
Gymnotidae	1	2	Nandidae	1	1
Electrophoridae	1	1	Cichlidae	21	45
Apteronotidae	7	17	Eleotrididae	3	3
Sternopygidae	4	5	Gobiidae	2	2
Hypopomidae	3	4	Gerreidae	2	2
Rhamphichthyidae	1	1	Anabantidae	1	1
Ariidae	2	2	Soleidae	3	4
Doradidae	17	33	Tetraodontidae	1	1
			Total	301	736

families recognized being those of Greenwood et al. (1966) as modified by Mago-Leccia (1978), Parenti (1982), and Lauder and Liem (1983) for the Gymnoitoidei, Cyprinodontiformes, and Osteoglossiformes, respectively. Author citations of species described in the publications of Spix and Agassiz follow the recommendations of Whitehead and Myers (1971). Spellings of family names are in accordance with the suggestions of Steyskal (1980).

In the checklist, higher taxa are ordered approximately phylogenetically when data on such relationships are available, and genera and species are listed alphabetically within families. We agree with the many recent authors (e.g., Fink and Weitzman, 1974; Weitzman and Fink, 1983;

Menezes, in Sazima, 1983; Géry, 1984; Weitzman and Fink, 1985) who have questioned the phylogenetic validity of many of the subfamilies presently recognized within the family Characidae. Subfamilial limits within the other elements of the Neotropical freshwater fish fauna have also been shown not to reflect natural lineages (e.g., Vari, 1982, 1984 for Curimatidae) or are equally questionable. As a consequence of such present uncertainty and the associated likelihood of significant changes in subfamilial limits in the future, we have elected not to use ranks below the family level in the checklist.

For each species the generic and species names are followed first by the author(s) and then by the drainage basin in which the taxon occurs.

Four primary groupings of drainage basins are recognized (Figure 1). Amazon (AM) includes all rivers in the Amazon basin regardless of whether they are components of the large northern Río Amazonas system or the less extensive eastern and southern rivers that are tributaries of the Río Purus, Río Yuruá (= Juruá), or Río Madeira drainages. Pacific (PA) encompasses the variety of largely independent rivers draining into the Pacific Ocean along the western coast of Peru. The Lago Titicaca basin (TI) includes the lake itself and the rivers flowing into that basin. Andean (AN) applies to the high-altitude systems of lakes and rivers. These drainages do not constitute a discrete subregion of the country, but rather are scattered along the length of the Andes. Introduced species (IN) are simply listed without any attempt to delimit the region(s) in which the species occurs in Peru. The purpose or source of the introduction is listed when known. Following the distribution information is the local name of the species when available. The semicolon is followed by the basis for the inclusion of the species in the listing. In instances where species were most recently recorded for Peru in compilations by Fowler (1945a,b, 1948–1954), cross reference is made to the appropriate Fowler paper. Those compilations cite the earlier publications reporting the species in question from Peru. In those cases where a species has been cited as an element of the fauna of Peru in a publication subsequent to Fowler's listings, the more recent paper is listed, with the complete reference to the paper provided in the "Literature Cited" section. As noted above, some material collected by the senior author has shown that species otherwise not recorded for Peru are components of the ichthyofauna of that country. In the checklist the depository of the voucher material of such species is given after the common name.

ABBREVIATIONS.—The following abbrevia-

tions for institutions and collections are used:

- AMNH American Museum of Natural History, New York
 MZUSP Museu de Zoologia da Universidade de São Paulo, São Paulo
 USM Museo de Historia Natural de la Universidad Nacional Mayor de San Marcos, Lima
 USNM collections of the former United States National Museum, deposited in the National Museum of Natural History, Smithsonian Institution, Washington, D.C.
 ZMA Zoologisch Museum, Amsterdam

ACKNOWLEDGMENTS.—We would like to thank Heraldo A. Britski, Isaác J. Isbrücker, Sven O. Kullander, Gerardo Lamas, Francisco Mago-Leccia, Gareth J. Nelson, Han Nijssen, Lynne R. Parenti, Patrick de Rham, Ricardo Rosa, Wayne C. Starnes, Marilyn J. Weitzman, and Stanley H. Weitzman for advice and comments on various parts of the listing. Research and field studies associated with the preparation of the list were partially supported by the I.E.S.P. Neotropical Lowland Research Program of the Smithsonian Institution. Collecting by the senior author since 1971 has been made possible by grants from the Instituto de Investigaciones de la Amazonia Peruana and the Consejo Nacional de Ciencia y Tecnología, Lima, Peru. Research facilities were provided by the Instituto Veterinario de Investigaciones Tropicales y de Altura and the Museo de Historia Natural de la Universidad Nacional Mayor de San Marcos. The Cousteau Society made it possible for the senior author to collect in September 1982 from aboard the *Calypso* along the Río Amazonas from Iquitos to the Brazilian border. This paper was improved by the comments and suggestions of Dr. Stanley H. Weitzman, Mr. Gordon J. Howes, Mr. Carl J. Ferraris, Jr., and an anonymous reviewer.

List of Freshwater Fishes of Peru

ELASMOBRANCHIOMORPHI

POTAMOTRYGONIDAE

- Paratrygon aieraba* (Müller and Henle, 1841), AM, Raya amazónica; R. Rosa, pers. comm.
Potamotrygon castexi Castello and Yagalkowski, 1969, AM; Raya amazónica; R. Rosa, pers. comm.
Potamotrygon motoro (Naterrer, 1841), AM, Raya amazónica; R. Rosa, pers. comm.

OSTEICHTHYES

DIPNOI

LEPIDOSIRENIDAE

- Lepidosiren paradoxa* Fitzinger, 1837, AM, Pez pulmonado; Fowler, 1948:11.

ACTINOPTERYGII

OSTEOGLOSSOMORPHA

OSTEOGLOSSIDAE

- Osteoglossum bicirrhosum* Vandelli, 1829, AM, Arahua; Kanazawa, 1966:164.

ARAPAIMIDAE

- Arapaima gigas* (Cuvier, 1829), AM, Paiche; Lüling, 1963:42.

CLUPEOMORPHA

CLUPEIDAE

- Pellona altamazonica* Cope, 1872, AM, Sardina; Fowler, 1948:15.
Pellona castelnaeana Valenciennes, 1847, AM, Sardina; Whitehead, 1973:71.
Pristigaster cayana Cuvier, 1829, AM, Pechito; Whitehead, 1973:85.
Pseudochirocentron amazonicus Ribeiro, 1920, AM; Fowler, 1948:16.

ENGRAULIDIDAE

- Anchoviella alleni* (Myers, 1940), AM, Anchoveta; Fowler, 1948:18; AMNH.
Anchoviella carrikeri (Fowler, 1941), AM, Anchoveta; AMNH.
Anchoviella guianensis (Eigenmann, 1912), AM, Anchoveta; USM, AMNH.
Anchoviella jamesi (Jordan and Seale, 1926), AM, Anchoveta; AMNH.
Cetengraulis juruensis Boulenger, 1898, AM, Anchoveta; Fowler, 1945a:28.
Lycengraulis batesii (Günther, 1868), AM, Anchoveta; Whitehead, 1973:166.

SALMONIFORMES

SALMONIDAE

- Salmo gairdneri* Richardson, 1836, IN, Trucha arco iris; utilized in fish culture.

OSTARIOPHYSI

CYPRINIFORMES

CYPRINIDAE

- Aristichthys nobilis* (Richardson, 1844), IN, Carpa cabezona; utilized in fish culture.
Carassius auratus (Linnaeus, 1758), IN, Pez dorado; aquarium fish.
Ctenopharyngodon idella (Valenciennes, 1844), IN, Carpa forrajera; utilized in fish culture.
Cyprinus carpio Linnaeus, 1758, IN, Carpa común; utilized in fish culture.
Hypophthalmichthys molitrix (Valenciennes, 1844), IN, Carpa plateada; utilized in fish culture.

CHARACIFORMES

CHARACIDAE

- Acestrocephalus boehlkei* Menezes, 1977, AM, Mojara; Menezes, 1977:186.

- Acestrorhynchus altus* Menezes, 1969, AM, Peje zorro; Menezes, 1969:52.
- Acestrorhynchus falcatus* (Bloch, 1794), AM, Peje zorro; Menezes and Géry, 1983:592.
- Acestrorhynchus falcistrostris* (Cuvier, 1819), AM, Peje zorro; Menezes, 1969:59.
- Acestrorhynchus heterolepis* (Cope, 1878), AM, Peje zorro; Menezes, 1969:75.
- Acestrorhynchus lacustris* (Reinhardt, 1874), AM, Peje zorro; Menezes, 1969:50.
- Acestrorhynchus microlepis* (Schomburgk, 1841), AM, Peje zorro; Menezes, 1969:62.
- Acrobrycon ipanquianus* (Cope, 1878), AM, Mojara; Fowler, 1945a:147.
- Agoniatas ladigesi* Géry, 1963, AM, Mojarita; Géry, 1962a:265.
- Aphyocharax alburnus* (Günther, 1869), AM, Mojarita; Géry, 1964a:20.
- Aphyocharax nattereri* (Steindachner, 1882), AM, Mojarita; Fowler, 1948:173.
- Aphyocharax pusillus* Günther, 1868, AM, Mojarita; Géry, 1964a:20.
- Astyanax abramis* (Jenyns, 1842), AM, Mojara; Böhlke, 1958a:7.
- Astyanax asymmetricus* Eigenmann, 1908, AM, Mojara; Fowler, 1948:37.
- Astyanax bimaculatus* (Linnaeus, 1758), AM, Mojara; Géry, 1964a:6.
- Astyanax fasciatus* (Cuvier, 1819), AM, Mojara; Fowler, 1948:46.
- Astyanax festae* (Boulenger, 1898), PA; Chirichigno, 1963:21.
- Astyanax kennedyi* Géry, 1964, AM, Mojara; Géry, 1964b:28.
- Astyanax longior* (Cope, 1878), AM, Mojara; Fowler, 1948:53.
- Astyanax maximus* (Steindachner, 1875), AM, Mojara; Böhlke, 1958a:4.
- Axelrodia fowleri* Géry, 1965, AM, Mojarita; Géry, 1965:33.
- Axelrodia stigmatias* (Fowler, 1913), AM, Mojarita; Géry, 1964b:55.
- Bario steindachneri* (Eigenmann, 1893), AM, Mojara; Fowler, 1948:63.
- Boehlkea fredcochui* Géry, 1966, AM, Mojarita; Géry, 1966:212.
- Brachyhalcinus copei* (Steindachner, 1882), AM, Mojara; Fowler, 1950:366.
- Brachyhalcinus guianensis* Boeseman, 1952, AM, Mojara; MZUSP.
- Brachyhalcinus nummus* Böhlke, 1958, AM, Mojara; USM.
- Brycon alburnus* (Günther, 1859), PA; USM.
- Brycon atrocaudatus* (Kner and Steindachner, 1863), PA, Cascafe; Chirichigno, 1963:20, Howes, 1982:9.
- Brycon capito* Cope, 1872, AM, Sábalo; Fowler, 1945a:149.
- Brycon cephalus* (Günther, 1869), AM, Sábalo; Fowler, 1945a:149.
- Brycon dentex* Günther, 1860, PA; Chirichigno, 1963:21.
- Brycon erythropterus* (Cope, 1872), AM, Sábalo cola roja; Howes, 1982:25.
- Brycon melanopterus* (Cope, 1872), AM, Sábalo cola negra; Howes, 1982:34.
- Brycon pesu* Müller and Troschel, 1845, AM, Sabalito; USM, USNM.
- Brycon stolzmanni* Steindachner, 1879, PA, Sábalo; Howes, 1982:44.
- Brycon stubelii* Steindachner, 1882, AM, Sábalo; Howes, 1982:45.
- Bryconacidnus paipayensis* (Pearson, 1929), AM, Mojarita; Fowler, 1948:108.
- Bryconacidnus ellisi* (Pearson, 1924), AM, Mojarita; Fowler, 1945a:146.
- Bryconamericus alfredae* Eigenmann, 1927, AM, Mojarita; Fowler, 1948:66.
- Bryconamericus brevisrostris* (Günther, 1859), PA; Chirichigno, 1963:23.
- Bryconamericus caucanus* Eigenmann, 1913, AM, Mojarita; Fowler, 1948:67.
- Bryconamericus diaphanus* (Cope, 1878), AM, Mojarita; Fowler, 1948:70.
- Bryconamericus grosvenori* Eigenmann, 1927, AM, Mojarita; Fowler, 1948:70.
- Bryconamericus osgoodi* Eigenmann and Allen, 1942, AM, Mojarita; Fowler, 1948:75.
- Bryconamericus pachacuti* Eigenmann, 1927, AM, Mojarita; Fowler, 1948:75.
- Bryconamericus peruanus* (Müller and Troschel, 1845), AM, Carachita; Géry and de Rham, 1981:10.
- Bryconamericus phoenicopterus* (Cope, 1872), AM, Mojarita; Fowler, 1948:76.
- Bryconamericus simus* (Boulenger, 1898), AM, Mojarita; Fowler, 1945a:144.
- Bryconamericus thomasi* Fowler, 1940, AM, Mojarita; Fowler, 1948:78.
- Byrconella pallidifrons* (Fowler, 1946), AM, Mojarita; S. H. Weitzman, pers. comm.
- Ceratobranchia binghami* Eigenmann, 1927, AM, Mojarita; Fowler, 1948:81.
- Ceratobranchia obtusirostris* Eigenmann, 1914, AM, Mojarita; Fowler, 1948:81.
- Chalceus erythrurus* Cope, 1870, AM, Sardina; Fowler, 1945a:132.
- Chalceus macrolepidotus* Cuvier, 1817, AM, Mojara; Fowler, 1950:364.
- Characidium etheostoma* Cope, 1872, AM, Mojarita; Fowler, 1950:255.
- Characidium fasciatum* Reinhardt, 1866, AM, Mojarita; Géry, 1977:118.

- Characidium steindachneri* Cope, 1878, AM, Mojarita; Fowler, 1950:257.
- Charax gibbosus* (Linnaeus, 1758), AM, Denton; Fowler, 1950:306.
- Charax pauciradiatus* (Günther, 1864), AM, Denton; Fowler, 1950:308.
- Cheirodon fugitiva* (Cope, 1870), AM, Mojarita; Géry, 1964a:18.
- Cheirodon luelingi* Géry, 1964, AM, Mojarita; Géry, 1964a:19.
- Cheirodon ortegai* Vari and Géry, 1980, AM, Mojarita; Vari and Géry, 1980:76.
- Cheirodon piaba* Lütken, 1874, AM, Mojarita; Fowler, 1948:182.
- Chilobrycon deuterodon* Géry and de Rham, 1981, PA; Géry and de Rham, 1981:7.
- Clupeacharax anchoveoides* Pearson, 1924, AM, Mojarita; Fowler, 1950:353.
- Colossoma macropomum* (Cuvier, 1818), AM, Gamitana; Machado-Allison, 1982:43.
- Creagrutus beni* Eigenmann, 1911, AM, Mojarita; Fowler, 1948:83.
- Creagrutus cochui* Géry, 1964, AM, Mojarita; Géry, 1964b:56.
- Creagrutus peruanus* (Steindachner, 1875), AM, Mojarita; Fowler, 1945a:148.
- Crenuchus spilurus* Günther, 1863, AM, Mojarita; USM.
- Ctenobrycon hauxwellianus* (Cope, 1870), AM, Mojarita; Géry, 1964a:7.
- Cynopotamus amazonus* (Günther, 1868), AM, Denton; Menezes, 1976:28.
- Elachocharax pulcher* Myers, 1927, AM, Mojarita; S.H. Weitzman, pers. comm.
- Engraulisoma laeniatum* Castro, 1981, AM, Mojarita; S.H. Weitzman, pers. comm.
- Galeocharax gulo* (Cope, 1870), AM, Denton; Menezes, 1976:44.
- Gymnocorymbus thayeri* Eigenmann, 1908, AM, Mojarita; Géry, 1977:454.
- Hemibrycon helleri* Eigenmann, 1927, AM, Mojarita; Fowler, 1948:97.
- Hemibrycon huambonicus* (Steindachner, 1882), AM, Mojarita; Fowler, 1948:98.
- Hemibrycon jelskii* (Steindachner, 1875), AM, Mojarita; Fowler, 1948:98.
- Hemibrycon polyodon* (Günther, 1864), AM, Mojarita; Géry, 1962b:66.
- Hemibrycon tridens* Eigenmann, 1922, AM, Mojarita; Géry, 1962b:66.
- Hemigrammus hyanuary* Durbin, 1918, AM, Mojarita; Géry, 1964b:32.
- Hemigrammus luelingi* Géry, 1964, AM, Mojarita; Géry, 1964a:7.
- Hemigrammus lunatus* Durbin, 1918, AM, Mojarita; Géry, 1964a:9.
- Hemigrammus marginatus* Ellis, 1911, AM, Mojarita; Géry, 1964b:32.
- Hemigrammus megaceps* Fowler, 1945, AM, Mojarita; Fowler, 1948:104.
- Hemigrammus micropterus boesemani* (Géry, 1959), AM, Mojarita; Géry, 1964b:32.
- Hemigrammus ocellifer* (Steindachner, 1882), AM, Mojarita; Géry, 1964a:7.
- Hemigrammus pulcher* Ladiges, 1938, AM, Mojarita; Géry, 1964a:7.
- Hemigrammus rodwayi* Durbin, 1909, AM, Mojarita; Géry, 1964b:32.
- Hemigrammus schmardae* (Steindachner, 1882), AM, Mojarita; Fowler, 1948:109.
- Hemigrammus unilineatus* Gill, 1858, AM, Mojarita; Géry, 1964a:7.
- Holoshstes heterodon* Eigenmann, 1915, AM, Mojarita; USM.
- Hyphessobrycon agulha* Fowler, 1913, AM, Mojarita; Géry, 1977:471.
- Hyphessobrycon bentosi* Durbin, 1908, AM, Mojarita; Géry, 1965:42.
- Hyphessobrycon erythrostigma* (Fowler, 1943), AM, Mojarita; Géry, 1972:7.
- Hyphessobrycon gracilior* Géry, 1964, AM, Mojarita; Géry, 1964a:12.
- Hyphessobrycon loretoensis* Ladiges, 1938, AM, Mojarita; Fowler, 1948:124.
- Hyphessobrycon minimus* Durbin, 1909, AM, Mojarita; Géry, 1964b:53.
- Hyphessobrycon peruvianus* Ladiges, 1938, AM, Mojarita; Fowler, 1948:128.
- Hyphessobrycon robustulus* (Cope, 1870), AM, Mojarita; Fowler, 1948:130.
- Hyphessobrycon tenuis* Géry, 1964, AM, Mojarita; Géry, 1964a:10.
- Hysteronotus hesperus* Böhlke, 1958, AM, Mojarita; USM.
- Hysteronotus myersi* Weitzman and Thomerson, 1970, AM, Mojarita; Weitzman and Thomerson, 1970:139.
- Iguanodectes spilurus* (Günther, 1864), AM, Mojarita; Géry, 1970:417.
- Knodus breviceps* (Eigenmann, 1908), AM, Mojarita; Pearson, 1937:91.
- Knodus megalops* Myers, 1929, AM, Mojarita; Fowler, 1948:73.
- Knodus moenkhausii* (Eigenmann and Kennedy, 1903), AM, Mojarita; Géry, 1964b:55.
- Leptagoniates steindachneri* Boulenger, 1887, AM, Mojarita; Vari, 1978:187.
- Metynnys hypsauchen* (Müller and Troschel, 1844), AM, Palometa; Fowler, 1945a:168.
- Metynnys luna* Cope, 1878, AM, Palometa; Fowler, 1945a:168.
- Metynnys maculatus* (Kner, 1860), AM, Palometa; USM.

- Microgenys lativirgatus* Pearson, 1927, AM, Mojarita; Géry, 1977:398.
- Microgenys weyrauchii* Fowler, 1945, AM, Mojarita; Fowler, 1948:137 (possibly a synonym of *Bryconacidnus ellisi*, Géry, 1977:398).
- Moenkhausia atahualpiana* (Fowler, 1906), AM, Mojarita; Fowler, 1948:137.
- Moenkhausia ceros* Eigenmann, 1908, AM, Mojarita; Géry, 1964a:4.
- Moenkhausia chrysargyrea* (Günther, 1864), AM, Mojarita; Géry, 1964a:5.
- Moenkhausia colletti* (Steindachner, 1882), AM, Mojarita; Géry, 1964a:4.
- Moenkhausia cotinho* Eigenmann, 1908, AM, Mojarita; Géry, 1964a:4.
- Moenkhausia comma* Eigenmann, 1908, AM, Mojarita; Fowler, 1948:142.
- Moenkhausia crisnejas* Pearson, 1929, AM, Mojarita; Fowler, 1948:145.
- Moenkhausia dichrourea* (Kner, 1858), AM, Mojarita; Géry, 1964a:4.
- Moenkhausia lepidura* (Kner, 1859), AM, Mojarita; Géry, 1964a:4.
- Moenkhausia melogramma* Eigenmann, 1908, AM, Mojarita; Fowler, 1948:153.
- Moenkhausia oligolepis* (Günther, 1864), AM, Mojarita; Fowler, 1948:153.
- Moenkhausia ovalis* (Günther, 1868), AM, Mojarita; Fowler, 1948:155.
- Moenkhausia robertsi* Géry, 1964, AM, Mojarita; Géry, 1964b:21.
- Moenkhausia simulata* Eigenmann and Pearson, 1929, AM, Mojarita; Fowler, 1948:157.
- Moralesia tectifera* (Cope, 1870), AM, Denton; Fowler, 1950:315.
- Myleus levis* (Eigenmann and McAtee, 1907), AM, Palometa; Fowler, 1945a:170.
- Myleus rubripinnis* (Müller and Troschel, 1845), AM, Palometa; Fowler, 1945a:170.
- Myleus setiger* Müller and Troschel, 1845, AM, Palometa; Fowler, 1945a:168.
- Mylossoma aureum* (Spix, 1829), AM, Palometa; Fowler, 1945a:168.
- Mylossoma duriventris* (Cuvier, 1818), AM, Palometa; Lül-
ing, 1975:54.
- Othonocheiroidus eigenmanni* Myers, 1927, AM, Mojarita; Fowler, 1945a:134.
- Oxybrycon parvulus* Géry, 1964, AM, Mojarita; Géry, 1964a:16.
- Paracheiroidon innesi* (Myers, 1936), AM, Mojarita; Weitzman and Fink, 1983:390.
- Paragoniates alburnus* Steindachner, 1876, AM, Mojarita; Fowler, 1945a:155.
- Parecbasis cyclolepis* Eigenmann, 1914, AM, Mojarita; Fowler, 1948:200.
- Petitella georgiae* Géry and Boutiere, 1964, AM, Mojarita; Géry, 1964a:15.
- Phenacogaster megalostictus* Eigenmann, 1909, AM, Mojarita; Fowler, 1948:160.
- Phenacogaster pectinatus* (Cope, 1870), AM, Mojarita; Fowler, 1948:160.
- Piabucus dentatus* (Koelreuter, 1761), AM, Mojarita; Fowler, 1945a:155.
- Piaractus brachypomus* (Cuvier, 1818), AM, Paco; Machado-Allison, 1982:48.
- Poptella orbicularis* (Valenciennes, 1849), AM, Palometa; Géry, 1964a:21.
- Prionobrama filigera* (Cope, 1870), AM, Mojarita; Fowler, 1948:201.
- Prodontocharax alleni* Böhlke, 1953, AM, Mojarita; Böhlke, 1953:661.
- Prodontocharax melanotus* Pearson, 1924, AM, Mojarita; Böhlke, 1953:660.
- Rhoadsia altipinna* Fowler, 1911, PA; Géry and de Rham, 1981:10.
- Roeboides affinis* (Günther, 1868), AM, Denton; Fowler, 1950:316.
- Roeboides bicornis* Cope, 1870, AM, Denton; Fowler, 1950:317.
- Roeboides myersi* Gill, 1870, AM, Denton; Géry, 1964a:31.
- Salminus affinis* Steindachner, 1880, AM, Sábalo macho; Fowler, 1945a:164.
- Salminus hilarii* Valenciennes, 1849, AM, Sábalo; Fowler, 1945a:164.
- Salminus maxillosus* Valenciennes, 1849, AM, Sábalo; Fowler, 1950:304.
- Scopaeocharax atopodus* (Böhlke, 1958), AM, Mojarita; Weitzman and Fink, 1985:107.
- Scopaeocharax rhinodus* (Böhlke, 1958), AM, Mojarita; Weitzman and Fink, 1985:107,108.
- Serrasalmus elongatus* Kner, 1860, AM, Paña; Fowler, 1950:380.
- Serrasalmus humeralis* Valenciennes, 1849, AM, Paña; Géry, 1963:607.
- Serrasalmus nattereri* Kner, 1860, AM, Paña; Géry, 1964a:25.
- Serrasalmus rhombeus* (Linnaeus, 1766), AM, Paña; Géry, 1964a:25.
- Serrasalmus sanchezi* Géry, 1964, AM, Paña; Géry, 1964a:27.
- Serrasalmus serrulatus* Valenciennes, 1849, AM, Paña; Géry and Mahnert, 1984:172.
- Serrasalmus spilopleura* Kner, 1860, AM, Paña; Géry, 1964a:27.
- Stethapriion chryseum* Cope, 1872, AM, Palometa; Fowler, 1950:370.
- Stethapriion erythroptus* Cope, 1870, AM, Palometa; Géry, 1964a:21.
- Tetragonopterus argenteus* Cuvier, 1817, AM, Mojarita;

- Géry and Mahnert, 1984:178.
Tetragonopterus chalceus Spix, 1829, AM, Mojara; Fowler, 1948:166.
Thayeria boehlkei Weitzman, 1957, AM, Mojara; Géry, 1977:415.
Thayeria obliqua Eigenmann, 1908, AM, Mojara; USM.
Triportheus albus (Cope, 1872), AM, Sardina; Géry and Mahnert, 1984:176.
Triportheus angulatus (Spix, 1829), AM, Sardina; Lüling, 1975:46.
Triportheus culter (Cope, 1872), AM, Sardina; Fowler, 1950:354.
Triportheus elongatus (Günther, 1864), AM, Sardina; Géry, 1964a:4.
Triportheus rotundatus (Schomburgk, 1841), AM, Sardina; Fowler, 1950:358.
Tytocharax cochui (Ladiges, 1950), AM, Mojarita; S.H. Weitzman, pers. comm.
Xenobrycon heterodon Weitzman and Fink, 1985, AM, Mojarita; Weitzman and Fink, 1985:88.

GASTROPELECIDAE

- Carnegiella schereri* Fernández-Yépez, 1958, AM, Pechito; S.H. Weitzman, pers. comm.
Carnegiella myersi Fernández-Yépez, 1958, AM, Pechito; Weitzman, 1960:230.
Carnegiella strigata (Günther, 1864), AM, Pechito; Weitzman, 1960:231.
Gasteropelecus sternicla (Linnaeus, 1758), AM, Pechito; Weitzman, 1960:223.
Thoracocharax securis (Filippi, 1853), AM, Pechito; Weitzman, 1960:222.
Thoracocharax stellatus (Kner, 1860), AM, Pechito; Weitzman, 1960:221.

CYNODONTIDAE

- Cynodon gibbus* (Agassiz, 1829), AM, Chambira; Fowler, 1950:330.
Hydrolycus pectoralis (Günther, 1866), AM; Chambira; Fowler, 1950:330.
Hydrolycus scomberoides (Cuvier, 1817), AM, Chambira; Fowler, 1950:331.
Rhaphiodon vulpinus Spix, 1829, AM, Chambira; Fowler, 1950:332.

HEMIODONTIDAE

- Anodus elongatus* Spix, 1829, AM, Julilla; Fowler, 1950:274; USM.
Eigenmannina melanopogon (Cope, 1878), AM, Julilla; Fowler, 1950:277; USM.

- Hemiodopsis fowleri* (Steindachner, 1908), AM, Julilla; Géry, 1977:194.
Hemiodopsis gracilis (Günther, 1864), AM, Julilla; Géry, 1977:194.
Hemiodopsis microlepis (Kner, 1859), AM, Julilla; Géry, 1977:195.
Hemiodus amazona (Humboldt, 1806), AM, Julilla; Fowler, 1950:268.
Pterohemiodus atrianalis Fowler, 1940, AM, Julilla; Géry, 1977:198.
Pterohemiodus luelingi Géry, 1962, AM, Julilla; Géry, 1961:332.

ERYTHRINIDAE

- Erythrinus erythrinus* (Schneider, 1801), AM, Shuyo; Fowler, 1950:360.
Hoplerethrinus unitaeniatus (Spix, 1829), AM, Shuyo; Lüling, 1975:73.
Hoplias malabaricus (Bloch, 1794), AM, Fasaco; Lüling, 1979:182.
Hoplias microlepis (Günther, 1864), PA; Chirichigno, 1963:23.

CTENOLUCIIDAE

- Boulengerella maculata* (Valenciennes, 1849), AM, Picudo; Géry and Mahnert, 1984:171.
Boulengerella lucia (Cuvier, 1817), AM, Picudo; USM.

LEBIASINIDAE

- Copeina guttata* (Steindachner, 1875), AM, Urquisho; Géry, 1977:142.
Copeina osgoodi Eigenmann, 1922, AM, Urquisho; Fowler, 1950:344.
Copella metae Eigenmann, 1914, AM, Urquisho; USNM.
Copella nigrofasciata (Meinken, 1952), AM, Urquisho; USM, USNM.
Lebiasina bimaculata Valenciennes, 1846, PA, Guavina; Géry and de Rham, 1981:10.
Nannostomus digrammus Fowler, 1913, AM, Pez lápiz; S.H. Weitzman, pers. comm.
Nannostomus eques Steindachner, 1876, AM, Pez lápiz; Weitzman, 1966:47.
Nannostomus trifasciatus Steindachner, 1876, AM, Pez lápiz; Weitzman, 1966:31.
Piabucina elongata Boulenger, 1887, AM, Urquisho; USM.
Pyrhulina australis Eigenmann and Kennedy, 1903, AM, Urquisho; M. Weitzman, pers. comm.
Pyrhulina beni Pearson, 1924, AM, Urquisho; Géry, 1964a:32.

- Pyrrhulina brevis* Steindachner, 1875, AM, Urquisho; de Rham and Kullander, 1983:101.
Pyrrhulina eleanorae Fowler, 1940, AM, Urquisho; Géry, 1972:31.
Pyrrhulina laeta (Cope, 1872), AM, Urquisho; Géry, 1977:139.
Pyrrhulina melanostoma (Cope, 1878), AM, Urquisho; Fowler, 1948:348.
Pyrrhulina obermulleri Myers, 1926, AM, Urquisho; Fowler, 1945a:130.
Pyrrhulina semifasciata Steindachner, 1875, AM, Urquisho; M. Weitzman, pers. comm.
Pyrrhulina spilota Weitzman, 1960, AM, Urquisho; USNM.
Pyrrhulina vittata Regan, 1912, AM, Urquisho; Géry, 1977:142.

PARODONTIDAE

- Apareiodon pongoensis* Allen, 1942, AM, Julilla; Fowler, 1950:265.
Parodon buckleyi Boulenger, 1887, AM, Julilla; Fowler, 1950:265.
Saccodon wagneri (Kner and Steindachner, 1863), PA; Géry and de Rham, 1981:10.

PROCHILODONTIDAE

- Ichthyoelphas humeralis* (Günther, 1859), AM, Boquichico; Fowler, 1945a:124.
Prochilodus caudifasciatus Starks, 1906, AM, Boquichico; Fowler, 1950:217.
Prochilodus cephalotes Cope, 1878, AM, Boquichico; Fowler, 1950:217.
Prochilodus nigricans Agassiz, 1829, AM, Boquichico; Lüling, 1975:48.
Prochilodus ortonianus Cope, 1878, AM, Boquichico; Fowler, 1950:222.
Prochilodus rubrotaeniatus Schomburgk, 1841, AM, Boquichico; Fowler, 1950:223.
Semaprochilodus amazonensis (Fowler, 1906), AM, Yahuarachi; Fowler, 1950:227 (possibly a synonym of *S. theraponura*, Géry, 1977:218).
Semaprochilodus theraponura (Fowler, 1906), AM, Boquichico; Fowler, 1950:225.

CURIMATIDAE

- Curimata aspera* Günther, 1868, AM, Chio-chio; Fowler, 1950:278.
Curimata bimaculata Steindachner, 1876, AM, Chio-chio; Fowler, 1950:279.
Curimata brevipes Eigenmann and Ogle, 1907, AM, Chio-chio; Fowler, 1950:279.

- Curimata binotata* (Pearson, 1924), AM; USNM.
Curimata cisandina (Allen, 1942), AM, Julilla; Fowler, 1950:301.
Curimata dobula Günther, 1868, AM, Chio-chio; Fowler, 1950:281.
Curimata guntheri Eigenmann and Eigenmann, 1889, AM, Chio-chio; Fowler, 1950:285.
Curimata hypostoma Boulenger, 1887, AM, Julilla; Fowler, 1950:285.
Curimata immaculata (Fernández-Yépez, 1948), AM, Julilla; USNM.
Curimata kneri Steindachner, 1876, AM, Yahuarachi; Fowler, 1950:286.
Curimata leucisca Günther, 1868, AM, Julilla; Fowler, 1950:286.
Curimata metae Eigenmann, 1922, AM; USNM.
Curimata nasa Steindachner, 1882, AM, Julilla; USNM.
Curimata patiae Eigenmann, 1914, PA; Chirichigno, 1963:19.
Curimata peruana Eigenmann, 1922, AM, Julilla; Fowler, 1950:290.
Curimata reticulata Allen, 1942, AM, Chio-chio; Fowler, 1950:290.
Curimata robustula (Allen, 1942), AM, Chio-chio; Fowler, 1950:291.
Curimata spilura Günther, 1864, AM, Julilla; Fowler, 1950:293.
Curimata stigmatura Fowler, 1913, AM, Julilla; Fowler, 1950:293.
Curimata vittata Kner, 1859, AM, Yahuarachi; Fowler, 1950:293.
Curimatella alburna (Müller and Troschel, 1844), AM, Llambina; Fowler, 1950:295.
Curimatella meyeri (Steindachner, 1882), AM, Yahuarachi; Fowler, 1950:296.
Curimatoides ucayalensis Fowler, 1940, AM, Llambina; Fowler, 1950:298.
Curimatopsis macrolepis (Steindachner, 1876), AM, Chio-chio; Vari, 1982:17.
Potamorhina altamazonica (Cope, 1878), AM, Yahuarachi; Vari, 1984:22.
Potamorhina latior (Spix, 1829), AM, Yahuarachi; Vari, 1984:31.
Potamorhina pristigaster (Steindachner, 1876), AM, Yahuarachi; Vari, 1984:19.
Psectrogaster amazonica Eigenmann and Eigenmann, 1889, AM, Chio-chio; Fowler, 1950:291.
Psectrogaster essequibensis (Günther, 1864), AM; USNM.
Psectrogaster rutiloides (Kner, 1859), AM; Chio-chio; Fowler, 1950:291.

ANOSTOMIDAE

- Abramites hypselonotus* (Günther, 1868), AM, San Pedrito; Fowler, 1950:249.

- Anostomus anostomus* (Linnaeus, 1758), AM, Lisa; Winterbottom, 1980:9.
- Laemolyta garmani* Borodin, 1931, AM, Lisa; Géry, 1974:152.
- Laemolyta taeniata* (Kner, 1859), AM, Lisa; Fowler, 1950:209.
- Leporellus vittatus* (Valenciennes, 1849), AM, Lisa; Fowler, 1950:253.
- Leporinus fasciatus* (Bloch, 1794), AM, Lisa; Fowler, 1950:232.
- Leporinus friderici* (Bloch, 1794), AM, Lisa; Lüling, 1975:48.
- Leporinus holostictus* Cope, 1878, AM, Lisa; Fowler, 1950:235.
- Leporinus maculatus* Müller and Troschel, 1844; AM, Lisa; Fowler, 1950:237.
- Leporinus moralesi* Fowler, 1942, AM, Lisa; Géry, 1960:308.
- Leporinus multifasciatus* Cope, 1878, AM, Lisa; Fowler, 1950:239.
- Leporinus striatus* Kner, 1859, AM, Lisa; Fowler, 1950:246.
- Leporinus trifasciatus* Steindachner, 1876, AM, Lisa; Fowler, 1950:249.
- Leporinus wolfei* Fowler, 1940, AM, Lisa; Géry, 1977:158.
- Leporinus yophorus* Eigenmann, 1922, AM, Lisa; Géry, 1977:159; USM.
- Pseudanos trimaculatus* (Kner, 1859), AM, Lisa; Winterbottom, 1980:65.
- Rhytiodus microlepis* Kner, 1859, AM, Lisa; Fowler, 1950:210.
- Rhytiodus argenteofuscus* Kner, 1859, AM, Lisa; Fowler, 1950:210.
- Schizodon fasciatus* Spix, 1829, AM, Lisa; Lüling, 1975:48.

CHILODONTIDAE

- Chilodus punctatus* Müller and Troschel, 1844, AM, Mojara; USNM, USM.

SILURIFORMES

GYMNOTOIDEI

GYMNOTIDAE

- Gymnotus carapo* Linnaeus, 1758, AM, Macana; Lüling, 1975:75.
- Gymnotus coatesi* La Monte, 1935, AM, Macana; Fowler, 1951:423.

ELECTROPHORIDAE

- Electrophorus electricus* (Linnaeus, 1766), AM, Anguila, Lüling, 1975:81.

APTERONOTIDAE

- Adontosternarchus balaenops* (Cope, 1878), AM, Macana; Mago-Leccia, Lundberg, and Baskin, 1985:6.
- Adontosternarchus clarkae* Mago-Leccia, Lundberg, and Baskin, 1985, AM, Macana; Mago-Leccia, Lundberg, and Baskin, 1985:14.
- Adontosternarchus sachsii* (Peters, 1877), AM, Macana; USM.
- Apteronotus albifrons* (Linnaeus, 1766), AM, Macana; Fowler, 1951:424.
- Apteronotus anas* Eigenmann and Allen, 1942, AM, Macana; Fowler, 1951:424.
- Apteronotus bonapartii* (Castelnau, 1855), AM, Macana; Fowler, 1951:425.
- Apteronotus hasemani* (Ellis, 1913), AM, Macana; Fowler, 1951:426.
- Apteronotus leptorhynchus* (Ellis, 1912), AM, Macana; Fowler, 1951:426.
- Oedemognathus exodon* Myers, 1936, AM, Macana; Fowler, 1951:427.
- Porotergus gimbeli* Ellis, 1913, AM, Macana; Fowler, 1951:427.
- Sternarchella schotti* (Steindachner, 1868), AM, Macana; Fowler, 1951:429.
- Sternarchella terminalis* (Eigenmann and Allen), 1942, AM, Macana; Fowler, 1951:428.
- Sternarchogiton nattereri* (Steindachner, 1868), AM, Macana; Fowler, 1951:429.
- Sternarchogiton porcinum* Eigenmann and Allen, 1942, AM, Macana; Fowler, 1951:430.
- Sternarchorhamphus macrostomus* (Günther, 1870), AM, Macana; Fowler, 1951:430.
- Sternarchorhamphus muelleri* (Steindachner, 1881), AM, Macana; Fowler, 1951:430.
- Sternarchorhynchus oxyrhynchus* (Müller and Troschel, 1849), AM, Macana; Fowler, 1951:431.

STERNOPYGIDAE

- Dystocyclus conirostris* (Eigenmann and Allen, 1942), AM, Macana; Mago-Leccia, 1978:25.
- Eigenmannia macrops* (Boulenger, 1897), AM; Mago-Leccia, 1978:23; USM.
- Eigenmannia virescens* (Valenciennes, 1847), AM, Macana; Mago-Leccia, 1978:20.

Rhabdolichops troscheli (Kaup, 1856), AM, Macana; Mago-Leccia, 1978:18.

Sternopygus macrurus (Bloch and Schneider, 1801), AM, Macana; Mago-Leccia, 1978:31.

HYPOPOMIDAE

Hypopomus muelleri (Kaup, 1856), AM, Macana; F. Mago-Leccia, pers. comm.

Hypopomus brevisrostris (Steindachner, 1868), AM, Macana; Fowler, 1951:435.

Hypopygus lepturus Hoedeman, 1962, AM, Macana; Nijssen and Isbrücker, 1972:164.

Steatogenys elegans (Steindachner, 1880), AM, Macana; Fowler, 1951:438.

RHAMPHICHTHYIDAE

Rhampichthys rostratus (Linnaeus, 1766), AM, Macana; Fowler, 1951:437.

SILUROIDEI

ARIIDAE

Bagre pinnimaculatus (Steindachner, 1875), PA; Hildebrand, 1946:121.

Hexanematichthys henni Eigenmann, 1922, PA, Bagre; Chirichigno, 1963:27.

DORADIDAE

Agamyxis albomaculatus (Peters, 1877), AM, Bagre; Fowler, 1951:481.

Agamyxis pectinifrons (Cope, 1870), AM, Bagre; Fowler, 1951:481.

Amblydoras hancockii (Valenciennes, 1840), AM, Bagre; Fowler, 1951:481.

Amblydoras monitor (Cope, 1872), AM, Bagre; Fowler, 1951:483.

Anadoras grypus (Cope, 1872), AM, Bagre; Fowler, 1951:483.

Anadoras nauticus (Cope, 1874), AM, Bagre; Fowler, 1951:483.

Anadoras regani (Steindachner, 1908), AM, Bagre; Fowler, 1951:484.

Anadoras weddellii (Castelnau, 1855), AM, Bagre; Fowler, 1951:484.

Centrodoras brachiatus (Cope, 1872), AM, Bagre; Fowler, 1951:486.

Doras punctatus Kner, 1855, AM, Pirillo; Fowler, 1951:489.

Hassar ucayalensis Fowler, 1940, AM, Chanchito; Fowler, 1951:492.

Hassar woodi Fowler, 1942, AM, Chanchito; USM.

Hemidoras morrisoni Eigenmann, 1925, AM, Rego rego; Fowler, 1951:494.

Hemidoras stenopeltis (Kner, 1855), AM, Rego rego; Fowler, 1951:495.

Hypodoras forficulatus Eigenmann, 1925, AM, Pirillo; Fowler, 1951:496.

Leptodoras acipenserinus (Günther, 1868), AM, Pirillo; Fowler, 1951:496.

Leptodoras juruensis Boulenger, 1898, AM, Pirillo; USM.

Leptodoras linnelli Eigenmann, 1912, AM, Pirillo; Fowler, 1951:497.

Leptodoras myersi Böhlke, 1970, AM, Pirillo; Böhlke, 1970:53.

Liosomadoras oncinus (Schomburgk, 1841), AM, Rego rego; Mees, 1978:270.

Megalodoras irwini Eigenmann, 1925, AM, Rego rego; Fowler, 1951:499.

Opsodoras hemipeltis Eigenmann, 1925, AM, Pirillo; Fowler, 1951:502.

Opsodoras humeralis (Kner, 1855), AM, Pirillo; Fowler, 1951:503.

Opsodoras morei (Steindachner, 1882), AM, Pirillo; USM.

Opsodoras orthacanthus Eigenmann, 1925, AM, Pirillo; Fowler, 1951:504.

Opsodoras parallelus Eigenmann, 1925, AM, Pirillo; Fowler, 1951:505.

Opsodoras stubelii (Steindachner, 1882), AM, Pirillo; Fowler, 1951:505.

Oxydoras niger (Valenciennes, 1833), AM, Turushuqui; Lüling, 1975:55.

Physopyxis lyra Cope, 1872, AM, Pirillo; Fowler, 1951:509.

Platydoras costatus (Linnaeus, 1766), AM, Rego rego; Fowler, 1951:509.

Pterodoras granulatus (Valenciennes, 1833), AM, Rego rego; Fowler, 1951:511.

Trachydoras atripes Eigenmann, 1925, AM, Pirillo; Fowler, 1951:514.

Trachydoras nattereri (Steindachner, 1882), AM, Pirillo; Fowler, 1951:514.

AUCHENIPTERIDAE

Auchenipterus brachyurus (Cope, 1878), AM, Maparate; Fowler, 1951:459.

Auchenipterus nuchalis (Spix, 1829), AM, Maparate; Mees, 1974:238.

- Auchenipterichthys thoracatus* (Kner, 1858), AM, Bagre; Mees, 1974:35.
Centromochlus existimatus Mees, 1974, AM, Pirillo; Mees, 1974:53.
Centromochlus heckelii (Filippi, 1853), AM, Pirillo; Mees, 1974:47.
Epapterus dispilurus Cope, 1878, AM, Maparate; Vari et al., 1984:470.
Pseudepapterus hasemani Steindachner, 1915, AM, Bagre; Böhlke, 1951:38.
Tatia gyrina (Eigenmann and Allen, 1942), AM, Kere kere; Mees, 1974:74.
Tatia intermedia (Steindachner, 1876), AM, Kere kere; Mees, 1974:63.
Tatia perugiae (Steindachner, 1883), AM, Pirillo; Fowler, 1951:564.
Trachelyichthys exilis Greenfield and Glodek, 1977, AM, Cunshi novia; Greenfield and Glodek, 1977:47.
Trachycorystes brevisbarbus (Cope, 1878), AM, Cunshi novia; Fowler, 1951:472.
Trachycorystes isacanthus (Cope, 1878), AM, Cunshi novia; Fowler, 1951:474.

AGENEIOSIDAE

- Ageneiosus brevifilis* Valenciennes, 1840, AM, Cunshi novia; Fowler, 1951:451.
Ageneiosus ucayalensis Castelnau, 1855, AM, Cunshi novia; Fowler, 1951:454.
Tympanopleura alta Eigenmann and Myers, 1928, AM, Cunshi novia; Fowler, 1951:456.
Tympanopleura nigricollis Eigenmann and Allen, 1942, AM, Cunshi novia; Fowler, 1951:456.

ASPREDINIDAE

- Amaralia hypsiura* (Kner, 1855), AM, Sapo cunshi; USM.
Bunocephalus aleuropsis Cope, 1870, AM, Sapo cunshi; Fowler, 1954:41.
Bunocephalus bifidus Eigenmann, 1942, AM, Sapo cunshi; Fowler, 1954:41.
Bunocephalus coracoideus (Cope, 1874), AM, Sapo cunshi; Fowler, 1954:42.
Bunocephalus melas Cope, 1874, AM, Sapo cunshi; Fowler, 1954:44.
Petacara dolichura (Delsman, 1941), AM, Sapo cunshi; Böhlke, 1959:1.
Xiliphius melanopterus Orcés, 1962, AM, Sapo cunshi; USM.

PIMELODIDAE

- Brachyplatystoma filamentosum* (Lichtenstein, 1819), AM, Dorado; Mees, 1974:122.

- Brachyplatystoma juruense* (Boulenger, 1898), AM, Bagre listado; Fowler, 1951:585.
Callophysus macropterus (Lichtenstein, 1819), AM, Bagre; Lüling, 1975:60.
Chasmocranus peruanus Eigenmann and Pearson, 1942, AM, Bagre; Fowler, 1951:520.
Chasmocranus quadrizonatus Pearson, 1937, AM, Bagre; Fowler, 1951:520.
Cheirocerus eques Eigenmann, 1917, AM, Cunshi; Stewart and Pavlik, 1985:364.
Cheirocerus goeldii (Steindachner, 1908), AM, Cunshi; Stewart and Pavlik, 1985:365.
Duopalatinus peruanus Eigenmann and Allen, 1942, AM, Bagre; Fowler, 1951:587.
Goeldiella eques (Müller and Troschel, 1848), AM, Bagre; Fowler, 1951:523.
Hemisorubim platyrhynchos (Valenciennes, 1840), AM, Toa; Mees, 1974:119.
Heptapterus armillatus (Cope, 1872), AM, Bagre; Fowler, 1951:533.
Imparfinis bolivianus Pearson, 1924, AM, Bagre; Fowler, 1951:527.
Leiaris marmoratus (Gill, 1870), AM, Bagre; Fowler, 1951:589.
Megalonema platanus (Günther, 1880), AM, Bagre; USM.
Microglanis zonatus Eigenmann and Allen, 1942, AM, Bagre; Mees, 1974:233.
Perugia agassizii (Steindachner, 1875), AM, Bagre; Fowler, 1951:582.
Phractocephalus hemiliopterus (Schneider, 1801), AM, Peje torre; Boeseman, 1983:105.
Pimelodella boliviana Eigenmann, 1917, AM, Cunshi; Fowler, 1951:535.
Pimelodella buckleyi (Boulenger, 1887), AM, Cunshi; Fowler, 1951:536.
Pimelodella cristata (Müller and Troschel, 1848), AM, Cunshi; Fowler, 1951:537.
Pimelodella cyanostigma (Cope, 1870), AM, Cunshi; Fowler, 1951:538.
Pimelodella elongata (Günther, 1860), PA, Bagre; Chirichigno, 1963:28.
Pimelodella gracilis (Valenciennes, 1840), AM, Cunshi; Fowler, 1951:540.
Pimelodella hartwelli Fowler, 1940, AM, Cunshi; Fowler, 1951:542.
Pimelodella hasemani Eigenmann, 1917, AM, Cunshi; Fowler, 1951:542.
Pimelodella lateristriga (Müller and Troschel, 1849), AM, Cunshi; Fowler, 1951:544.
Pimelodella montana Allen, 1942, AM, Cunshi; Fowler, 1951:546.
Pimelodella peruana Eigenmann and Myers, 1942, AM, Cunshi; Fowler, 1951:548.
Pimelodella peruensis Fowler, 1915, AM, Cunshi; Fowler, 1951:548.

Pimelodella roccae Eigenmann, 1917, AM, Cunshi; Fowler, 1951:549.
Pimelodella serrata Eigenmann, 1917, AM, Cunshi; Fowler, 1951:549.
Pimelodella yuncensis Steindachner, 1902, PA, Bagre; Fowler, 1945a:43.
Pimelodina flavipinnis Steindachner, 1876, AM, Cunshi; Fowler, 1951:551.
Pimelodus altissimus Eigenmann and Pearson, 1942, AM, Cunshi; Mees, 1974:141.
Pimelodus jivaro Eigenmann and Pearson, 1942, AM, Cunshi; Fowler, 1951:555.
Pimelodus leptus Eigenmann and Pearson, 1942, AM, Cunshi; Fowler, 1951:555.
Pimelodus maculatus Lacépède, 1803, AM, Cunshi; Fowler, 1951:555.
Pimelodus ornatus Kner, 1858, AM, Cunshi; Fowler, 1951:557.
Pimelodus pictus Steindachner, 1876, AM, Cunshi; Lüling, 1975:59.
Pinirampus pirinampu (Spix, 1829), AM, Bagre; USM.
Piramutana piramuta (Kner, 1857), AM, Bagre; Fowler, 1951:560 (possibly a synonym of *Brachyplatystoma vailanti* (Valenciennes, 1840), Steindachner, 1908:112).
Platysilurus barbatus Haseman, 1911, AM, Bagre; USNM.
Platystomatichthys sturio (Kner, 1857), AM, Acha cubo; Fowler, 1951:593.
Pseudopimelodus pulcher (Boulenger, 1887), AM, Bagre; Fowler, 1951:561.
Pseudopimelodus raninus (Valenciennes, 1840), AM, Bagre; Mees, 1974:207.
Pseudopimelodus zungaro (Humboldt, 1833), AM, Zúñgaro; Mees, 1974:203.
Pseudoplatystoma fasciatum (Linnaeus, 1766), AM, Doncella; Fowler, 1951:597.
Rhamdella montana Eigenmann, 1913, AM, Bagre; Fowler, 1951:566.
Rhamdia bathyura (Cope, 1878), AM, Bagre; Fowler, 1951:568.
Rhamdia dorsalis Gill, 1870, AM, Bagre; Fowler, 1951:569.
Rhamdia duquei Eigenmann and Pearson, 1942, AM, Bagre; Fowler, 1951:570.
Rhamdia longicauda Boulenger, 1887, AM, Bagre; Fowler, 1951:571.
Rhamdia mounseyi Regan, 1913, AM, Bagre; Fowler, 1951:572.
Rhamdia ortoni Fowler, 1915, AM, Bagre; Fowler, 1951:572.
Rhamdia pentlandii (Valenciennes, 1840), TI, Bagre; Fowler, 1951:573.
Rhamdia quelen (Quoy and Gaimard, 1824), AM, Bagre; Mees, 1974:155.
Rhamdia riojae Fowler, 1915, AM, Bagre; Fowler,

1951:575.
Rhamdia sebae (Valenciennes, 1840), AM, Bagre; Fowler, 1951:577.
Sorubim lima (Schneider, 1801), AM, Shiripira; Fowler, 1951:599.
Sorubimichthys planiceps (Agassiz, 1829), AM, Achacubo; Fowler, 1951:601.

HYPOPHthalmidae

Hypophthalmus edentatus Spix, 1829, AM, Maparate; Fowler, 1954:2.
Hypophthalmus marginatus Valenciennes, 1879, AM, Maparate; USM, MZUSP, USNM.

CETOPSIDAE

Cetopsis coecutiens (Lichtenstein, 1819), AM, Canero; Fowler, 1954:3.
Hemicetopsis candiru (Spix, 1829), AM, Canero; Fowler, 1954:3.
Pseudocetopsis plumbeus (Steindachner, 1883), AM, Canero; Fowler, 1954:5.
Pseudocetopsis ventralis (Gill, 1870), AM, Canero; Fowler, 1954:5.

TRICHOMYCTERIDAE

Acanthopoma annectens Lütken, 1892, AM, Canero; Fowler, 1954:10.
Apomatoceus alleni Eigenmann, 1922, AM, Canero; Fowler, 1954:10.
Henonemus macrops (Steindachner, 1883), AM, Canero; Fowler, 1954:11.
Henonemus punctatus (Boulenger, 1887), AM, Canero; Fowler, 1954:12.
Pareiodon microps Kner, 1855, AM, Canero; Fowler, 1954:8.
Pseudostegophilus nemurus (Günther, 1868); AM, Canero; Lüling, 1975:61.
Trichomycterus dispar Tschudi, 1845, PA, Bagre; Fowler, 1945a:72.
Trichomycterus eigenmanni (Boulenger, 1898), TI, Bagre; Fowler, 1945a:71.
Trichomycterus fuscus (Meyen, 1835), TI, Bagre; Fowler, 1945a:70.
Trichomycterus laticeps (Kner, 1863), PA, Bagre; Fowler, 1945a:78.
Trichomycterus oroyae Eigenmann and Eigenmann, 1889, AN, Bagre; Fowler, 1945a:76.
Trichomycterus poeyanus Cope, 1878, TI, Bagre; Fowler, 1945a:76.

- Trichomycterus punctulatus* (Valenciennes, 1846), PA, Bagre; Fowler, 1945a:73.
Trichomycterus quechuorum (Steindachner, 1902), TI, Bagre; Fowler, 1945a:78.
Trichomycterus rivulatus Valenciennes, 1846, TI, Bagre; Fowler, 1954:32.
Trichomycterus taczanowskii Steindachner, 1883, PA, Bagre; Chirichigno, 1963:29.
Trichomycterus taenia Kner, 1863, PA, Bagre; Fowler, 1954:36.
Trichomycterus taeniops (Fowler, 1945), PA, Bagre; Fowler, 1954:36.
Trichomycterus tenue (Fowler, 1945), AN, Bagre; Fowler, 1945b:6.
Trichomycterus vittatus Regan, 1903, AM, Bagre; Fowler, 1954:37.
Trichomycterus weyrauchi (Fowler, 1945), AN, Bagre; Fowler, 1945b:7.
Urinophilus diabolicus Myers, 1927, AM, Canero; Fowler, 1945a:81.
Urinophilus erythrurus Eigenmann, 1922, AM, Canero; Fowler, 1954:19.
Vandellia plazaii Castelnau, 1855, AM, Canero; Fowler, 1954:21.

HELOGENIDAE

- Helogenes marmoratus* Günther, 1864, AM, Bagre; USM, USNM, MZUSP.

CALLICHTHYIDAE

- Brochis splendens* (Castelnau, 1855), AM, Shirui; Nijssen and Isbrücker, 1970:151.
Brochis multiradiatus Orcés, 1960, AM, Shirui; Nijssen and Isbrücker, 1983:182.
Callichthys callichthys (Linnaeus, 1758), AM, Shirui; Lüling, 1975:63.
Cataphractops melampterus (Cope, 1872), AM, Shirui; Fowler, 1954:50.
Corydoras acutus Cope, 1872, AM, Shirui; Nijssen and Isbrücker, 1980:215.
Corydoras aeneus (Gill, 1858), AM, Shirui; Fowler, 1954:51.
Corydoras ambiacus Cope, 1872, AM, Shirui; Nijssen and Isbrücker, 1980:194.
Corydoras amphibelus Cope, 1872, AM, Shirui; Nijssen and Isbrücker, 1980:195.
Corydoras armatus (Günther, 1868), AM, Shirui; Nijssen and Isbrücker, 1980:194.
Corydoras elegans Steindachner, 1877, AM, Shirui; Fowler, 1954:57.
Corydoras fowleri Böhlke, 1950, AM, Shirui; Nijssen and Isbrücker, 1980:216.
Corydoras leucomelas Eigenmann and Allen, 1942, AM, Shirui; Nijssen and Isbrücker, 1980:198.
Corydoras panda Nijssen and Isbrücker, 1971, AM, Shirui; Nijssen and Isbrücker, 1980:212.
Corydoras trilineatus Cope, 1872, AM, Shirui; Nijssen and Isbrücker, 1980:194.
Corydoras weitzmani Nijssen, 1971, AM, Shirui; Nijssen, 1971:89.
Corydoras zygatus Eigenmann and Allen, 1942, AM, Shirui; Nijssen and Isbrücker, 1980:210.
Dianema longibarbis Cope, 1872, AM, Shirui; Lüling, 1975:49.
Hoplosternum littorale (Hancock, 1828), AM, Shirui; Fowler, 1954:70.
Hoplosternum shirui Fowler, 1940, AM, Shirui; Fowler, 1954:70.
Hoplosternum thoracatum (Valenciennes, 1840), AM, Shirui; Fowler, 1954:71.

LORICARIIDAE

- Acanthicus hystrix* Spix, 1829, AM, Carachama; Fowler, 1954:135.
Ancistrus alga (Cope, 1872), AM, Carachama; Isbrücker, 1980:66.
Ancistrus bufonius (Valenciennes, 1840), AM, Carachama; Isbrücker, 1980:67.
Ancistrus cirrhosus (Valenciennes, 1840), AM, Carachama; Fowler, 1954:138.
Ancistrus heterorhynchus (Regan, 1912), AM, Carachama; Isbrücker, 1980:69.
Ancistrus hoplogenyis (Günther, 1864), AM, Carachama; Fowler, 1954:139.
Ancistrus jelskii (Steindachner, 1876), AM, Carachama; Isbrücker, 1980:69.
Ancistrus latifrons (Günther, 1869), AM, Carachama; Isbrücker, 1980:69.
Ancistrus leucosticus (Günther, 1864), AM, Carachama; Fowler, 1945a:99.
Ancistrus malacops (Cope, 1872), AM, Carachama; Isbrücker, 1980:70.
Ancistrus occloui Eigenmann, 1928, AM, Carachama; Isbrücker, 1980:71.
Ancistrus tamboensis Fowler, 1945, AM, Carachama; Isbrücker, 1980:72.
Ancistrus tectirostris (Cope, 1872), AM, Carachama; Isbrücker, 1980:73.
Ancistrus teminckii (Valenciennes, 1840), AM, Carachama; Fowler, 1954:144.
Ancistrus variolus (Cope, 1872), AM, Carachama; Isbrücker, 1980:74.

- Aphanotorulus frankei* Isbrücker and Nijssen, 1983, AM, Carachama; Isbrücker and Nijssen, 1983a:108.
- Aposturisoma myriodon* Isbrücker, Britski, Nijssen and Ortega, 1983, AM, Shitari; Isbrücker et al., 1983:35.
- Chaetostoma branickii* Steindachner, 1882, AM, Carachama; Isbrücker, 1980:590.
- Chaetostoma breve* Regan, 1904, AM, Carachama; Fowler, 1954:146.
- Chaetostoma furcatum* Fowler, 1940, AM, Carachama; Isbrücker, 1980:61.
- Chaetostoma lineopunctatum* Eigenmann and Allen, 1942, AM, Carachama; Isbrücker, 1980:61.
- Chaetostoma maculatum* Regan, 1904, AM, Carachama; Isbrücker, 1980:62.
- Chaetostoma marcapatae* Regan, 1904, AM, Carachama; Isbrücker, 1980:62.
- Chaetostoma marmorescens* Eigenmann and Allen, 1942, AM, Carachama; Isbrücker, 1980:62.
- Chaetostoma microps* Günther, 1864, AM, Carachama; Fowler, 1954:150.
- Chaetostoma mollinatum* Pearson, 1937, AM, Carachama; Isbrücker, 1980:62.
- Chaetostoma sericeum* Cope, 1872, AM, Carachama; Isbrücker, 1980:63.
- Chaetostoma taczanowski* Steindachner, 1883, AM, Carachama; Isbrücker, 1980:64.
- Cochliodon cochlodon* (Kner, 1854), AM, Carachama; Fowler, 1954:152.
- Crossoloricaria rhami* Isbrücker and Nijssen, 1983, AM, Carachama; Isbrücker and Nijssen, 1983b:9.
- Farlowella amazona* (Günther, 1864), AM, Shitari; Fowler, 1954:82.
- Farlowella knerii* (Steindachner, 1883), AM, Shitari; Fowler, 1954:85.
- Farlowella oxyrryncha* (Kner, 1854), AM, Shitari; Fowler, 1954:86.
- Farlowella smithi* Fowler, 1913, AM, Shitari; Fowler, 1954:87.
- Hemiancistrus landoni* Eigenmann, 1916, PA; Chirichigno, 1963:30.
- Hemiodontichthys acipenserinus* (Kner, 1854), AM, Shitari; Fowler, 1954:89.
- Hypoptopoma bilobatum* Cope, 1870, AM, Carachama; Isbrücker, 1980:87.
- Hypoptopoma carinatum* Steindachner, 1879, AM, Carachama; Fowler, 1954:109.
- Hypoptopoma gulare* Cope, 1878, AM, Carachama; Isbrücker, 1980:88.
- Hypoptopoma psilogaster* Fowler, 1915, AM, Carachama; Isbrücker, 1980:88.
- Hypoptopoma thoracatum* Günther, 1868, AM, Carachama; Isbrücker, 1980:80.
- Hypostomus alatus* Castelnau, 1855, AM, Carachama; Fowler, 1954:174.
- Hypostomus emarginatus* Valenciennes, 1840, AM, Carachama; Fowler, 1954:181.
- Hypostomus phrixosoma* (Fowler, 1940), AM, Carachama; Isbrücker, 1980:30.
- Lamontichthys filamentosus* (La Monte, 1935), AM, Shitari; Isbrücker, 1980:91.
- Lasiancistrus heteracanthus* (Günther, 1869), AM, Carachama; Isbrücker, 1980:44.
- Lasiancistrus pictus* (Castelnau, 1855), AM, Carachama; Fowler, 1954:164.
- Limatulichthys punctatus* (Regan, 1904), AM, Shitari; Fowler, 1954:112.
- Loricaria cataphracta* Linnaeus, 1758, AM, Shitari; Isbrücker, 1981:60.
- Loricaria clavipinna* Fowler, 1940, AM, Shitari; Isbrücker, 1981:78.
- Loricaria simillima* Regan, 1904, AM, Shitari; Isbrücker, 1981:69.
- Loricariichthys acutus* (Valenciennes, 1840), AM, Shitari; Fowler, 1954:101.
- Loricariichthys cashibo* (Eigenmann and Allen, 1942), AM, Shitari; Isbrücker, 1980:126.
- Loricariichthys chanjoo* (Fowler, 1940), AM, Shitari; Isbrücker, 1980:126.
- Loricariichthys hauxwelli* Fowler, 1915, AM, Shitari; Isbrücker, 1980:126.
- Loricariichthys maculatus* (Bloch, 1794), AM, Shitari; Fowler, 1954:105.
- Loricariichthys nudirostris* (Kner, 1854), AM, Shitari; Fowler, 1954:105.
- Loricariichthys stuebelii* (Steindachner, 1883), AM, Shitari; Isbrücker, 1980:129.
- Loricariichthys ucayalensis* Regan, 1913, AM, Shitari; Isbrücker, 1980:129.
- Monistancistrus carachama* Fowler, 1940, AM, Carachama; Isbrücker, 1980:57.
- Otocinclus macropilus* Eigenmann and Allen, 1942, AM, Carachama; Isbrücker, 1980:84.
- Otocinclus vestitus* Cope, 1872, AM, Carachama; Isbrücker, 1980:85.
- Panaque dentex* (Günther, 1868), AM, Carachama; Isbrücker, 1980:74.
- Parancistrus aurantiacus* (Castelnau, 1855), AM, Carachama; Isbrücker, 1980:58.
- Parancistrus vicinus* (Castelnau, 1855), AM, Carachama; Isbrücker, 1980:58.
- Peckoltia arenaria* (Eigenmann and Allen, 1942), AM, Carachama; Isbrücker, 1980:55.
- Peckoltia ucayalensis* (Fowler, 1940), AM, Carachama; Isbrücker, 1980:57.
- Planiloricaria cryptodon* (Isbrücker, 1971), AM, Shitari; Isbrücker, 1980:122.
- Pseudohemiodon lamina* (Günther, 1868), AM, Shitari; Isbrücker, 1980:121.

- Pseudorinelepis agassizii* (Steindachner, 1877), AM, Carachama; Fowler, 1945a:88.
- Pseudorinelepis genibarbis* (Valenciennes, 1840), AM, Carachama; Fowler, 1954:144.
- Pterosturisma microps* (Eigenmann and Allen, 1942), AM, Shitari; Isbrücker, 1980:92.
- Pterygoplichthys jeansianus* (Cope, 1874), AM, Carachama; Isbrücker, 1980:41.
- Pterygoplichthys gibbiceps* (Kner, 1854), AM, Carachama; Fowler, 1954:205.
- Pterygoplichthys multiradiatus* (Hancock, 1828), AM, Carachama; Fowler, 1954:208.
- Pterygoplichthys pardalis* (Castelnau, 1855), AM, Carachama; Isbrücker, 1980:42.
- Pterygoplichthys punctatus* (Natterer, 1854), AM, Carachama; Fowler, 1954:209.
- Rhadinoloricaria macromystax* (Günther, 1869), AM, Shitari; Isbrücker, 1980:122.
- Rineloricaria konopickyi* (Steindachner, 1879), AM, Shitari; Fowler, 1954:116.
- Rineloricaria lanceolata* (Günther, 1868), AM, Shitari; Isbrücker, 1980:107.
- Rineloricaria morrowi* Fowler, 1940, AM, Shitari; Isbrücker, 1980:108.
- Rineloricaria wolfei* Fowler, 1940, AM, Shitari; Isbrücker, 1980:111.
- Spatuloricaria evansii* (Boulenger, 1892), AM, Shitari; Fowler, 1954:94.
- Spatuloricaria pujanensis* (Pearson, 1937), AM, Shitari; Isbrücker, 1980:114.
- Sturisoma brevirostre* (Eigenmann and Eigenmann, 1889), AM, Shitari; Fowler, 1954:110.
- Sturisoma guentheri* (Regan, 1904), AM, Shitari; Isbrücker, 1980:94.
- Sturisoma lyra* (Regan, 1904), AM, Shitari; MZUSP.
- Sturisoma nigrirostrum* Fowler, 1940, AM, Shitari; Isbrücker, 1980:95.
- Sturisoma rostratum* (Spix, 1829), AM, Shitari; Fowler, 1954:125.

ASTROBLEPIDAE

- Astroblepus formosus* Fowler, 1945, AN, Bagre; Fowler, 1945b:10.
- Astroblepus grivalvii* Humboldt, 1805, AM, Bagre; Fowler, 1954:75.
- Astroblepus labialis* Pearson, 1937, AN, Bagre; Fowler, 1954:76.
- Astroblepus longiceps* Pearson, 1924, AN, Bagre; Fowler, 1954:76.
- Astroblepus longifilis* (Steindachner, 1883), AN, Bagre; Fowler, 1954:76.
- Astroblepus mancoi* Myers, 1928, AN, Bagre; Fowler, 1954:77.

- Astroblepus peruanus* (Steindachner, 1875), AN, Bagre; Fowler, 1954:77.
- Astroblepus praeliorum* Allen, 1942, AN, Bagre; Fowler, 1954:78.
- Astroblepus rosei* Eigenmann, 1922, AN, Bagre; Fowler, 1945a:112.
- Astroblepus sabalo* (Valenciennes, 1840), AN, Guaman; Fowler, 1954:79.
- Astroblepus simonsii* (Regan, 1904), AN, Bagre; Fowler, 1945a:111.
- Astroblepus stubeli* Wandolleck, 1916, TI, Bagre; Fowler, 1954:79.
- Astroblepus supramollis* Pearson, 1937, AM, Bagre; Fowler, 1954:79.
- Astroblepus taczanowskii* (Boulenger, 1890), AN, Bagre; Fowler, 1954:80.
- Astroblepus vanceae* (Eigenmann, 1913), AN, Bagre; Fowler, 1954:81.

SCOLOPLACIDAE

- Scoloplax dicra* Bailey and Baskin, 1976; ZMA.

ATHERINOMORPHA

ATHERINIDAE

- Basilichthys archaeus* (Cope, 1878), PA, Peje rey; Hildebrand, 1946:433.
- Basilichthys bonariensis* (Valenciennes, 1835), IN, Peje rey; introduced into Lago Titicaca.

BELONIDAE

- Potamorhaphis guianensis* (Schomburgk, 1843), AM, Pez aguja; Collette, 1982:736.
- Pseudotylorus angusticeps* (Günther, 1866), AM, Pez aguja; Collette, 1974:184.
- Pseudotylorus microps* (Günther, 1866), AM, Pez aguja; Collette, 1974:180.

CYPRINODONTIDAE

- Orestias agassii* Valenciennes, 1846, TI, Carachi; Parenti, 1984:182.
- Orestias albus* Valenciennes, 1846, TI, Carachi; Parenti, 1984:179.
- Orestias crawfordi* Tchernavin, 1944, TI, Carachi; Parenti, 1984:173.
- Orestias ctenolepis* Parenti, 1984, TI; Parenti, 1984:195.

Orestias cuvieri Valenciennes, 1839, TI; Parenti, 1984:167.
Orestias elegans Garman, 1895, PA; Parenti, 1984:188.
Orestias empyraeus Allen, 1942, AN; Parenti, 1984:185.
Orestias farfani Parenti, 1984, TI; Parenti, 1984:178.
Orestias forgeti Lauzanne, 1981, TI; Parenti, 1984:170.
Orestias frontosus Cope, 1876, TI; Parenti, 1984:186.
Orestias gilsoni Tchernavin, 1944, TI, Carachi; Parenti, 1984:201.
Orestias gracilis Parenti, 1984, TI; Parenti, 1984:172.
Orestias gymnotus Parenti, 1984, AN; Parenti, 1984:192.
Orestias hardini Parenti, 1984, AN; Parenti, 1984:193.
Orestias imarpe Parenti, 1984, TI; Parenti, 1984:205.
Orestias incae Garman, 1895, TI, Carachi; Parenti, 1984:174.
Orestias ispi Lauzanne, 1981, TI, Ispi; Parenti, 1984:169.
Orestias jussiei Valenciennes, 1846, AN, Ispi; Parenti, 1984:189.
Orestias luteus Valenciennes, 1839, TI; Parenti, 1984:175.
Orestias minimus Tchernavin, 1944, TI; Parenti, 1984:203.
Orestias minutus Tchernavin, 1944, TI; Parenti, 1984:204.
Orestias mooni Tchernavin, 1944, TI; Parenti, 1984:202.
Orestias multiporis Parenti, 1984, TI; Parenti, 1984:198.
Orestias mulleri Valenciennes, 1846, TI; Parenti, 1984:171.
Orestias mundus Parenti, 1984, AN; Parenti, 1984:199.
Orestias olivaceus Garman, 1895, TI; Parenti, 1984:180.
Orestias pentlandii Valenciennes, 1839, TI, Boga; Parenti, 1984:168.
Orestias polonorum Tchernavin, 1944, AN; Parenti, 1984:188.
Orestias puni Tchernavin, 1944, TI; Parenti, 1984:189.
Orestias richersoni Parenti, 1984, TI; Parenti, 1984:197.
Orestias robustus Parenti, 1984, TI; Parenti, 1984:207.
Orestias rotundipinnis Parenti, 1984, TI; Parenti, 1984:176.
Orestias silustani Allen, 1942, TI; Parenti, 1984:181.
Orestias taquiri Tchernavin, 1944, TI; Parenti, 1984:201.
Orestias tchernavini Lauzanne, 1981, TI; Parenti, 1984:205.
Orestias tomcooni Parenti, 1984, TI; Parenti, 1984:206.
Orestias tschudii Castelnau, 1855, TI; Parenti, 1984:191.
Orestias tutini Tchernavin, 1944, TI; Parenti, 1984:174.
Orestias uruni Tchernavin, 1944, TI; Parenti, 1984:203.
Orestias ututo Parenti, 1984, AN; Parenti, 1984:200.

RIVULIDAE

Pterolebias peruensis Myers, 1954, AM; Fels and de Rham, 1982:103.

Pterolebias rubrocaudatus Seegers, 1984, AM; Seegers, 1984:243.
Pterolebias wischmanni Seegers, 1983, AM; Seegers, 1983:67.
Rivulus atratus Garman, 1895, AM; Fels and de Rham, 1982:103.
Rivulus elongatus Fels and de Rham, 1981, AM; Fels and de Rham, 1982:98.
Rivulus intermittens Fels and de Rham, 1981, AM; Fels and de Rham, 1982:98.
Rivulus iridescens Fels and de Rham, 1981, AM; Fels and de Rham, 1982:102.
Rivulus micropus (Steindachner, 1863), AM; Fels and de Rham, 1982:103.
Rivulus ornatus Garman, 1895, AM; Fels and de Rham, 1982:103.
Rivulus peruanus (Regan, 1903), AM; Fels and de Rham, 1982:103.
Rivulus rectocaudatus Fels and de Rham, 1981, AM; Fels and de Rham, 1982:102.
Rivulus rubrolineatus Fels and de Rham, 1981, AM; Fels and de Rham, 1982:102.
Rivulus speciosus Fels and de Rham, 1981, AM; Fels and de Rham, 1982:102.
Rivulus urophthalmus Günther, 1866, AM; Fels and de Rham, 1982:103.

POECILIIDAE

Poecilia reticulata Peters, 1859, IN, Gupy; aquarium fish.
Xiphophorus helleri Heckel, 1848, IN, Cola de espada; aquarium fish.

SYNBRANCHIFORMES

SYNBRANCHIDAE

Synbranchus marmoratus Bloch, 1795, AM, Atinga; Rosen and Rumney, 1972:7.
Synbranchus madeirae Rosen and Rumney, 1972, AM, Atinga; USM, USNM.

PERCIFORMES

MUGILIDAE

Mugil cephalus Linnaeus, 1758, PA, Lisa; Fowler, 1945a:202.
Mugil curema Cuvier and Valenciennes, 1836, PA, Lisa; Chirichigno, 1963:35.

SCIAENIDAE

- Pachyurus schomburgkii* Günther, 1860, AM, Corvina; USM.
Plagioscion auratus (Castelnau, 1855), AM, Corvina; Lüling, 1975:49.
Plagioscion squamosissimus (Heckel, 1840), AM, Corvina; Fowler, 1954:258.

NANDIDAE

- Monocirrhus polyacanthus* Heckel, 1840, AM, Pez hoja; Fowler, 1954:260.

CICHLIDAE

- Acarichthys heckelii* (Müller and Troschel, 1849), AM, Bujurqui; S. Kullander, pers. comm.
Acaronia nassa (Heckel, 1840), AM, Bujurqui; Kullander, 1980:145.
Aequidens diadema (Heckel, 1840), AM, Bujurqui; S. Kullander, pers. comm.
Aequidens patricki Kullander, 1984, AM, Bujurqui; Kullander, 1984:1.
Aequidens flavilabris (Cope, 1870), AM, Bujurqui; de Rham and Kullander, 1983:101.
Aequidens rivulatus (Günther, 1859), PA, Mojarra; Chirichigno, 1963:60.
Aequidens tetramerus (Heckel, 1840), AM, Bujurqui; Lüling, 1979:181.
Aequidens thayeri (Steindachner, 1875), AM, Bujurqui; S. Kullander, pers. comm.
Apistogramma agassizi (Steindachner, 1875), AM, Bujurqui; Kullander, 1980:91.
Apistogramma amoena (Cope, 1872), AM, Bujurqui; Kullander, 1980:143.
Apistogramma bitaeniata Pellegrin, 1936, AM, Bujurqui; Kullander, 1980:25.
Apistogramma cacatuoides Hoedeman, 1951, AM, Bujurqui; Kullander, 1980:84.
Apistogramma eunotus Kullander, 1981, AM, Bujurqui; de Rham and Kullander, 1983:102.
Apistogramma luelingi Kullander, 1976, AM, Bujurqui; S. Kullander, pers. comm.
Apistogramma nijsseni Kullander, 1979, AM, Bujurqui; de Rham and Kullander, 1983:98.
Apistogrammoides pucallpaensis Meinken, 1965, AM, Bujurqui; de Rham and Kullander, 1983:102.
Astronotus ocellatus (Agassiz, 1831), AM, Acarahuasu; Fowler, 1954:281.
Astronotus crassipinis (Heckel, 1840), AM, Acarahuasu; S. Kullander, pers. comm.
Batrachops cyanotus (Cope, 1872), AM, Añashua; Fowler, 1954:281.
Batrachops reticulatus Heckel, 1840, AM, Añashua; Fowler, 1954:283.
Biotodoma cupido (Heckel, 1840), AM, Bujurqui; Gosse, 1976:101.
Cichla monoculus Spix, 1829, AM, Tucunare; Fowler, 1954:288.
Cichlasoma amazonarum Kullander, 1983, AM, Bujurqui; Kullander, 1983:115.
Cichlasoma boliviense Kullander, 1983, AM, Bujurqui; Kullander, 1983:177.
Cichlasoma festae (Boulenger, 1899), PA; Chirichigno, 1963:61.
Cichlasoma temporale (Günther, 1862), AM, Bujurqui; Lüling, 1975:50.
Chaetobranchius flavescens Heckel, 1840, AM, Bujurqui; Fowler, 1954:286.
Crenicara punctulatum (Günther, 1863), AM, Bujurqui; S. Kullander, pers. comm.
Crenicichla anthurus Cope, 1872, AM, Añashua; Fowler, 1954:304.
Crenicichla cincta Regan, 1905, AM, Añashua; S. Kullander, pers. comm.
Crenicichla johanna Heckel, 1840, AM, Añashua; Fowler, 1954:301.
Crenicichla lucius Cope, 1871, AM; Añashua; Kullander, 1982:654.
Crenicichla proteus Cope, 1872, AM, Añashua; Fowler, 1954:307.
Crenicichla semicineta Steindachner, 1892, AM, Añashua; S. Kullander, pers. comm.
Geophagus honda Regan, 1912, PA; Gosse, 1976:23.
Geophagus proximus (Castelnau, 1855), AM, Bujurqui; Fowler, 1954:315.
Heros appendiculatus (Castelnau, 1855), AM, Bujurqui; S. Kullander, pers. comm.
Mesonauta festivus (Heckel, 1840), AM, Bujurqui; Kullander, 1983:272.
Oreochromis urolepis (Norman, 1922), IN, Tilapia; utilized in fish culture.
Oreochromis mossambicus (Peters, 1868), IN, Tilapia; utilized in fish culture.
Oreochromis niloticus (Linnaeus, 1758), IN, Tilapia; utilized in fish culture.
Pterophyllum scalare (Lichtenstein, 1823), AM, Pez angel; Lüling, 1975:46.
Satanoperca jurupari (Heckel, 1840), AM, Bujurqui; Lüling, 1975:51.
Symphysodon aequifasciatus Pellegrin, 1904, AM, Pez disco; S. Kullander, pers. comm.
Tilapia rendalli Boulenger, 1915, IN, Tilapia; utilized in fish culture.

ELEOTRIDIDAE

Dormitator latifrons (Richardson, 1844), PA, Monengue; Chirichigno, 1963:67.

Eleotris picta Kner and Steindachner, 1863, PA; Chirichigno, 1963:68.

Phylipnus maculatus (Günther, 1859), PA; Chirichigno, 1963:67.

GOBIIDAE

Awaous transandeanus (Günther, 1861), PA; Chirichigno, 1963:69.

Gobionellus peruanus (Steindachner, 1880), PA; Fowler, 1945a:260.

GERREIDAE

Diapterus peruvianus (Cuvier, 1830), PA, Periche; Chirichigno, 1963:52.

Gerres cineris (Walbaum, 1792), PA, Chavelita; Chirichigno, 1963:52.

ANABANTIDAE

Trichogaster leerii (Bleeker, 1852), IN, Gurami; aquarium fish.

PLEURONECTIFORMES

SOLEIDAE

Achiropsis nattereri Steindachner, 1866, AM, Panga raya; Fowler, 1954:325.

Achirus achirus (Linnaeus, 1758), AM, Panga raya; Lül-ling, 1975:49.

Achirus fluviatilis Meek and Steindachner, 1928, PA, Lenguado; Chirichigno, 1963:75.

Apionichthys unicolor (Günther, 1862), AM, Panga raya; USM.

TETRAODONTIFORMES

TETRAODONTIDAE

Colomesus asellus (Müller and Troschel, 1848), AM, Pez globito; Tyler, 1964:143.

Literature Cited

- Bailey, R.M., and J.N. Baskin
 1976. *Scoloplax dicra*, A New Armored Catfish from the Bolivian Amazon. *Occasional Papers of the Museum of Zoology, University of Michigan*, 674:1-14.
- Boeseman, M.
 1952. Note on the Characoid Genus *Brachychalcinus* Boulenger (1892), Including the Description of a New Species. *Zoologische Mededelingen*, 31(26): 301-305.
 1983. Some Remarks on the South American Pimelodid Catfish Usually Known by the Name *Phractocephalus hemiliopterus* (Bloch and Schneider) (Pimelodidae, Siluriformes). *Zoologische Mededelingen*, 57(2):105-114.
- Böhlke, J.
 1951. Description of New Auchenipterid Catfish of the Genus *Pseudepapterus* from the Amazon Basin. *Stanford Ichthyological Bulletin*, 4:38-40.
 1953. Studies on Fishes of the Family Characidae, No. 4: The South American Genus *Prodonotocharax*. *Annals and Magazine of Natural History*, series 12, 6:658-664.
 1958a. Studies on Fishes of the Family Characidae, No. 14: A Report of Several Extensive Collections from Ecuador. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 110:1-121.
 1958b. Results of the Catherwood Foundation Peruvian Amazon Expedition: The Descriptions of Two New Xenobryconine Characids. *Copeia*, 1958(4):318-325.
 1959. Results of the Catherwood Foundation Peruvian Amazon Expedition: *Petacara*, a New Genus for the Bunocephalid Catfish *Bunocephalus dolichurus* Delsman. *Notulae Naturae*, 318:1-6.
 1970. A New Species of the Doradid Catfish Genus *Leptodoras*, with Comments on Related Forms. *Proceedings of the California Academy of Sciences*, 38(3):53-62.
- Böhlke, J., S.H. Weitzman, and N.A. Menezes
 1978. Estado Atual da Sistemática dos Peixes de Agua Doce da America do Sul. *Acta Amazonica*, 8(4):657-677.
- Chirichigno, N.
 1963. Estudio de la Fauna Ictiológica de los Esteros y parte baja de los Rios del Departamento de Tumbes (Perú). *Serie de Divulgación Científica, Servicio de Pesquería, Perú*, 22:1-87.
- Collette, B.
 1974. South American Freshwater Needlefishes (Belontiidae) of the Genus *Pseudotyloturus*. *Zoologische Mededelingen*, 48(16):169-186.
1982. South American Freshwater Needlefishes of the Genus *Potamorhaphis* (Belontiiformes: Belontiidae). *Proceedings of the Biological Society of Washington*, 95(4):714-747.
- de Rham, P., and S.O. Kullander
 1983. *Apistogramma nijsseni* Kullander, un nouveau Cichlide nain pour l'Aquarium. *Revue Française d'Aquariologie*, 9:97-104.
- Eigenmann, C.H., and W.R. Allen
 1942. *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*. 494 pages. Lexington: The University of Kentucky.
- Fels, J.F., and P. de Rham
 1982. Recentes collectes de *Rivulus* (Cyprinodontidés) au Pérou, avec description de six nouvelles espèces, deuxième partie. *Revue Française d'Aquariologie*, 8(4):97-106.
- Fink, W.L., and S.H. Weitzman
 1974. The So-called Cheirodontine Fishes of Central America with Descriptions of Two New Species (Pisces: Characidae). *Smithsonian Contributions to Zoology*, 172: 46 pages, 26 figs.
- Fowler, H.W.
 1945a. *Los Peces del Perú: Catálogo Sistemático de los Peces que habitan en Aguas Peruanas*. 298 pages. Lima: Museo de Historia Natural "Javier Prado."
 1945b. Descriptions of Seven New Freshwater Fishes from Peru. *Notulae Naturae*, 159:1-11.
 1948. Os Peixes de Agua Doce do Brasil (1ª entrega). *Arquivos de Zoologia, São Paulo*, 6:1-204.
 1950. Os Peixes de Agua Doce do Brasil (2ª entrega). *Arquivos de Zoologia, São Paulo*, 6:205-404.
 1951. Os Peixes de Agua Doce do Brasil (3ª entrega). *Arquivos de Zoologia, São Paulo*, 6:405-628.
 1954. Os Peixes de Agua Doce do Brasil (4ª entrega). *Arquivos de Zoologia, São Paulo*, 9:1-400.
- Géry, J.
 1960. Contributions a l'étude des poissons characoides (no. 8), un nouveau sous-genre de *Leporinus* (Erythrinidae, Anostominae): *Leporinops*, type *Leporinus moralesi* Fowler. *Bulletin du Muséum National d'Histoire Naturelle*, 32(4):308-313.

1961. *Pterohemiodus luelingi* sp. nov., un curieux poisson characoïde à nageoire dorsale filamenteuse, avec une clé des genres d'Hemiodontinae (Ostariophysis: Erythrinidae). *Bonner Zoologische Beiträge*, 12(3-4):332-342.
- 1962a. Essai sur les affinités phylogénétiques des Agoniates et l'origine des Characidae, à propos de la description d'une forme nouvelle de l'Amazone Péruvienne: *Agoniates ladigesi*. *Mitteilungen aus den Hamburgischen Zoologischen Museum und Institut*, 60:265-284.
- 1962b. Notes on the Ichthyology of Surinam and the Other Guianas, 10. *Bulletin of Aquatic Biology*, 3(28):65-80.
1963. Contributions à l'étude des poissons characoïdes, 27: Systematique et evolution de quelques piranhas (*Serrasalmus*). *Vie et Milieu*, 14(3):597-617.
- 1964a. Poissons characoïdes de l'Amazone péruvienne (résultats scientifiques de l'expédition Amazone-Ucayali du Dr. L.H. Lüling, 1959-1960). *Beiträge zur Neotropischen Fauna*, 4(1):1-44.
- 1964b. Upper Amazonian Characoid Fishes Collected by Mr. Jack Roberts. *Tropical Fish Hobbyist*, 13(4):21-32, 53-68.
1965. Poissons characoïdes sud-américains du Senckenberg Muséum, II: Characidae et Crenuchidae de l'Igarapé Prêto (Haute Amazonie). *Senckenbergiana Biologica*, 46(1):11-45.
1966. A Review of Certain Tetragonopterinae (Characoidei), with the Description of Two New Species. *Ichthyologica: The Aquarium Journal*, 37(1):211-236.
1970. Le genre *Iguanodectes* Cope (Pisces, Characoidei). *Amazoniana*, 2(4):417-433.
1972. Corrected and Supplemented Descriptions on Certain Characoid Fishes Described by Henry W. Fowler, with Revisions of Several of Their Genera. *Studies on Neotropical Fauna*, 7:1-35.
1974. Notes sur quelques Anostomidae (Pisces, Characoidei) du bassin Amazonien. *Vie et Milieu*, 23(1):143-175.
1977. *Characoids of the World*. 672 pages. Neptune City, New Jersey: TFH Publications.
1984. The Fishes of Amazonia. In H. Sioli, editor, *The Amazon: Limnology and Landscape Ecology of a Mighty River and Its Basin*, pp. 333-370. Dordrecht: W. Junk Publishers.
- Géry, J., and P. de Rham
1981. Un nouveaux poisson characidé endémique du bassin du Rio Tumbes au nord du Pérou, *Chilobrycon deuterodon* n. g. sp. (Characoidei). *Revue Française d'Aquariologie*, 3(1):7-12.
- Géry, J., and V. Mahnert
1984. Poissons Characoïdes (Ostariophysis) récoltés par Cl. Vaucher en Amazonie Péruvienne. *Archives des Sciences, Genève*, 37(2):171-180.
- Gosse, J.P.
1976. Révision du genre *Geophagus*. *Mémoires de l'Académie Royale des Sciences d'Outre-Mer*, 19(3):1-172.
- Greenfield, D.W., and G.S. Glodek
1977. *Trachelyichthys exilis*, a New Species of Catfish (Pisces, Auchenipteridae) from Peru. *Fieldiana Zoology*, 72(3):47-58.
- Greenwood, P.H., D.E. Rosen, S.H. Weitzman, and G.S. Myers
1966. Phyletic Studies of Teleostean Fishes, with a Provisional Classification of Living Forms. *Bulletin of the American Museum of Natural History*, 131:339-456.
- Hildebrand, S.F.
1946. A Descriptive Catalogue of the Shore Fishes of Peru. *Bulletin of the United States National Museum*, 189:1-530.
- Howes, G.J.
1982. Review of the Genus *Brycon* (Teleostei: Characoidei). *Bulletin of the British Museum (Natural History), (Zoology)*, 43(1):1-47.
- Isbrücker, I.J.H.
1980. Classification and Catalogue of the Mailed Loricariidae (Pisces, Siluriformes). *Verlangen en Technische Gegevens, Instituut voor Taxonomische Zoölogie*, Universiteit van Amsterdam, 22:1-181.
1981. Revision of *Loricaria* Linnaeus 1758 (Pisces, Siluriformes, Loricariidae). *Beaufortia*, 31(3):51-96.
- Isbrücker, I.J.H., H.A. Britski, H. Nijssen, and H. Ortega
1983. *Aposturisoma myriodon*, une espece et un genre nouveaux de poisson-chat cuirassé, tribu Forlowellini Fowler, 1958 du bassin du Rio Ucayali, Pérou (Pisces, Siluriformes, Loricariidae). *Revue Française d'Aquariologie*, 10(2):23-42.
- Isbrücker, I.J.H., and H. Nijssen
- 1983a. *Aphanotorulus frankei*, une espece et un genre nouveaux de poissons-chat cuirassé du bassin du Ucayali au Pérou. *Revue française d'Aquariologie*, 9(4):105-110.
- 1983b. *Crossoloricaria rhami* n. sp., un nouveau poisson-chat cuirassé du Rio Huacamayo, Pérou. *Revue Française d'Aquariologie*, 10(1):9-12.
- Kanazawa, R.H.
1966. The Fishes of the Genus *Osteoglossum*, with a Description of a New Species from the Rio Negro. *Ichthyologica: The Aquarium Journal*, 37:161-172.
- Kullander, S.O.
1980. A Taxonomic Study of the Genus *Apistogramma* Regan, with a Revision of the Brazilian and Peruvian Species (Teleostei: Percoidae: Cichlidae). *Bonner Zoologische Monographien*, 14:1-152.
1982. Cichlid Fishes from the La Plata Basin, Part III: The *Crenicichla lepidota* Species Group. *Revue Suisse de Zoologie*, 89:627-661.

1983. *A Revision of the South American Cichlid Genus Cichlasoma*. 296 pages. Stockholm: Swedish Museum of Natural History.
1984. Une nouvelle espèce d'*Aequidens* des bassins des Rios Aguaytia e Pachitea au Pérou: *Aequidens patricki* n. sp. *Revue Française d'Aquariologie*, 11(1):1-6.
- Lauder, G.V., and K.F. Leim
1983. The Evolution and Interrelationships of the Actinopterygian Fishes. *Bulletin of the Museum of Comparative Zoology*, 150(3):95-197.
- Lüling, K.H.
1963. Die Quistococha und ihre häufigen Fische (Amazonia Peruana). *Beiträge Neotropischen Fauna*, 3(1):34-56.
1975. Ichthyologische und gewässerkundliche Beobachtungen und Untersuchungen an der Yarina Cocha, in der Umgebung von Pucallpa und am Rio Pacaya (mittlerer und unterer Ucayali, Ostperu). *Zoologische Beiträge*, 21:29-98.
1979. Wissenschaftliche der Peru-Expedition, Dr. K.H. Lüling 1976: Über einige Kleingewässer im Pachitea-Gebiet (Ostperu) als *Rivulus*-Biotop (Pisces, Cyprinodontidae) und ihr Fischinventar nebst einer kurzen Notiz über einige Fische im Sira-Gebirge und Rio Llullapichis. *Zoologische Beiträge*, 25:169-190.
1981. Zwei unterschiedliche Fließwasserbiotope im Einzugsgebiet des mittleren Ucayali (Ostperu) und ihre Fische. *Bonner Zoologische Beiträge*, 32(1-2):167-181.
- Machado-Allison, A.
1982. Estudios sobre la subfamilia Serrasalminae (Teleostei, Characidae), Parte 1: Estudio comparado de los juveniles de las "Cachamas" de Venezuela (Géneros *Colossoma* y *Piaractus*). *Acta Biológica Venezolana*, 11 (3):1-101.
- Mago-Leccia, F.
1978. Los peces de la familia Sternopygidae de Venezuela. *Acta Científica Venezolana*, 29(suppl. 1):1-89.
- Mago-Leccia, F., J.G. Lundberg, and J.N. Baskin
1985. Systematics of the South American Fish Genus *Adontosternarchus* (Gymnotiformes, Apterodontidae). *Contributions in Science, Natural History Museum, Los Angeles County*, 358:1-19.
- Mees, J.F.
1978. On the Identity of *Arius oncinus* R.H. Schomburgk (Pisces, Nematognathi, Auchenipteridae). *Zoologische Medelingen*, 52(23):267-276.
- Mees, G.
1974. The Auchenipteridae and Pimelodidae of Suriname. *Zoologische Verhandlungen*, 132:1-256.
- Menezes, N.A.
1969. Systematics and Evolution of the Tribe Acestro-rhynchini (Pisces, Characidae). *Arquivos de Zoologia, São Paulo*, 18(1-2):1-150.
1976. On the Cynopotaminae, a New Subfamily of Characidae. *Arquivos de Zoologia, São Paulo*, 28(2):1-91.
1977. *Acestrocephalus boehlkei*, a New and Disjunct Cynopotamine from Ecuadorean and Peruvian Amazon (Osteichthyes, Ostariophysi, Characidae). *Papeis Avulsos de Zoologia, São Paulo*, 30(13):185-193.
- Menezes, N.A., and J. Géry
1983. Seven New Acestrorhynchin Characid Species (Osteichthyes, Ostariophysi, Characiformes), with Comments on the Systematics of the Group. *Revue Suisse de Zoologie*, 90(3):563-592.
- Nijssen, H.
1971. Two New Species and One New Subspecies of the South American Catfish Genus *Corydoras* (Pisces, Siluriformes, Callichthyidae). *Beaufortia*, 19(250):89-98.
- Nijssen, H., and I.J.H. Isbrücker
1970. The South American Catfish Genus *Brochis* Cope, 1872 (Pisces, Siluriformes, Callichthyidae). *Beaufortia*, 18(236):151-168.
1972. On *Hypopygus lepturus*, a Little-known Dwarf Gymnotid Fish from South America (Pisces, Cypriniformes, Gymnotoidea). *Zoologische Mededelingen*, 47(13):160-176.
1979. Chronological Enumeration of Nominal Species and Subspecies of *Corydoras* (Pisces, Siluriformes, Callichthyidae). *Bulletin Zoologische Museum, Universiteit van Amsterdam*, 6(17):129-135.
1980. A Review of the Genus *Corydoras* Lacepede, 1803 (Pisces, Siluriformes, Callichthyidae). *Bijdragen tot de Dierkunde*, 50(1):190-220.
1983. *Brochis britskii*, a New Species of Plated Catfish from the Upper Rio Paraguai System, Brazil (Pisces, Siluriformes, Callichthyidae). *Bulletin Zoologisch Museum, Universiteit van Amsterdam*, 9(20):177-186.
- Parenti, L.R.
1981. A Phylogenetic and Biogeographic Analysis of Cyprinodontiform Fishes (Teleostei, Atherinomorpha). *Bulletin of the American Museum of Natural History*, 168(4):335-557.
1984. A Taxonomic Revision of the Andean Killifish Genus *Orestias* (Cyprinodontiformes, Cyprinodontidae). *Bulletin of the American Museum of Natural History*, 178(2):107-214.
- Pearson, N.E.
1937. The Fishes of the Atlantic and Pacific Slopes near Cajamarca, Peru. *Proceedings of the California Academy of Sciences*, series 4, 23(7):87-98.
- Rham, P. de, and S.O. Kullander, see de Rham, P., and S.O. Kullander.

- Rosen, D.E., and A. Rumney
1972. Evidence of a Second Species of *Synbranchus* (Pisces, Teleostei) in South America. *American Museum Novitates*, 2497:1-45.
- Sazima, I.
1983. Scale-eating in Characoids and Other Fishes. *Environmental Biology of Fishes*, 9(2):87-101.
- Seegers, L.
1983. *Pterolebias wischmanni* nov. spec. aus dem Ucayali: Einzug in Peru (Pisces: Atheriniformes: Rivulinae). *Journal Deutsche Killifisch-Gemeinschaft*, 15(5):67-74.
1984. Ein neuer Rivulinae aus Peru: *Pterolebias rubrocaudatus* (Pisces: Atheriniformes: Cyprinodontidae). *Bonner Zoologische Beiträge*, 35(1-3):243-250.
- Steindachner, F.
1908. Über eine noch unbekannte Art der Gattung *Bergiella* Eigenmann aus dem La Plata, *Bergiella platana*, sowie über die Identität von *Brachyplatystoma göldii* Eigenmann Bean (1907) und *Platystoma mucosa* Vaill (1880) mit *Brachyplatystoma (Pimelodus) filamentosum* (Licht.). *Anzeiger der Akademie der Wissenschaften Wien*, 45:110-113.
- Stewart, D.J., and M.J. Pavlik
1985. Revision of *Cheirocerus* (Pisces: Pimelodidae) from Tropical Freshwaters of South America. *Copeia*, 1985(2):356-367.
- Steyskal, G.C.
1980. The Grammar of Family-Group Names as Exemplified by Those of Fishes. *Proceedings of the Biological Society of Washington*, 93(1):168-177.
- Tyler, J.
1964. A Diagnosis of the Two Species of South American Puffer Fishes (Tetraodontidae, Plectognathi) of the Genus *Colomesus*. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 116(3):119-148.
- Vari, R.P.
1978. The Genus *Leptagoniates* (Pisces: Characoidei) with a Description of a New Species from Bolivia. *Proceedings of the Biological Society of Washington*, 91(1):184-190.
1982. Systematics of the Curimatid Genus *Curimatopsis* (Pisces, Characoidea). *Smithsonian Contributions to Zoology*, 373:1-28.
1984. Systematics of the Neotropical Characiform Genus *Potamorhina* (Pisces, Characiformes). *Smithsonian Contributions to Zoology*, 400:1-36.
- Vari, R.P., and J. Géry
1980. *Cheirodon ortegai*, a New Markedly Sexually Dimorphic Cheirodontine (Pisces: Characoidea) from the Rio Ucayali of Peru. *Proceedings of the Biological Society of Washington*, 93(1):75-82.
- Vari, R.P., S.L. Jewett, D.C. Taphorn, and C.R. Gilbert
1984. A New Catfish of the Genus *Epapterus* (Siluriformes: Auchenipteridae) from the Orinoco River Basin. *Proceedings of the Biological Society of Washington*, 97(2):462-472.
- Weitzman, S.H.
1960. Further Notes on the Relationships and Classification of the South American Characid Fishes of the Subfamily Gasteropelecinae. *Stanford Ichthyological Bulletin*, 7(4):217-239.
1964. Osteology and Relationships of South America Characid Fishes of the Subfamilies Lebiasininae and Erythrininae, with Special Reference to the Subtribe Nannostomina. *Proceedings of the United States National Museum*, 116(3499):127-170.
1966. Review of the South American Characid Fishes of the Subtribe Nannostomina. *Proceedings of the United States National Museum*, 119(3538):1-56.
- Weitzman, S.H., and S.V. Fink
1985. Xenobryconin Phylogeny and Putative Pheromone Pumps in Glandulo-caudine Fishes (Teleostei: Characidae). *Smithsonian Contributions to Zoology*, 421: 121 pages.
- Weitzman, S.H., and W.L. Fink
1983. Relationships of the Neon Tetras, a Group of South American Fishes (Teleostei, Characidae), with Comments on the Phylogeny of New World Characiforms. *Bulletin of the Museum of Comparative Zoology*, 150(6):339-395.
- Weitzman, S.H., and J. Géry
1980. The Relationships of the South American Pygmy Characid Fishes of the Genus *Elachocharax*, with a Redescription of *Elachocharax junki* (Teleostei: Characidae). *Proceedings of the Biological Society of Washington*, 93(4):887-913.
- Weitzman, S.H., and J.E. Thomerson
1970. A New Species of Glandulo-caudine Characid Fish, *Hysteronotus myersi*, from Peru. *Proceedings of the California Academy of Sciences*, 38(8):139-156.
- Whitehead, P.J.P.
1973. The Clupeoid Fishes of the Guianas. *Bulletin British Museum (Natural History), Zoology*, 5(supplement):1-227.
- Whitehead, P.J.P., and G.S. Myers
1971. Problems of Nomenclature and Dating of Spix and Agassiz's Brazilian Fishes (1829-1831). *Journal of the Society for the Bibliography of Natural History*, 5(6):478-497.
- Winterbottom, R.
1980. Systematics, Osteology and Phylogenetic Relationships of Fishes of the Ostariophysan Subfamily Anostominae (Characoidei, Anostomidae). *Life Sciences Contributions, Royal Ontario Museum*, 123:1-112.

REQUIREMENTS FOR SMITHSONIAN SERIES PUBLICATION

Manuscripts intended for series publication receive substantive review (conducted by their originating Smithsonian museums or offices) and are submitted to the Smithsonian Institution Press with Form SI-36, which must show the approval of the appropriate authority designated by the sponsoring organizational unit. Requests for special treatment—use of color, foldouts, case-bound covers, etc.—require, on the same form, the added approval of the sponsoring authority.

Review of manuscripts and art by the Press for requirements of series format and style, completeness and clarity of copy, and arrangement of all material, as outlined below, will govern, within the judgment of the Press, acceptance or rejection of manuscripts and art.

Copy must be prepared on typewriter or word processor, double-spaced, on one side of standard white bond paper (not erasable), with 1¼" margins, submitted as ribbon copy (not carbon or xerox), in loose sheets (not stapled or bound), and accompanied by original art. Minimum acceptable length is 30 pages.

Front matter (preceding the text) should include: **title page** with only title and author and no other information, **abstract page** with author, title, series, etc., following the established format; table of **contents** with indents reflecting the hierarchy of heads in the paper; also, **foreword** and/or **preface**, if appropriate.

First page of text should carry the title and author at the top of the page; **second page** should have only the author's name and professional mailing address, to be used as an unnumbered footnote on the first page of printed text.

Center heads of whatever level should be typed with initial caps of major words, with extra space above and below the head, but no other preparation (such as all caps or underline, except for the underline necessary for generic and specific epithets). Run-in paragraph heads should use period/dashes or colons as necessary.

Tabulations within text (lists of data, often in parallel columns) can be typed on the text page where they occur, but they should not contain rules or numbered table captions.

Formal tables (numbered, with captions, boxheads, stubs, rules) should be submitted as carefully typed, double-spaced copy separate from the text; they will be typeset unless otherwise requested. If camera-copy use is anticipated, do not draw rules on manuscript copy.

Taxonomic keys in natural history papers should use the aligned-couplet form for zoology and may use the multi-level indent form for botany. If cross referencing is required between key and text, do not include page references within the key, but number the keyed-out taxa, using the same numbers with their corresponding heads in the text.

Synonymy in zoology must use the short form (taxon, author, year:page), with full reference at the end of the paper under "Literature Cited." For botany, the long form (taxon, author, abbreviated journal or book title, volume, page, year, with no reference in "Literature Cited") is optional.

Text-reference system (author, year:page used within the text, with full citation in "Literature Cited" at the end of the text) must be used in place of bibliographic footnotes in all Contributions Series and is strongly recommended in the Studies Series: "(Jones, 1910:122)" or "... Jones (1910:122)." If bibliographic

footnotes are required, use the short form (author, brief title, page) with the full citation in the bibliography.

Footnotes, when few in number, whether annotative or bibliographic, should be typed on separate sheets and inserted immediately after the text pages on which the references occur. Extensive notes must be gathered together and placed at the end of the text in a notes section.

Bibliography, depending upon use, is termed "Literature Cited," "References," or "Bibliography." Spell out titles of books, articles, journals, and monographic series. For book and article titles use sentence-style capitalization according to the rules of the language employed (exception: capitalize all major words in English). For journal and series titles, capitalize the initial word and all subsequent words except articles, conjunctions, and prepositions. Transliterate languages that use a non-Roman alphabet according to the Library of Congress system. Underline (for italics) titles of journals and series and titles of books that are not part of a series. Use the parentheses/colon system for volume (number): pagination: "10(2):5-9." For alignment and arrangement of elements, follow the format of recent publications in the series for which the manuscript is intended. Guidelines for preparing bibliography may be secured from Series Section, SI Press.

Legends for illustrations must be submitted at the end of the manuscript, with as many legends typed, double-spaced, to a page as convenient.

Illustrations must be submitted as original art (not copies) accompanying, but separate from, the manuscript. Guidelines for preparing art may be secured from Series Section, SI Press. All types of illustrations (photographs, line drawings, maps, etc.) may be intermixed throughout the printed text. They should be termed **Figures** and should be numbered consecutively as they will appear in the monograph. If several illustrations are treated as components of a single composite figure, they should be designated by lowercase italic letters on the illustration; also, in the legend and in text references the italic letters (underlined in copy) should be used: "Figure 9b." Illustrations that are intended to follow the printed text may be termed **Plates**, and any components should be similarly lettered and referenced: "Plate 9b." Keys to any symbols within an illustration should appear on the art rather than in the legend.

Some points of style: Do not use periods after such abbreviations as "mm, ft, USNM, NNE." Spell out numbers "one" through "nine" in expository text, but use digits in all other cases if possible. Use of the metric system of measurement is preferable; where use of the English system is unavoidable, supply metric equivalents in parentheses. Use the decimal system for precise measurements and relationships, common fractions for approximations. Use day/month/year sequence for dates: "9 April 1976." For months in tabular listings or data sections, use three-letter abbreviations with no periods: "Jan, Mar, Jun." etc. Omit space between initials of a personal name: "J.B. Jones."

Arrange and paginate sequentially every sheet of manuscript in the following order: (1) title page, (2) abstract, (3) contents, (4) foreword and/or preface, (5) text, (6) appendixes, (7) notes section, (8) glossary, (9) bibliography, (10) legends, (11) tables. Index copy may be submitted at page proof stage, but plans for an index should be indicated when manuscript is submitted.

