



Annotated checklist of the freshwater fishes of continental and insular Honduras

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Abstract

The freshwater fishes of Honduras were surveyed for a period of four years (2005–2008). Surveys were supplemented with both literature and museum collection reviews. Our results show that there are at least 172 species of fishes inhabiting Honduran mainland and insular freshwater systems, 166 native and six exotic. Primary freshwater fish diversity was low, with only eight species (4.8%). The remaining species were either secondary freshwater (47 species, 28.3%) or peripheral (111 species, 66.9%). This checklist includes 36 new records for Honduras, and 12 range expansions. Nine species were found to be endemic; however, just two of them (*Amphilophus hogaboomorum* and *Theraps wesseli*) are already described. The depauperate primary freshwater fishes fauna of Honduras (8) is congruent with low primary freshwater fishes diversity found in the region between the Usumacinta River and the Nicaraguan great lakes. Although many previously unsampled regions of Honduras were visited as part of this project, there are a variety of remote areas that remain unstudied. While this paper contributes much to the understanding of the distribution and diversity of Honduran freshwater fishes, it is likely that much diversity there remains undocumented.

Key words: Central America, Nuclear Middle America, Obligate freshwater fishes, Primary freshwater fishes, Distribution, Ichthyofauna, Fish fauna, Biodiversity

Resumen

Los peces de agua dulce de Honduras fueron estudiados por un periodo de cuatro años (2005 a 2008). Los muestreos de campo fueron complementados con revisiones tanto de colecciones de museos como de la literatura disponible. Nuestros resultados muestran la presencia de 172 especies de peces que habitan los sistemas de aguas continentales del país y de sus islas, de ellas 166 son nativas y seis exóticas. La diversidad de peces primarios de ambientes dulceacuícolas fue baja, con tan solo ocho especies (4.8%) presentes. El resto fueron secundarias (47 especies, 28.3%) o periféricas (111 especies, 66.9%). Esta lista incluye 36 registros nuevos para Honduras y 12 expansiones de rango geográfico. Nueve especies fueron reportadas como endémicas; sin embargo solamente dos (*Amphilophus hogaboomorum* y *Theraps wesseli*) son consideradas especies válidas. La descripción de las ocho especies restantes está aún pendiente. El bajo número de especies primarias dulceacuícolas (8) en Honduras coincide con el bajo número de especies primarias reportadas anteriormente en la región entre el río Usumacinta y los grandes lagos de Nicaragua. Aunque muchas regiones de Honduras que no habían sido previamente muestreadas fueron visitadas como parte de este proyecto, todavía hay áreas remotas del país que precisan ser estudiadas. Este trabajo contribuirá extensamente al entendimiento de la distribución y diversidad de los peces de agua dulce de Honduras; sin embargo, mucha de la diversidad ictiológica del país requiere aún ser investigada con mayor profundidad.

Introduction

The diversity and distributional patterns of Honduran freshwater fishes are the product of recent geological events (Myers, 1966). All primary and secondary freshwater species that inhabit Honduras are of South American origin (Miller, 1966, Myers, 1966), moving to the region during or after the raising and closure of the Isthmus of Panama during the Pliocene (Marshall *et al.*, 1979, Stehli & Webb, 1985). The proposed timing of the enclosure of the Panamanian isthmus varies from between 3.1 to 3.5 million years ago (Coates *et al.*, 1992, Coates & Obando, 1996) to as early as 1.8 million years ago (Keller *et al.*, 1989). While the formation of this land bridge is often cited as the major event structuring Honduran freshwater fish diversity, local geologic, climatic and other factors have also certainly played a role (Savage, 1982). Unfortunately, few attempts have been made at studying Honduran freshwater fish biodiversity on a scale adequate to assess the role of local vs. regional processes in structuring biogeographic patterns in the country. As a result, Honduras (Fig. 1) has long represented a large gap in biogeographical knowledge of Central America fishes (Carr and Giovannoli, 1950, Miller, 1966, Lyons, 2005).

Accordingly, as a baseline for future biogeographical studies, we present an updated checklist of the freshwater fishes of Honduras that has been compiled from: 1) field sampling of all major drainages, 2) data from published literature and 3) review of museum holdings from Honduras. Checklists like this are an important tool for researchers, governmental and non-governmental agencies with interest in documenting and conserving biodiversity. It will serve as a foundation for future research aimed at understanding the origin and status of Honduran fish diversity as well as effective management and conservation programs (McNeely *et al.*, 1990).

Review of freshwater ichthyographical research in Honduras

Most of what is known about Honduran ichthyology is based on work done at a larger regional scale. Distributional ranges of freshwater fishes that included the territory of Honduras were mentioned in the works of Jordan & Evermann (1896–1900), Regan (1906–1908), and Jordan *et al.* (1930). These publications analyzed the freshwater ichthyofauna of Central America in general. However, sampling in Honduras was almost non-existent at the time. In his work with cyprinodonts, Hubbs (1924, 1926 and 1931) mentioned a number of Honduran collections containing *Phallichthys amates*, *Belonesox belizanus*, and *Alfaro huberi*. Fowler (1932) reported collections in the Lancetilla and Choluteca Rivers. Rehn (1932) reported some collections in the Honduran Mosquitia region. Strong (1934) reported a bull shark (*Carcharhinus leucas*) in the Patuca River in La Mosquitia. Miller (1955) reported specimens of *Profundulus guatemalensis* collected in 1934 by A. Greenberg in western Honduras. Fowler (1943) reported collections made by G. Orr in Islas de la Bahía, and described *Poecilia orri* with specimens collected in the island of Bonnaca. The first detailed sampling of rivers in the country was carried out by A. Carr in the late 1940's. Carr focused on rivers of the Honduran Pacific slope, culminating with an analysis of the fishes of the Choluteca River and the description of *Amphilophus hogaboomorum* (Carr & Giovannoli, 1950). Carr also published a second paper on the distribution and systematic relationships of some freshwater fishes of the Honduran and Nicaraguan Mosquitia region (Miller & Carr, 1974).

The overall structure of Central American ichthyographical provinces was first proposed by Miller (1966). He proposed that Honduras was part of the Chiapas-Nicaraguan Province that extends from southern México to southern Nicaragua. Miller (1966) did not suggest separate provinces for the Honduran and Nicaraguan Atlantic slope, arguing there was not enough information available for that part of Central America. Ten years later, however, Bussing (1976), proposed a second additional ichthyographical province for Honduras: the Usumacinta province on the Honduran Atlantic slope. This province extends from the Usumacinta River in southern México to northern Nicaragua. From 1968 to 1970, Martin (1972) intensively sampled parts of Honduras as part of an unpublished thesis. For the next two decades, there were no major collections conducted on Honduran freshwater fishes. In 1996, *Theraps wesseli* was described from

individuals collected in the Bellaire River, close to the city of Jutiapa in the Department of Atlántida (Miller, 1996).

Geological history

The region of Nuclear Central America that corresponds to Honduras has a complex geological history characterized by intensive faulting, orogeny, sea level change, sedimentation, and volcanism. The land connection between North and South America was lost in the early Jurassic as Pangaea broke apart (Dietz & Holden, 1970). It is widely accepted that no land connection existed between North and South America from the early Cretaceous to the Pliocene (Holden & Dietz, 1972; Malfait & Dinkelman, 1972; Ladd, 1976; Duellman, 1979; Savage, 1982). However, parts of Nuclear Central America, including the majority of Honduras, may have been above water since the Cretaceous (Savage, 1982). A faunal exchange between México and Nuclear Central America through the Isthmus of Tehuantepec happened during the Tertiary (Olson & McGrew, 1941). This faunal exchange was facilitated by a climatic filter barrier and a probable partial sea barrier across the Isthmus (Savage, 1982). The Miocene was characterized by intensive faulting in the area, which produced several graben valleys, including the Honduras depression that is a corridor from the Caribbean to the Pacific slope (Roberts & Irving, 1957). During the Miocene – Pliocene intense volcanism occurred in the area (Roberts & Irving, 1957). Intense orogeny during late Pliocene or early Pleistocene formed the terrace systems of interior Honduras. Much of the Caribbean lowlands emerged during the Pleistocene as a result of extensive erosion and deposition in alluvial lowland depressions. There were also hypothesized fluctuations in sea level and climate during the Pleistocene glaciations (Roberts & Irving, 1957). The uplifting of the Isthmus of Panama during the mid-Pliocene created the land bridge connecting North and South America (Beu, 2001). This facilitated a massive faunal migration from both continents, referred to as the Great American Biotic Interchange (Marshall *et al.*, 1979; Stehli & Webb, 1985).

Although there are no currently active volcanoes in Honduras, volcanism has shaped the physiographic features of the country. Volcanic activity in Nuclear Central America was widespread during the Miocene and Pliocene, which resulted in the deposition of andesitic and rhyolitic ejecta over the majority of the southern half of Honduras (Roberts & Irving, 1957). The rough terrain in this region was largely created during the Oligocene (the Sierras Madre in México), Miocene (highlands of Nuclear Central America) and Pliocene (highlands of Lower Central America including the Comayagua Graben) (Roberts & Irving, 1957; Maldonado-Koerdell, 1964; Savage, 1982). The Gulf of Fonseca was formed by downfaulting at the Comayagua Graben and the Nicaraguan Graben (West, 1964). Finally, Islas de la Bahía on the Honduran Caribbean coast (Fig. 1) appear to be a northward extension of the Sierra de Omoa and were apparently connected to the mainland throughout most of the middle and late Tertiary (Vinson & Brineman, 1963).

Physiography

A geographical region is defined as a geographic area with similar geologic, topographic, and edaphic features (West, 1964). Subdivisions of these physiographic regions are called sub-regions, in which there is a general uniformity of surface features (Martin, 1972). There are three major physiographic regions proposed for Honduras (Bengston, 1926; Carr, 1950; Martin, 1972): the Pacific Lowlands, the Caribbean Lowlands, and the Interior Serranía Region. The Pacific Lowlands region does not contain any sub-regions, but includes the river basins that drain into the Gulf of Fonseca (Bengston, 1926; Carr 1950). This includes the Goascorán, Nacaome, Choluteca, and Negro rivers (Fig. 2). The Caribbean Lowlands extend from the delta of the Motagua River in western Honduras to the Coco River bordering Nicaragua. The Caribbean lowlands are divided into five sub-regions (Bengston 1926; Carr 1950); the Motagua River Delta, the Ulúa-Chamelecón River Valley, the Nombre de Dios Plain, the Aguán-Negro River Plain, and the Mosquitia Coast (Fig. 2). The Interior Serranía Region is formed by the Northern Cordillera and the Southern Cordillera sub-regions. Detailed description of Honduran physiographic regions and sub-regions are found in Bengston (1926), Carr (1950), Martin (1972), Wilson & Meyer (1985) and McCraine & Wilson (1985).

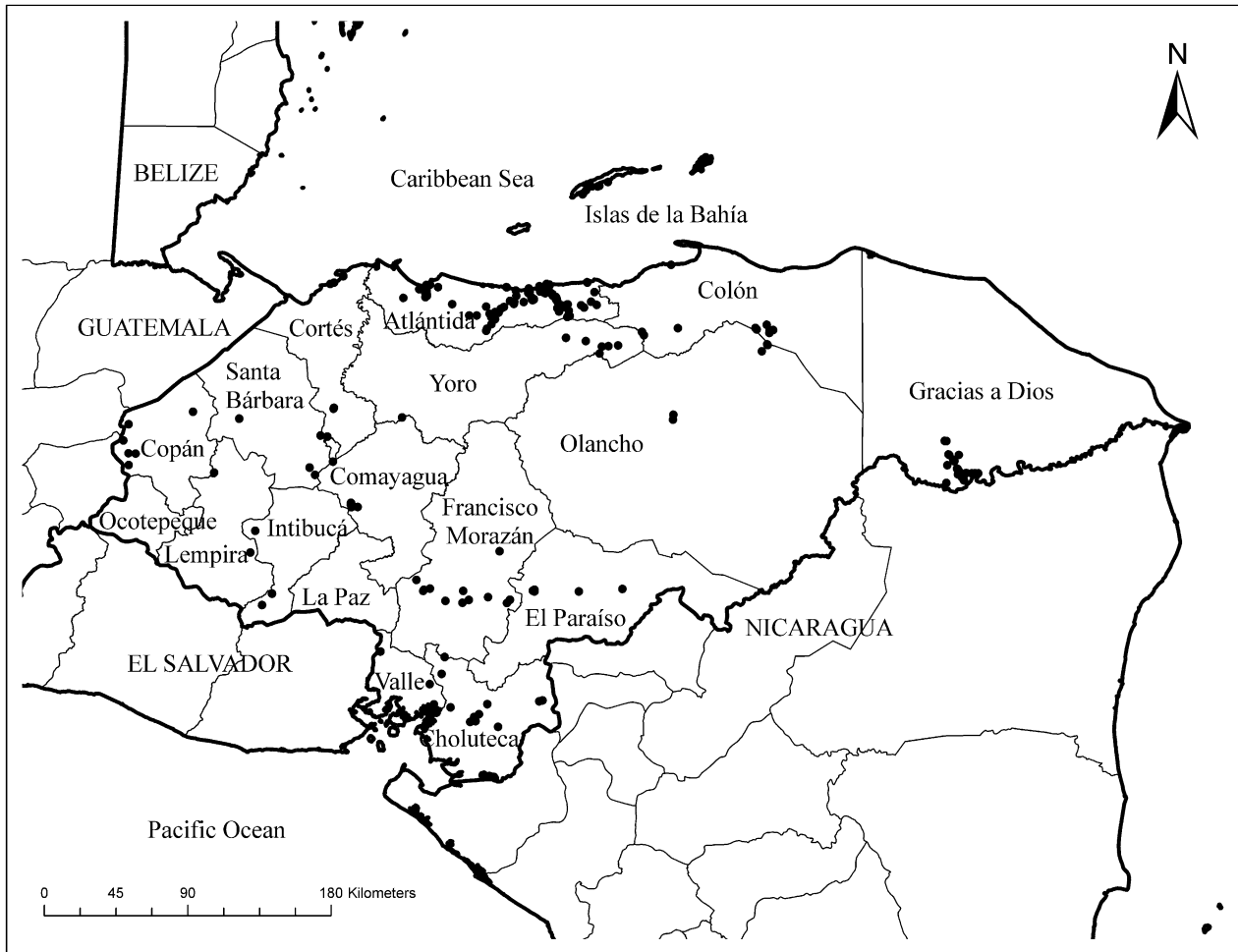


FIGURE 1. Map of Honduras showing the political divisions (Departments). Dots represent localities sampled during 2005–2008.

Materials and methods

Institutional abbreviations are as follows: CAS = California Academy of Sciences; FLMNH = Florida Museum of Natural History; FMNH = Field Museum of Natural History; GCRL = Gulf Coast Research Laboratory; LACM = Los Angeles County Museum; UMMZ = University of Michigan Museum of Zoology; USM = University of Southern Mississippi Museum of Ichthyology; USNM = United States National Museum.

Field sampling at 278 localities in Honduras was performed in July 2005, November 2005, May–July 2006, May–August 2007, January–March 2008, and June–August 2008 (Fig. 1). Sampling gear included seines (various sizes) with a mesh of 3.1 mm, cast nets, spear fishing, and backpack electrofishers. Captured fishes were fixed in 10% buffered formalin solution before being rinsed in water and preserved in 75% ethanol. Specimens were deposited at USM. To complement distribution and diversity data collected in our field surveys, we reviewed both the scientific and “grey” literature. We also queried the inter-institutional database NEODAT (<http://www.neodat.org>) and the online data bases of FLMNH, FMNH, GCRL, LACM, and UMMZ. The first author personally reviewed the Honduran freshwater fish holdings at the collections of the following museums: FLMNH, FMNH, GCRL, and parts of the Honduran holdings at UMMZ.

The annotated checklist is arranged by order and family following Eschmeyer & Fong (2008). Genera and species within a family are arranged in alphabetical order. The family tolerance to salinity is listed according

to the classification by Myers (1949). Species valid name, authority, and year of description follow Eschmeyer & Fricke (2009), with the exception of *Rhamdia quelen* from which we follow Perdices *et al.* (2002) in considering all Honduran *R. quelen* as belonging to the species *R. guatemalensis*. Honduran taxa included in the genus *Cichlasoma* is referred to here as '*Cichlasoma*' following Kullander (2003).

After the authority name, the common English name was provided followed by the common Spanish name. After the common name, we specify its origin as native, endemic or exotic. The exotic species included in the checklist are only those for which there is evidence of reproductive populations in Honduras.

The distribution of each species is given in two ways and is based on our own collections, literature reviews, online databases and museum specimens. First, we list the Honduran departments (alphabetical order) for which there are records for the species. Second, we list the major river drainage basins (Atlantic slope before Pacific slope drainages, all listed in west to east order) for which there are records for the species.

A considerable number of records on the checklist represent expansions of the known range or new reports of the species for Honduras. For range expansions and new country records (or both), we list the museum specimens that are associated with the individual specimens of interest. In the event that the museum specimen is not available, the field collection number is given. Finally, we considered a species new to Honduras as one that is not listed for Honduras either in FishBase (Froese & Pauly, 2009) or Reis *et al.* (2003).

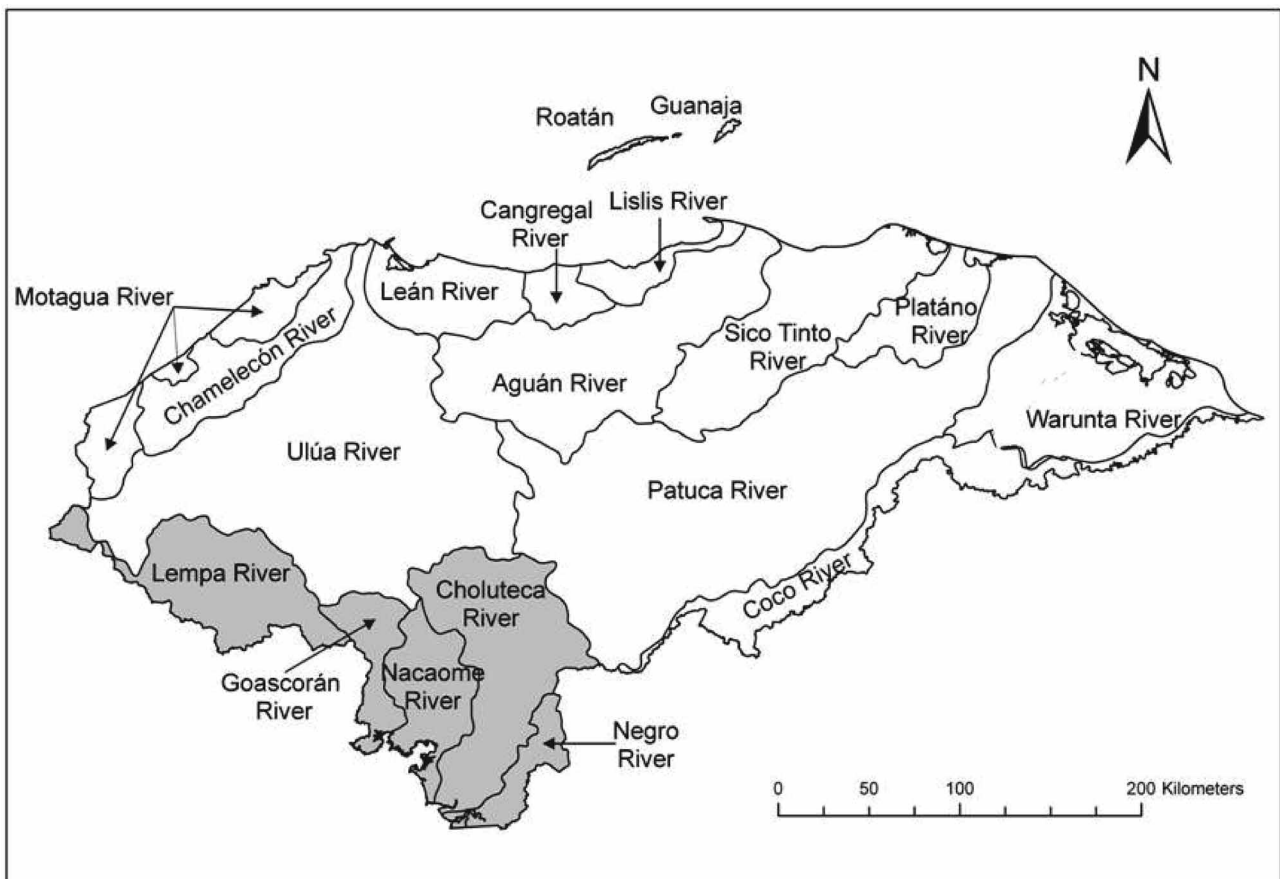


FIGURE 2. Map of Honduras showing 19 major Honduran river drainage basins. Shaded areas depict drainages located on the Pacific slope; unshaded areas are on the Atlantic Slope.

Annotated Checklist

CARCHARHINIFORMES

Carcharhinidae. Peripheral.

Carcharhinus leucas (Müller & Henle, 1839). Bull shark, tiburón toro. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Patuca.

Remarks: Martin (1972) listed *C. leucas* in Honduras based on a photograph taken by Strong (1934) in the Patuca River. This is the only documented report of *C. leucas* in Honduran freshwaters. Greenfield & Thomerson (1997) referred to a *C. leucas* in the “Patula River”, which we assume is an error and they were in fact referring to the Patuca River.

Rhizoprionodon porosus (Poey, 1861). Caribbean sharpnose shark, cazón antillano. Native.

Department: Gracias a Dios. Drainages: Atlantic slope: Patuca and Coco.

PRISTIFORMES

Pristidae. Peripheral.

Pristis pectinata Latham, 1794. Smalltooth sawfish, pez sierra. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Patuca.

ELOPIFORMES

Megalopidae. Peripheral.

Megalops atlanticus Valenciennes, 1847. Tarpon, sábalo. Native.

Departments: Atlántida, Colón and Gracias a Dios. Drainages: Atlantic slope: Cangrejal, Aguán, Plátano and Patuca.

ANGUILLIFORMES

Anguillidae. Peripheral.

Anguilla rostrata (Lesueur, 1817). American eel, anguila americana. Native.

Departments: Atlántida, Colón, Cortés, Islas de la Bahía and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Roatán and Guanaja.

Ophichthidae. Peripheral.

Myrophis punctatus Lütken, 1852. Speckled worm eel, tieso gusano. Native.

Departments: Cortés, Gracias a Dios and Islas de la Bahía. Drainages: Atlantic slope: Chamelecón, Patuca, Roatán and Guanaja..

CLUPEIFORMES

Clupeidae. Peripheral.

Harengula clupeola (Cuvier, 1829). False pilchard, sardinita carapachona. Native.

Department: Cortés. Drainage: Atlantic slope: Chamelecón.

Harengula humeralis (Cuvier, 1829). Redear sardine, sardinita de ley. Native.

Department: Islas de la Bahía. Drainage: Atlantic slope: Roatán.

Jenkinsia lamprotaenia (Gosse, 1851). Dwarf herring, sardinita flaca. Native.

Department: Islas de la Bahía. Drainage: Atlantic slope: Roatán.

Opisthonema oglinum (Lesueur, 1818). Atlantic thread herring, sardinita vivita de hebra. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Patuca.

Engraulidae. Peripheral.

Anchoa colonensis Hildebrand, 1943. Narrowstriped anchovy, anchoa rayita. Native.

Departments: Cortés and Gracias a Dios. Drainages: Atlantic slope: Chamelecón and Patuca.

Anchoa filifera (Fowler, 1915). Longfinger anchovy, anchoa dedolarga. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Patuca.

Anchoa parva (Meek & Hildebrand, 1923). Little anchovy, anchoa parva. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Patuca.

Anchovia clupeoides (Swainson, 1839). Zabaleta anchovy, anchoveta sardina. Native.

Department: Gracias a Dios. Drainage: Patuca.

Anchoviella elongata (Meek & Hildebrand, 1923). Elongate anchovy, anchoveta alargada. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Patuca.

CYPRINIFORMES

Cyprinidae. Primary.

Ctenopharyngodon idella (Valenciennes, 1844). Grass carp, carpa herbívora. Exotic.

Departments: Cortés and Santa Bárbara. Drainages: Atlantic slope: Chamelecón and Ulúa.

Remarks: Introduced by government agencies in an attempt to strengthen aquaculture activities and provide animal protein to rural communities (D. Meyer, pers. comm.).

Hypophthalmichthys molitrix (Valenciennes, 1844). Silver carp, carpa plateada. Exotic.

Departments: Cortés and Santa Bárbara. Drainages: Atlantic slope: Chamelecón and Ulúa.

Remarks: Introduced by government agencies in an attempt to strengthen aquaculture activities and provide animal protein to rural communities (D. Meyer, pers. comm.).

CHARACIFORMES

Characidae. Primary.

Astyanax aeneus (Günther, 1860). Banded tetra, sardina. Native.

Departments: Atlántida, Choluteca, Colón, Comayagua, Copán, Cortés, El Paraíso, Francisco Morazán, Gracias a Dios, Intibucá, La Paz, Olancho, Santa Bárbara, Valle and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta and Coco. Pacific slope: Lempa, Goascorán, Nacaome, Choluteca and Negro.

Brycon guatemalensis Regan, 1908. Macabi tetra, machaca. Native.

Departments: Choluteca, Comayagua, Copán, Cortés, El Paraíso, Francisco Morazán, La Paz, Lempira, Santa Bárbara and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán and Choluteca.

Hyphessobrycon tortuguerae Böhlke, 1958. Tortuguero tetra, sardinita de Tortuguero. Native.

Departments: El Paraíso, Gracias a Dios and Olancho. Drainages: Atlantic slope: Patuca, Warunta and Coco. Pacific slope: Choluteca.

Roeboides bouchellei Fowler, 1923. Crystal tetra, sardinita plateada. Native.

Departments: Choluteca, El Paraíso, Francisco Morazán, Gracias a Dios, Olancho and Valle. Drainages: Atlantic slope: Sico-Tinto, Plátano, Patuca, Warunta and Coco. Pacific slope: Lempa, Goascorán, Nacaome, Choluteca and Negro.

Remarks: Bussing (2002) describes the distributional range for *R. bouchellei* as across the Atlantic slope of Central America from the Patuca River in Honduras to the Matina River in Costa Rica. Martin (1972) reported *R. bouchellei* (field numbers MMH 1969-14, MMH 1969-19, material deposited at LACM) in the Sico-Tinto o Negro River, which is located west of the Patuca River. We consider the distributional range of *R. bouchellei* to extend from the Sico-Tinto o Negro River in Honduras to the Matina River in Costa Rica, in the Atlantic slope of Central America.

SILURIFORMES

Ariidae. Peripheral.

Cathorops higuchii Marceniuk & Betancur-R., 2008. Higuchi's Sea Catfish, bagre de Higuchi. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Coco.

Remarks: Details about the distribution of this species in Honduras and Mesoamerica are given by Marceniuk & Betancur-R. (2008).

Cathorops melanopus (Günther, 1864). Dark sea catfish, bagre prieto. Native.

Departments: Cortés and Santa Bárbara. Drainages: Atlantic slope: Motagua and Ulúa.

Remarks: *C. melanopus* was thought to be endemic to the Motagua river basin in Guatemala and possibly occurring in Honduras (Marceniuk & Betancur-R., 2008). Vouchers LACM 32355-1 collected in the Río Ulúa in the department of Santa Bárbara, and LACM 32405-1 collected in the Río Blanco (tributary of the Ulúa River) represent the first records of *C. melanopus* in Honduras as well as a significant range extension. Furthermore, Vaux (1985) collected *C. melanopus* at the Yure River (at the confluence with the Quebrada de Chamo), which is a tributary of the Humuya River, Río Ulúa system.

Cathorops sp. Raredon's sea catfish, bagre de Raredon. Native.

Remarks: The distributional range of the Raredon's sea catfish as reported by Marceniuk *et al.* (in press), extends from Sinaloa México to the department of La Libertad to La Unión in El Salvador. In the description of the species, Marceniuk *et al.* (in press) included material collected in La Unión Bay. La Unión Bay is a small body of water located in the Gulf of Fonseca bordering Honduras and El Salvador. Based on the geographical location of the La Unión Bay, it is most likely that the Raredon's sea catfish also occurs in Honduras (R. Betancur-R., pers. comm.).

Cathorops steindachneri (Gilbert & Starks, 1904). Steindachner's sea catfish, bagre de Steindachner. Native.

Remarks: The distributional range of *C. steindachneri* extends from El Salvador to Panama (Marceniuk *et al.*, in press). This species has been reported from the Gulf of Fonseca in El Salvador, but is also potentially present on the Honduran side of the Gulf of Fonseca (R. Betancur-R., pers. comm.; Marceniuk *et al.*, in press), since the Gulf of Fonseca is a shared body of water between these two countries.

Cathorops taylori (Hildebrand, 1925). Taylor's sea catfish, bagre de Taylor. Native.

Remarks: While no specimens of this species have been collected in Honduras, its occurrence in the country is very likely (R. Betancur-R., pers. comm.). Marceniuk *et al.* (in press) listed specimens collected in La Unión Bay, which is a small shared body of water at the Honduras – El Salvador border.

Sciades assimilis (Günther, 1864). Maya sea catfish, bagre maya. Native.

Department: Cortés. Drainage: Atlantic slope: Chamelecón.

Sciades guatemalensis (Günther, 1864). Widehead sea catfish, bagre guatemalense. Native.

Departments: Choluteca and Valle. Drainages: Pacific slope: Nacaome and Choluteca.

Sciades seemanni (Günther, 1864). Tete sea catfish, bagre tete. Native.

Departments: Choluteca and Valle. Drainages: Pacific slope: Lempa, Goascorán, Nacaome and Negro.

Ictaluridae. Primary.

Ictalurus punctatus (Rafinesque, 1818). Channel catfish, bagre de canal. Exotic.

Departments: Comayagua, Cortés and Santa Bárbara. Drainages: Atlantic slope: Chamelecón and Ulúa.

Remarks: *I. punctatus* was introduced in Honduras in the early 1960s for aquaculture purposes by technicians of the United Fruit Company. During Hurricane Fifi in 1975, many fish escaped into the Ulúa and Chamelecón Rivers. In the environmental impact study prior to building the El Cajón reservoir, Vaux (1985) reported *I. punctatus*. There is also evidence of at least one fish farmer in Comayagua that has been capable of reproducing catfish locally (D. Meyer, pers. comm.).

Heptapteridae. Primary.

Rhamdia guatemalensis (Günther, 1864). Guatemalan chulin, barbudo de Guatemala. Native.

Departments: Atlántida, Choluteca, Colón, Comayagua, Copán, Cortés, El Paraíso, Francisco Morazán, Gracias a Dios, Intibucá, La Paz, Olancho, Santa Bárbara, Valle and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta and Coco. Pacific slope: Lempa, Goascorán, Nacaome, Choluteca and Negro.

Remarks: Silfvergrip's (1996) revision of the genus *Rhamdia* synonymized *R. guatemalensis* with *R. quelen*. Perdices *et al.* (2002) analyzed the evolutionary history of the genus in Central America and concluded that South American *R. quelen* are evolutionarily distinct from *R. guatemalensis* from Central America. Here we treat *R. guatemalensis* as a distinct species.

Rhamdia laticauda (Kner, 1858). Filespine Chulin, chulín. Native.

Departments: Atlántida, Comayagua, Copán, Cortés, El Paraíso, Francisco Morazán, Intibucá, Lempira, Olancho and Santa Bárbara. Drainages: Atlantic slope: Motagua, Ulúa, Chamelecón, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta and Coco. Pacific slope: Lempa and Choluteca.

GYMNOTIFORMES

Gymnotidae. Primary.

Gymnotus cylindricus La Monte, 1935. Knifefish, pez cuchillo. Native.

Departments: Atlántida, Choluteca, Colón, Comayagua, Cortés, Gracias a Dios, Santa Bárbara and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta and Coco. Pacific slope: Choluteca.

Remarks: Albert & Miller *et al.* (1995) stated that *G. cylindricus* occurs only in drainages on the Atlantic slope of Central America. However, some of the material they examined in their paper came from localities in the Honduran Pacific slope, wrongly identified as Atlantic slope localities. This material includes: UMMZ 155831, UMMZ 188296, UMMZ 188297 (see Albert & Miller, 1995; Albert *et al.*, 1999; Albert, 2001). Further, Bussing (2002) reported *G. cylindricus* from the Yeguaré River, a tributary of the Choluteca River, which drains to the Gulf of Fonseca on the Honduran Pacific slope.

Gymnotus maculosus Albert & Miller, 1995. Spotted knifefish, cuchillo manchado. Native.

Departments: Choluteca and Valle. Drainages: Pacific slope: Lempa, Goascorán, Nacaome, Choluteca, and Negro.

Remarks: Albert & Miller (1995) did not include material from Honduras in the description of the species. However, Bussing (2002) and Miller *et al.* (2005) report a continuous distribution extending from southern México to Costa Rica, including the Honduran Pacific slope.

BATRACHOIDIFORMES

Batrachoididae. Peripheral.

Batrachoides gilberti Meek & Hildebrand, 1928. Large-eye toadfish, sapo ojón. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Patuca

Remarks: The following five vouchers collected in Brus Laguna represent the first report of *B. gilberti* in Honduras: FMNH 84545-84549.

GOBIESOCIFORMES

Gobiesocidae. Peripheral.

Gobiesox strumosus Cope, 1870. Skilletfish, cazoleta. Native.

Department: Cortés. Drainage: Atlantic slope: Chamelecón.

Remarks: The following two vouchers collected in the Cieneguita River (GCRL 4446) and the Tulián River (GCRL 4459) represents the first report of *G. strumosus* in Honduras.

ATHERINIFORMES

Atherinopsidae. Peripheral.

Atherinella argentea Chernoff, 1986. Moon silverside, plateadita de la luna. Native.

Departments: Choluteca and Valle. Drainages: Pacific slope: Lempa, Goascorán, Nacaome, Choluteca and Negro.

Atherinella blackburni (Schultz, 1949). Beach silverside, plateadita playera. Native.

Departments: Colón and Islas de la Bahía. Drainages: Atlantic slope: Lislis and Roatán.

Remarks: The following two vouchers collected in a stream in the island of Roatán; FMNH 84961, and UMMZ 199672 collected 5 km west of the city of Trujillo represent the first report of *A. blackburni* in Honduras.

Atherinella guija (Hildebrand, 1925). Guija silverside, plateadita del Guija. Native.

Departments: Choluteca and Valle. Drainages: Pacific slope: Lempa, Goascorán, Nacaome and Choluteca.

Atherinella meeki (Miller, 1907). Meek's silverside, plateadita de Meek. Native.

Department: Cortés. Drainages: Atlantic slope: Motagua and Chamelecón.

Remarks: *A. meeki* was described by Miller (1907) from material collected in the Motagua River. *A. meeki* has been considered endemic to the Motagua River in Guatemala since its description. Voucher GCRL 6004 identified as *A. meeki*, collected in the Chivana River which is a tributary of the Chamelecón River in Honduras, represents the first report of *A. meeki* in Honduras as well as an extension of its distributional range.

Atherinella milleri (Bussing, 1979). Miller's silverside, plateadita de Miller. Native.

Departments: Atlántida, Colón and Gracias a Dios. Drainages: Atlantic slope: Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta and Coco.

Atherinella pachylepis (Günther, 1864). Thickscale silverside, plateadita de escama gruesa. Native.

Departments: Choluteca and Valle. Drainages: Pacific slope: Lempa, Goascorán, Nacaome, Choluteca and Negro.

CYPRINODONTIFORMES

Rivulidae. Secondary.

Kryptolebias marmoratus (Poey, 1880). Mangrove rivulus, almirante de manglar. Native.

Departments: Atlántida and Islas de la Bahía. Drainages: Atlantic slope: Cangrejal, Roatán and Guanaja.

Remarks: Voucher FLMNH 116518 from the island of Guanaja and USM 31675 collected in the Río Cangrejal represent the first report of *K. marmoratus* in Honduras.

Rivulus tenuis (Meek, 1904). Maya rivulus, almirante maya. Native.

Departments: Atlántida and Cortés. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán and Cangrejal.

Profundulidae. Secondary.

Profundulus guatemalensis (Günther, 1866). Guatemalan killifish, escamudo de Guatemala. Native.

Departments: Copán, Intibucá and Lempira. Drainages: Atlantic slope: Motagua and Ulúa. Pacific slope: Lempa.

Profundulus sp. 1. Ulúan killifish, escamudo del Ulúa. Endemic.

Departments: Comayagua and Francisco Morazán. Drainages: Atlantic slope: Ulúa. Pacific slope: Nacaome.

Remarks: This species is pending description (Matamoros & Schaefer, in review).

Profundulus sp. 2. Santa Barbara killifish, escamudo de Santa Barbara. Endemic.

Department: Santa Bárbara. Drainage: Atlantic slope: Ulúa.

Remarks: This species is pending description.

Poeciliidae. Secondary.

Alfaro cultratus (Regan, 1908). Alfaro's livebearer, olomina de Alfaro. Native.

Departments: Gracias a Dios. Drainage: Atlantic slope: Coco.

Remarks: The known distributional range of *A. cultratus* extends from the Prinzapolka River in the Nicaraguan Mosquitia to the Cricamola River in Panama, in the Atlantic slope of Central America (Bussing, 2002). USM collection field number WAM08-06 collected in the Rus Rus River which is a tributary of the Coco River in the Honduran Mosquitia, department of Gracias a Dios, represents the first report of *A. cultratus* in Honduras, as well as a range extension.

Alfaro huberi (Fowler, 1923). Huber's livebearer, olomina de Huber. Native.

Departments: Atlántida, Cortés, Comayagua, Copán, El Paraíso, Francisco Morazán, Gracias a Dios, Intibucá, La Paz, Lempira, Olancho, Santa Bárbara and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta and Coco. Pacific slope: Lempa and Choluteca.

Belonesox belizanus Kner, 1860. Pike killifish, picudito. Native.

Departments: Atlántida, Cortés, Colón, Gracias a Dios and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta and Coco.

Gambusia nicaraguensis Günther, 1866. Nicaraguan mosquitofish, bubuchita de Nicaragua. Native.

Departments: Atlántida, Colón, Cortés, Gracias a Dios, Islas de la Bahía and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta, Coco, Roatán and Guanaja.

Heterandria anzueto Rosen & Bailey, 1979. Anzueto's killifish, olomina de Anzueto. Native.

Departments: Atlántida, Colón, Comayagua, Copán, Cortés, Francisco Morazán, Gracias a Dios, Olancho, Santa Bárbara and Yoro. Drainages: Atlantic slope: Motagua, Ulúa, Chamelecón, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta and Coco. Pacific slope: Lempa and Choluteca.

Heterandria bimaculata (Heckel, 1848). Spottail killifish, olomina de dos manchas. Native.

Departments: Atlántida and Cortés. Drainages: Atlantic slope: Motagua and Cangrejal.

Phallichthys amates (Miller, 1907). Merry widow, bubuchita de amates. Native.

Departments: Atlántida, Cortés, Colón, Gracias a Dios, Olancho and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta and Coco.

Poecilia gilli (Kner, 1863). Gill's Molly, olomina de Gill. Native.

Departments: Atlántida, Choluteca, Colón, Comayagua, Copán, Cortés, El Paraíso, Francisco Morazán, Gracias a Dios, Intibucá, La Paz, Lempira, Ocotepeque, Olancho and Santa Bárbara. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta, Coco and Lempa. Pacific slope: Goascorán, Nacaome, Choluteca and Negro.

Remarks: The distribution of *P. gillii* presented here is based on Bussing (2002).

Poecilia marcellinoi Poeser, 1995. Marcellino's Molly, olomina de Marcellino. Native.

Departments: Choluteca, Comayagua, Copán, Cortés, El Paraíso and Santa Bárbara. Drainages: Atlantic slope: Motagua and Ulúa. Pacific slope: Lempa and Choluteca.

Remarks: Miller (1907) found *P. marcellinoi* in the Motagua River basin. In redescribing the species, Poeser (1995) listed a number of localities from the Lempa River in El Salvador. Because Salvadorian drainages all have headwaters in Honduras, it would not be surprising to find this species on the Honduran side of the Lempa River. Furthermore, Villa (1982) listed a *Poecilia* sp. from the Ulúa River in Honduras. This species is considered by Poeser (unpubl. data) to be *P. marcellinoi*. Finally, we collected *P. marcellinoi* in the Choluteca River drainage, meaning the Honduran distribution of *P. marcellinoi* may be broader than presented here.

Poecilia sp. 1. Miller's Molly, olomina de Miller. Endemic.

Departments: Atlántida, Cortés, Gracias a Dios and Olancho. Drainages: Atlantic slope: Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán and Sico-Tinto.

Poecilia sp. 2. Cangrejal Molly, olomina del Cangrejal. Endemic.

Department: Atlántida. Drainage: Atlantic slope: Cangrejal.

Poecilia sp. 3. Pacific Molly, olomina del Pacifico. Endemic.

Departments: Choluteca and Francisco Morazán. Drainage: Pacific slope: Choluteca.

Poecilia orri Fowler, 1943. Mangrove Molly, olomina de manglar. Native.

Departments: Atlántida, Colón, Cortés, Gracias a Dios, Islas de la Bahía and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Roatán and Guanaja.

Poeciliopsis pleurospilus (Günther, 1866). Largespot livebearer, bubucha punteada. Native.

Departments: Choluteca, Comayagua, Copán, Cortés, Francisco Morazán, Intibucá, Lempira, Santa Bárbara and Valle. Drainages: Atlantic slope: Motagua, Chamelecón and Ulúa. Pacific slope: Lempa, Goascorán, Nacaome and Choluteca.

Remarks: *P. gracilis* and *P. pleurospilus* were placed in synonymy by Rosen & Bailey (1963). Miller *et al.* (2005) recognized *P. gracilis* as a distinct species with a range restricted to eastern México and *P. pleurospilus* as a second species occurring in México and Honduras.

Poeciliopsis turrubarensis (Meek, 1912). Barred livebearer, bubucha rayada. Native.

Departments: Choluteca, Francisco Morazán, and Valle. Drainages: Pacific slope: Lempa, Goascorán, Nacaome, Choluteca and Negro.

Xiphophorus helleri Heckel, 1848. Green swordtail, cola de espada. Native.

Departments: Copán and Santa Bárbara. Drainages: Atlantic slope: Motagua and Chamelecón.

Remarks: Miller *et al.*, (2005) restricts the distributional range of *X. helleri* to the Nautla River in Mexico, south to the Usumacinta River in Guatemala, and also to the Sarstún River in Belize. In this research, we have collected *X. helleri* in the Motagua River drainage (vouchers USM 34171 from the Copan River and USM 31500 from the Blanco River, which is a tributary of the Copan River) and in the Chamelecón River (USM field number WAM09-31). Accordingly, the distributional range of *X. helleri* is larger than that proposed by Miller *et al.* (2005).

Xiphophorus mayae Meyer & Scharl, 2002. Mayan swordtail, cola de espada maya. Native.

Departments: Atlántida, Cortés and Santa Bárbara. Drainages: Atlantic slope: Chamelecón, Ulúa, Leán and Cangrejal.

Remarks: Meyer and Scharl (2002) suggest that *X. mayae* may occur in the Chamelecón and Lancetilla Rivers in Honduras. Voucher USM 31836 confirm the occurrence of *X. mayae* in Lancetilla River. Vouchers USM 34338 collected in the Blanco River at Pulapanzack in the Ulúa River Drainage, USM 31076 from the Cuero River, USM 31144 from Las Camelias River, USM 31121 from Santiago River and USM 33993 from the Danto River represent a range expansion for *X. mayae*.

Anablepidae. Secondary.

Anableps dowei Gill, 1861. Northern four-eyed, cuatrojos. Native.

Departments: Choluteca, El Paraíso and Valle. Drainages: Pacific slope: Lempa, Goascorán, Nacaome, Choluteca and Negro.

BELONIFORMES

Belonidae. Peripheral.

Strongylura marina (Walbaum, 1792). Atlantic needlefish, agujón verde. Native.

Departments: Atlántida, Cortés, Gracias a Dios and Islas de la Bahía. Drainages: Atlantic slope: Chamelecón, Cangrejal, Patuca, Roatán and Guanaja.

Strongylura notata (Poey, 1860). Redfin needlefish, agujón negro. Native.

Department: Islas de la Bahía. Drainage: Atlantic slope: Roatán.

Remarks: USM field number WAM08-105 from a freshwater stream in the island of Roatán represents the first report of *S. notata* in Honduras.

Strongylura timucu (Walbaum, 1792). Timucu, agujón timucú. Native.

Departments: Cortés, Gracias a Dios and the Bay Island. Drainages: Atlantic slope: Chamelecón, Patuca and Roatán.

Hemiramphidae. Peripheral.

Hyporhamphus roberti hildebrandi Jordan & Evermann, 1927. Central American halfbeak, agujeta. Native.

Departments: Comayagua, Cortés, Gracias a Dios, Islas de la Bahía, Santa Bárbara and Yoro. Drainages: Atlantic slope: Ulúa, Patuca, Roatán and Guanaja.

Remarks: Matamoros *et al.* (2007) reported USM 31216 and USM 33917 as the first records of this species in Honduras. *H. roberti hildebrandi* was found to be common in Lake Yojoá and El Cajon reservoir.

Hyporhamphus unifasciatus (Ranzani, 1841). Atlantic silverstripe halfbeak, agujeta del Atlántico. Native.

Department: Cortés. Drainage: Atlantic slope: Chamelecón.

SYNGNATHIFORMES

Syngnathidae. Peripheral.

Microphis brachyurus lineatus (Kaup, 1856). Opossum pipefish, pez pipa culebra. Native.

Departments: Atlántida and Cortés. Drainages: Atlantic slope: Chamelecón, Leán, Cangrejal and Lislis.

Remarks: The following vouchers represent the first report of *M. brachyurus lineatus* in Honduras: Chamelecón River drainage - USM 31922 from Chivana River, USM 31902 from the Tulián River; Leán River drainage - USM 31804 and USM 31843 from Lancetilla River; Cangrejal River drainage - USM 31685 from the Cangrejal River, USM 31751, and USM 31764 from Salado River; Lislis River drainage - USM 31465, USM 31723, USM 31734 from the Papaloteca River, and USM 34042 from the Mármol River west of the city of Trujillo.

Pseudophallus mindii (Meek & Hildebrand, 1923). Freshwater pipefish, pez pipa de agua dulce. Native.

Department: Atlántida. Drainages: Atlantic slope: Leán and Lislis.

Remarks: Voucher USM 31806 collected in Lancetilla River represents the first report of *P. mindii* in Honduras. *P. mindii* has also been collected in the Papaloteca River east of La Ceiba (C. Small, pers. comm.).

Pseudophallus starksi (Jordan & Culver, 1895). Yellowbelly pipefish, pez pipa de río. Native.

Department: Valle. Drainage: Pacific slope: Nacaome.

Syngnathus pelagicus Linnaeus, 1758. Sargassum pipefish, pez pipa oceánico. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Patuca.

Remarks: Voucher FMNH 84369 collected in Brus Laguna represents the first report of *S. pelagicus* in Honduras.

Syngnathus scovelli (Evermann & Kendall, 1896). Gulf pipefish, pez pipa del Golfo. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Patuca.

SYNBRANCHIFORMES

Synbranchidae. Secondary.

Ophisternon aenigmaticum Rosen & Greenwood, 1976. Obscure swamp eel, anguila falsa. Native.

Departments: Atlántida, Copán and Cortés. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán and Cangrejal.

Synbranchus marmoratus Bloch, 1795. Marbled swamp eel, anguila de lodo. Native.

Departments: Atlántida, Choluteca, Colón, Comayagua, Copán, Cortés, El Paraíso, Francisco Morazán, Intibucá, La Paz, Olancho, Santa Bárbara, Gracias a Dios, Valle and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta and Coco. Pacific slope: Lempa, Goascorán, Nacaome, Choluteca and Negro.

PERCIFORMES

Centropomidae. Peripheral.

Centropomus ensiferus Poey, 1860. Swordspine snook, robalo de espolón. Native.

Departments: Cortés and Gracias a Dios. Drainage: Atlantic slope: Chamelecón, Patuca and Coco.

Centropomus nigrescens Günther, 1864. Black snook, robalo negro. Native.

Department: Choluteca. Drainage: Pacific slope: Choluteca.

Centropomus parallelus Poey, 1860. Smallscale fat snook, robalo escama pequeña. Native.

Departments: Cortés, Gracias a Dios and Santa Bárbara. Drainages: Atlantic slope: Chamelecón, Ulúa and Patuca.

Centropomus pectinatus Poey, 1860. Tarpon snook, robalo grande. Native.

Departments: Gracias a Dios and Islas de la Bahía. Drainages: Atlantic slope: Plátano, Patuca and Roatán.

Centropomus undecimalis (Bloch, 1792). Common snook, robalo blanco. Native.

Departments: Atlántida, Cortés, Gracias a Dios and Islas de la Bahía. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Patuca and Roatán.

Centropomus unionensis Bocourt, 1868. Humpback snook, robalo serrano. Native.

Department: Choluteca. Drainage: Pacific slope: Choluteca.

Centrarchidae. Primary.

Micropterus salmoides (Lacepède, 1802). Largemouth bass, lobina negra. Exotic.

Remarks: *Micropterus salmoides* was introduced into Lake of Yojoá as a sport fish (Ostmark, 1964; Cruz, 1985). The literature suggests an introduction in the early 1950s (Ostmark, 1964; Cruz, 1985). However, an earlier arrival in Honduras is possible. Cruz (1985) studied the biology of *M. salmoides* in the Lake of Yojoá and provided a synopsis of the introduction. Vaux (1985) collected *M. salmoides* in the Laguna de Yure which is adjacent to the Lake of Yojoá. We have not collected *M. salmoides* outside of the previously mentioned localities.

Carangidae. Peripheral.

Caranx bartholomaei (Cuvier, 1833). Yellow jack, cojinuda amarilla. Native.

Department: Islas de la Bahía. Drainage: Atlantic slope: Roatán.

Remarks: USM field number WAM08-105 collected in freshwater streams in the island of Roatán represent the first report of *C. bartholomaei* in Honduras.

Caranx latus Agassiz, 1831. Horse-eye jack, jurel blanco. Native.

Departments: Atlántida and Cortés. Drainages: Atlantic slope: Chamelecón, Leán and Cangrejal.

Oligoplites saurus (Bloch & Schneider, 1801). Leather jack, piña sietecueros. Native

Department: Cortés. Drainage: Atlantic slope: Chamelecón.

Remarks: Voucher USM 34351 collected in the Tulián River, a tributary of the Chamelecón River, represents the first report of *O. saurus* in Honduras.

Trachinotus goodei Jordan & Evermann, 1896. Palometa, pámpano listado. Native.

Department: Cortés. Drainage: Atlantic slope: Chamelecón.

Lutjanidae. Peripheral.

Lutjanus apodus (Walbaum, 1792). Schoolmaster, pargo amarillo. Native.

Departments: Atlántida, Cortés and Islas de la Bahía. Drainages: Atlantic slope: Chamelecón, Cangrejal and Roatán.

Lutjanus jocu (Bloch & Schneider, 1801). Dog snapper, pargo jocu. Native.

Departments: Cortés and Islas de la Bahía. Drainages: Atlantic slope: Chamelecón and Roatán.

Gerreidae. Peripheral.

Diapterus auratus Ranzani, 1842. Irish pompano, mojarra guacha. Native.

Departments: Cortés and Islas de la Bahía. Drainages: Atlantic slope: Chamelecón and Roatán.

Eucinostomus argenteus Baird & Girard, 1855. Spotfin mojarra, mojarra plateada. Native.

Departments: Colón, Cortés and Gracias a Dios. Drainages: Atlantic slope: Chamelecón, Lislis and Patuca.

Eucinostomus harengulus Goode & Bean, 1879. Tidewater mojarra, mojarra costera. Native.

Department: Islas de la Bahía. Drainage: Atlantic slope: Roatán.

Remarks: Vouchers collected in freshwater streams in the island of Roatán (USM field number WAM08-105) represent the first report *E. harengulus* in Honduras.

Eucinostomus jonesii (Günther, 1879). Slender mojarra, mojarra flaca. Native.

Department: Islas de la Bahía. Drainage: Atlantic slope: Roatán.

Remarks: Vouchers collected in freshwater streams in the island of Roatán (USM field number WAM08-106 and WAM08-114) represent the first report of *E. jonesii* in Honduras.

Eucinostomus melanopterus (Bleeker, 1863). Flagfin mojarra, mojarrita de ley. Native.

Departments: Colón, Cortés and Islas de la Bahía. Drainages: Chamelecón, Lislis and Guanaja.

Eugerres plumieri (Cuvier, 1830). Striped mojarra, mojarra rayada. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Coco.

Gerres cinereus (Walbaum, 1792). Yellow fin mojarra, mojarra plateada. Native.

Departments: Cortés and Islas de la Bahía. Drainages: Atlantic slope: Chamelecón, Roatán and Guanaja.

Haemulidae. Peripheral.

Pomadasyς croco (Cuvier, 1830). Burro grunt, corocoro croco. Native.

Departments: Atlántida, Colón, Cortés, Islas de la Bahía and Santa Bárbara. Drainages: Atlantic slope: Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Roatán and Guanaja.

Sciaenidae. Peripheral.

Bairdiella ronchus (Cuvier, 1830). Ground croaker, ronco rayado. Native.

Department: Cortés. Drainage: Atlantic slope: Chamelecón.

Cynoscion praedatorius (Jordan & Gilbert, 1889). Boccone weakfish, corvina bocona. Native.

Department: Choluteca. Drainage: Pacific slope: Choluteca.

Remarks: The vouchers CAS 3206 and CAS 3207 collected in the Pedregal River, a tributary of the Choluteca River drainage, represent the first records of *C. praedatorius* in Honduras.

Menticirrhus americanus (Linnaeus, 1758). Southern kingfish, berrugato zorro. Native.

Department: Cortés. Drainage: Pacific slope: Chamelecón.

Paralanchurus dumerilii (Bocourt, 1869). Suco croaker, suco rayado. Native.

Department: Choluteca. Drainage: Pacific slope: Choluteca.

Umbrina broussonnetii Cuvier, 1830. Striped drum, corvina rayada. Native.

Department: Cortés. Drainage: Atlantic slope: Chamelecón.

Remarks: Voucher GCRL 21697 collected in the Omoa River, which is part of the Chamelecón River system, represents the first record of *U. broussonnetii* in Honduras.

Polynemidae. Peripheral.

Polydactylus virginicus (Linnaeus, 1758). Barbu, barbudo barbú. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Patuca.

Mugilidae. Peripheral.

Agonostomus monticola (Bancroft, 1834). Mountain mullet, tepemechín. Native.

Departments: Atlántida, Colón, Cortés, El Paraíso, Gracias a Dios, Islas de la Bahía, Santa Bárbara and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Coco, Warunta, Guanaja and Roatán. Pacific slope: Choluteca.

Joturus pichardi Poey, 1860. Bobo mullet, cuyamel. Native.

Departments: Atlántida, Colón, Cortés, Gracias a Dios. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico, Plátano, Patuca, Warunta and Coco.

Mugil curema Valenciennes, 1836. White mullet, lisa blanca. Native.

Departments: Cortés, Gracias a Dios, Islas de la Bahía and Choluteca. Drainages: Atlantic slope: Chamelecón, Patuca, Roatán and Guanaja. Pacific slope: Choluteca.

Mugil liza Valenciennes, 1836. Liza, lisa. Native.

Departments: Cortés. Drainage: Atlantic slope: Chamelecón.

Remarks: voucher UMMZ 173259 (originally identified as *M. brasiliensis*) collected in the Omoa River, which is part of the Chamelecón River system, represents the first record of *M. liza* in Honduras.

Cichlidae. Secondary.

Amatitlania nigrofasciata (Günther, 1867). Convict cichlid, conguito convicto. Native.

Departments: Choluteca, El Paraíso, Francisco Morazán, Gracias a Dios, Intibucá, Olancho, Valle and Yoro. Drainages: Atlantic slope: Lislis, Aguán, Sico-Tinto, Patuca, Warunta and Coco. Pacific slope: Lempa, Goascorán, Nacaome, Choluteca and Negro.

Amatitlania siquia Schmitter-Soto, 2007. Siquia cichlid, conguito del Siquia. Native.

Departments: El Paraíso, Francisco Morazán, and Gracias a Dios. Drainages: Atlantic slope: Coco. Pacific slope: Choluteca.

Remarks: The locality from the Yeguaré River listed in Schmitter-Soto (2007) as an Atlantic locality is an error. The Yeguaré River is a tributary of the Choluteca River which drains into the Gulf of Fonseca. Thus, in Honduras, *A. siquia* is found in both the Pacific and Atlantic slopes.

Amphilophus alfari (Meek, 1907). Pastel Cichlid, mojarra pastel. Native.

Departments: Gracias a Dios and Olancho. Drainages: Atlantic slope: Plátano, Patuca, Warunta and Coco.

Amphilophus hogaboomorum (Carr & Giovannoli, 1950). Cholutecan Mojarra, Mojarra de Choluteca. Endemic.

Departments: Choluteca. Drainages: Pacific slope: Choluteca and Negro.

Remarks: The distribution of this fish was limited to the lower reaches of the Choluteca River. We collected this species in the Negro River (USM field number WAM08-18) near the community El Ojo de Agua, and in a second locality in the lower reaches of the Choluteca River (USM 31935) near the community of El Mal Paso on the road to Orocuina. These two reports represent a range extension for *A. hogaboomorum*.

Amphilophus longimanus (Günther, 1867). Redbreast cichlid, mojarra pecho rojo. Native.

Departments: Choluteca, El Paraíso, Francisco Morazán, Gracias a Dios, Olancho, Valle and Yoro. Drainages: Atlantic slope: Aguán, Sico-Tinto, Plátano, Patuca, Warunta and Coco. Pacific slope: Nacaome, Choluteca and Negro.

Amphilophus robertsoni (Regan, 1905). Honduran cichlid, mojarra hondureña. Native.

Departments: Atlántida, Colón, Cortés, Gracias a Dios, Santa Bárbara and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano and Patuca.

Remarks: Greenfield & Thomerson (1997) limited the southernmost range of this species to the department of Atlántida. However, Miller *et al.* (2005) listed UMMZ 188235 as *A. robertsoni* collected in the upper Patuca River in eastern Honduras.

Archocentrus centrarchus (Gill, 1877). Flier cichlid, mojarrita rayada. Native.

Department: Choluteca. Drainages: Pacific slope: Choluteca and Negro.

Remarks: Schmitter-Soto (2007) states that *A. centrarchus* is found in drainages of the Gulf of Fonseca. *A. centrarchus* has been reported in Honduras only in two Gulf of Fonseca drainages, the Negro and Choluteca Rivers (Cruz & Espinal, 1989), but there is no evidence of its occurrence in the Nacaome and Goascorán Rivers.

Archocentrus multispinosus (Günther, 1867). Rainbow cichlid, mojarrita arcoiris. Native.

Departments: Choluteca and Gracias a Dios. Drainages: Atlantic slope: Patuca, Warunta and Coco. Pacific slope: Choluteca and Negro.

Remarks: Schmitter-Soto (2007) found the northernmost limit of this species on the Pacific slope of Central America in the Guasaule River in Nicaragua. We collected this species in the Negro River (USM field number WAM08-20) and the Choluteca River (USM 31494). In addition, Cruz and Espinal (1989) also reported *A. multispinosus* in the Negro and Choluteca Rivers.

'*Cichlasoma trimaculatum* (Günther, 1867). Threespot cichlid, mojarra prieta. Native.

Department: Valle. Drainages: Pacific slope: Lempa and Goascorán.

'*Cichlasoma urophthalmus* (Günther, 1862). Mayan cichlid, mojarra maya. Native.

Departments: Atlántida and Cortés. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán and Lislis.

Cryptoheros cutteri (Fowler, 1932). Honduran congo, congo hondureño. Native.

Departments: Atlántida, Colón, Comayagua, Copán, Cortés, Francisco Morazán, Santa Bárbara and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto and Patuca. Pacific slope: Choluteca.

Remarks: Schmitter-Soto (2007) restricts the distribution of this species to the Atlantic slope drainages of Honduras and Guatemala with its easternmost boundary at the Aguán River in Honduras. We collected *C. cutteri* in the Honduran Pacific slope (USM field number WAM08-43; Choluteca River basin, Valle de Zamorano). This collection represents a range extension for *C. cutteri*.

Hypsophrys nicaraguensis (Günther, 1864). Butterfly cichlid, moga amarilla. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Coco.

Remarks: The northern most reported boundary of *H. nicaraguensis* is a locality in the Nicaraguan side of the Coco River bordering Honduras (Schmitter-Soto, 2007). During this project *H. nicaraguensis* was collected in the Rus Rus River on the Honduran side of the Coco River (USM field numbers WAM08-05 and WAM08-08). These records represent a range expansion for the species and a new species report for Honduras.

Oreochromis mossambicus (Peters, 1852). Mozambique tilapia, tilapia mozambiqueña. Exotic.

Departments: Intibucá, La Paz. Drainage: Pacific slope: Lempa.

Remarks: *O. mossambicus* was introduced to Honduras by a group of Taiwanese scientists on a mission to bring common carp and tilapia aquaculture to Central America (D. Meyer, pers. comm.).

Oreochromis niloticus (Linnaeus, 1758). Nile tilapia, tilapia del Nilo. Exotic.

Departments: Atlántida, Choluteca, Colón, Comayagua, Copán, Cortés, El Paraíso, Francisco Morazán, Gracias a Dios, Intibucá, La Paz, Lempira, Ocotepeque, Olancho and Santa Bárbara. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta and Coco. Pacific slope: Lempa, Goascorán, Nacaome, Choluteca and Negro.

Remarks: *O. niloticus* was brought to Honduras by governmental agencies in 1979 for stocking in the new ponds and facilities of the El Carao station (D. Meyer, pers. comm.).

Parachromis dovii (Günther, 1864). Guapote, guapote blanco. Native.

Departments: Colón, El Paraíso, Gracias a Dios, Olancho and Yoro. Drainages: Atlantic slope: Aguán, Sico-Tinto, Plátano, Patuca, Warunta and Coco.

Parachromis friedrichsthalii (Heckel, 1840). Yellowjacket, guapote hondureño. Native.

Departments: Atlántida, Copán, Cortés and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal and Lislis.

Parachromis loisellei (Bussing, 1989). Yellow guapote, guapote amarillo. Native.

Departments: Atlántida, Cortés, Choluteca, Colón, Copán and Gracias a Dios. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta and Coco.

Remarks: Bussing (2002) states that the range of *P. loisellei* extends from the Ulúa River in the Honduran Atlantic slope through the Cricamola River basin in Panama. Vouchers FMNH 50014 from the Chamelecón River and USM 31501 from the Blanco River (Motagua River drainage) represent a range expansion for the species. USM field number WAM08-138 from the upper reaches of the Coco River Close to San Marcos de Colón in the Department of Choluteca represents a new locality for Honduras.

Parachromis managuensis (Günther, 1867). Jaguar guapote, guapote jaguar. Native.

Departments: Comayagua, Cortés, El Paraíso, Gracias a Dios, Olancho, Santa Bárbara and Yoro. Drainages: Atlantic slope: Chamelecón, Ulúa, Sico-Tinto, Plátano, Patuca, Warunta and Coco.

Remarks: The natural distribution of *P. managuensis* includes most of the Atlantic slope of Honduras, from the Ulúa River (Martin, 1972) to the drainage of the Matina River in Costa Rica (Bussing, 2002). In Honduras, *P. managuensis* has been introduced in all Pacific slope drainages.

Parachromis motaguensis (Günther, 1867). Motagua cichlid, guapote del Motagua. Native.

Departments: Choluteca, Copán, Cortés, Francisco Morazán and Intibucá. Drainages: Atlantic slope: Motagua, Chamelecón and Ulúa. Pacific slope: Lempa, Goascorán, Nacaome and Choluteca.

Remarks: The distribution of *P. motaguensis* in Honduras was already recorded by Martin (1972). Carr and Giovannoli (1950) gave distributional details of the species in the drainage of the Choluteca River.

Rocio octofasciata (Regan, 1903). Jack Dempsey, mojarra castarrica. Native.

Departments: Cortés and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón and Ulúa.

Theraps wesseli Miller, 1996. Cangrejal guapotillo, guapotillo del Cangrejal. Endemic.

Department: Atlántida. Drainages: Atlantic slope: Cangrejal and Lislis.

Remarks: *T. wesseli* was previously known only by the type locality in the drainage of the Papaloteca River. We collected *T. wesseli* in the Cangrejal River (USM 31003, USM 31009, USM 31017, USM 31022, USM 31552, USM 31561, USM 31574, USM 31582, USM 31774, USM 31780) and the Danto River (USM 31050) in La Ceiba, Department of Atlántida. Reports from the above mentioned rivers represent a range extension for *T. wesseli*.

Thorichthys aureus (Günther, 1862). Blue flash, mojarrita dorada. Native.

Department: Copán. Drainage: Atlantic slope: Motagua.

Vieja maculicauda (Regan, 1905). Blackbelt cichlid, machaca. Native.

Departments: Atlántida, Colón, Cortés, Gracias a Dios, Santa Bárbara and Yoro. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta and Coco.

Vieja microphthalmalma (Günther, 1862). Motagua machaca, machaca del Motagua. Native.

Department: Copán. Drainage: Atlantic slope: Motagua.

Labrisomidae. Peripheral.

Labrisomus nuchipinnis (Quoy & Gaimard, 1824). Hairy blenny, trambollo peludo. Native.

Department: Cortés. Drainage: Atlantic slope: Chamelecón.

Dactyloscopidae. Peripheral.

Dactyloscopus tridigitatus Gill, 1859. Sand stargazer, miraestrellas ojilargo. Native.

Departments: Colón and Cortés. Drainages: Atlantic slope: Chamelecón and Aguán.

Blenniidae. Peripheral.

Lupinoblennius vinctus (Poey, 1867). Herre, 1942. Mangrove blenny, blenio de mangle. Native.

Department: Cortés. Drainage: Atlantic slope: Chamelecón.

Remarks: Specimen GCRL 4439 collected in the Cieneguita River, which is a tributary of the Chamelecón drainage, represents the first report of the species in the country.

Eleotridae. Peripheral.

Dormitator latifrons (Richardson, 1844). Pacific fat sleeper, dormilón del Pacifico. Native.

Departments: Choluteca and Valle. Drainages: Pacific slope: Lempa, Goascorán, Nacaome, Choluteca and Negro.

Dormitator maculatus (Bloch, 1792). Fat sleeper, dormilón del Atlantico. Native.

Departments: Atlántida, Colón, Cortés, Gracias a Dios and Islas de la Bahía. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Lislis, Cangrejal, Aguán, Sico-Tinto, Plátano, Patuca, Warunta, Coco and Roatán.

Eleotris amblyopsis (Cope, 1871). Largescaled spinycheek sleeper, Dormilon oscuro. Native.

Departments: Atlántida, Colón, Cortés, Gracias a Dios and Islas de la Bahía. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Warunta, Coco, Roatán and Guanaja.

Eleotris perniger (Cope, 1871). Smallscaled spinycheek sleeper, Guavina espinosa. Native.

Departments: Atlántida, Colón, Cortés, Gracias a Dios and Islas de la Bahía. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta, Coco, Roatán and Guanaja.

Remarks: Earlier collections in Honduras identified as *E. pisonis* actually refer to *E. perniger* (see Pezold & Cage, 2002). The distribution of *E. pisonis* extends from the delta of the Orinoco River in Venezuela to Brazil (Pezold & Cage, 2002).

Eleotris picta Kner, 1863. Spotted sleeper, guavina manchada. Native.

Department: Choluteca and Valle Drainages: Pacific slope: Lempa, Goascorán, Nacaome, Choluteca and Negro.

Erotelis smaragdus (Valenciennes, 1837). Emerald sleeper, guavina de concha. Native.

Department: Islas de la Bahía. Drainage: Atlantic slope: Roatán

Remarks: Vouchers FMNH 84942, FMNH 95589 and UMMZ 199452 collected in creeks of Roatán represent the first record of *E. smaragdus* for Honduras.

Gobiomorus dormitor Lacepède, 1800. Bigmouth sleeper, guavina del Atlantico. Native.

Departments: Atlántida, Colón, Comayagua, Cortés, Gracias a Dios and Islas de la Bahía, Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lislis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta, Coco, Roatán and Guanaja.

Gobiomorus maculatus (Günther, 1859). Pacific sleeper, guavina del Pacifico. Native.

Departments: Choluteca and Valle. Drainages: Pacific slope: Goascoran, Nacaome, Choluteca and Negro.

Leptophilypnus fluviatilis (Meek & Hildebrand, 1916). Dwarf guavina, guavina enana. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Patuca.

Remarks: Thacker *et al.* (2006) redescribed the genus *Leptophilypnus* and included several specimens from the Patuca River (GCRL 7850, UMMZ 199575, UMMZ 199594, and UMMZ 199611).

Gobiidae. Peripheral.

Awaous banana (Valenciennes, 1837). River goby, gobio de río. Native.

Departments: Atlántida, Choluteca, Colón, Copán, Cortés, Francisco Morazán, Gracias a Dios, Islas de la Bahía and Valle. Drainages: Atlantic slope: Motagua, Chamelecón, Ulúa, Leán, Cangrejal, Lis-Lis, Aguán, Sico-Tinto, Plátano, Patuca, Warunta, Coco, Roatán and Guanaja. Pacific slope: Lempa, Goascorán, Nacaome, Choluteca and Negro.

Bathygobius soporator (Valenciennes, 1837). Frillfin goby, mapo aguado. Native.

Department: Cortés and Islas de la Bahía. Drainages: Atlantic slope: Chamelecón and Roatán.

Remarks: Vouchers USM 31766 and USM 31743 collected in the lower reaches of Salado River near La Ceiba, and USM field collection numbers WAM08-103 and WAM08-109 collected in creeks of the island of Roatán represent the first record of *B. soporator* in Honduras.

Ctenogobius boleosoma (Jordan & Gilbert, 1882). Darter goby, madrejuile. Native.

Departments: Cortés, Gracias a Dios and Islas de la Bahía. Drainages: Atlantic slope: Chamelecón, Patuca, and Roatán.

Ctenogobius fasciatus Gill, 1858. Blotchcheek goby, gobio caramarcada. Native.

Departments: Cortés. Drainage: Atlantic slope: Chamelecón.

Remarks: Voucher USM 34352 collected in the Tulián River, a tributary of the Chamelecón River, represents the first record of the species in Honduran freshwaters.

Ctenogobius sagittula (Günther, 1861). Longtail goby, gobio aguzado. Native.

Departments: Choluteca and Valle. Drainages: Pacific slope: Negro and Nacaome.

Ctenogobius stigmaticus (Poey, 1860). Marked goby, gobio marcado. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Patuca.

Evorthodus lyricus (Girard, 1858). Lyre goby, gobio lyra. Native.

Department: Atlántida, Cortés, Gracias a Dios and Islas de la Bahía. Drainages: Atlantic slope: Chamelecón, Cangrejal, Patuca and Roatán.

Remarks: Vouchers UMMZ 17385, UMMZ 17314, UMMZ 17302, UMMZ 173286, FMNH 98044, FMNH 84978, USM 31687, USM 31878, and USM 31912, as well as USM field collection numbers WAM08-103 and WAM08-109 represent the first reports of *E. lyricus* in Honduras.

Gobionellus oceanicus (Pallas, 1770). Highfin goby, madrejuile flecha. Native.

Departments: Cortés, Gracias a Dios and Islas de la Bahía. Drainages: Atlantic slope: Chamelecón, Patuca and Roatán.

Remarks: Vouchers FMNH 86679, FMNH 84944, and UMMZ 199456 collected in creeks of the island of Roatán, and FMNH 86861 collected in Brus Laguna, represent the first formal report of *G. oceanicus* in Honduras.

Lophogobius cyprinoides (Pallas, 1770). Crested goby, gobio crestado. Native.

Department: Cortés. Drainage: Atlantic slope: Chamelecón.

Remarks: Voucher USM 31896 represents the first report of *L. cyprinoides* in Honduras.

Sicydium gymnogaster Ogilvie-Grant, 1884. Smoothbelly goby, chupa-piedras desnudo. Native.

Departments: Atlántida and Colón. Drainages: Atlantic slope: Leán, Cangrejal and Lislis.

Sicydium multipunctatum Regan, 1906. Multispotted goby, chupa-piedras pecoso. Native.

Department: El Paraíso. Drainage: Pacific slope: Choluteca.

Sicydium plumieri (Bloch, 1786). Sirajo. chupa-piedras de plumer. Native.

Departments: Atlántida, Colón and Islas de la Bahía. Drainages: Atlantic slope: Leán, Cangrejal, Lislis, Roatán and Guanaja.

Remarks: Vouchers FLMNH 16334 collected in a creek in the island of Rotan, USM 31858, USM 31866 from the Lancetilla River, USM 31540, USM31545, USM 31556, USM 31563 from the Cangrejal River, USM 31792 from the Coloradito River and USM 33996 from the Danto River represent the first report of *S. plumieri* in Honduras.

Sicydium punctatum Perugia, 1896. Spotted algae-eating goby, chupa-piedras punteado. Native.

Departments: Atlántida, Colón and Islas de la Bahía. Drainages: Atlantic slope: Leán, Cangrejal, Lislis and Guanaja.

Remarks: Vouchers USM 31860, USM 31868 and USM 31891 from the Lancetilla River, USM 31606, USM 31788 from the Coloradito River, USM 31544, USM 31555, USM 31562, USM 31580, USM31776 from the Cangrejal River, and USM 34047 from the Marmol River west of Trujillo on the Honduran Caribbean Coast, represent the first report of *S. punctatum* in Honduras as well as an expansion of its known distributional range.

Sicydium sp. 1. Native.

Departments: Atlántida, Colón and Islas de la Bahía. Drainages: Atlantic slope: Leán, Cangrejal, Lislis and Guanaja.

Sicydium sp. 2. Native.

Departments: Atlántida and Colón. Drainages: Atlantic slope: Leán, Cangrejal and Lislis.

Microdesmidae. Peripheral.

Microdesmus carri Gilbert, 1966. Stippled wormfish, pez lombriz punteado. Native.

Department: Cortés. Drainage: Atlantic slope: Chamelecón.

Remarks: Voucher GCRL 3704 collected in the Omoa River, which is part of the Chamelecón river system, represents the first record *M. carri* in Honduras.

Acanthuridae. Peripheral.

Acanthurus bahianus Castelnau, 1855. Ocean surgeon, cirujano pardo. Native.

Department: Gracias a Dios. Drainage: Atlantic slope: Patuca.

Sphyraenidae. Peripheral.

Sphyraena barracuda (Edwards, 1771). Great barracuda, barracuda. Native.

Department: Islas de la Bahía. Drainages: Atlantic slope: Roatán and Guanaja.

Sphyraena guachancho Cuvier, 1829. Guaguanche, tolete. Native.

Departments: Cortés and Islas de la Bahía. Drainages: Atlantic slope: Chamelecón, Roatán and Guanaja.

PLEURONECTIFORMES

Paralichthyidae. Peripheral.

Citharichthys abbotti Dawson, 1969. Veracruz whiff, lenguado veracruzano. Native.

Department: Cortés. Drainage: Atlantic slope: Chamelecón.

Remarks: Voucher GCRL 4470 collected in the Omoa River, which is part of the Chamelecón River system, represents the first record of *C. abbotti* in Honduras.

Citharichthys arenaceus Evermann & Marsh, 1900. Sand whiff, lenguado de arena. Native.

Department: Cortés. Drainage: Atlantic slope: Chamelecón.

Remarks: Vouchers GCRL 21631 and GCRL 21698 collected at the Omoa River, which is part of the Chamelecón River system, represent the first record of *C. arenaceus* in Honduras.

Citharichthys gilberti Jenkins & Evermann, 1889. Bigmouth sanddab, lenguado escondido. Native.

Department: Choluteca. Drainage: Pacific slope: Choluteca.

Citharichthys macrops Dresel, 1885. Spotted whiff, lenguado manchado. Native.

Departments: Cortés and Islas de la Bahía. Drainages: Atlantic slope: Chamelecón and Roatán.

Citharichthys spilopterus Günther, 1862. Bay whiff, lenguado pardo. Native.

Department: Cortés. Drainage: Atlantic slope: Chamelecón.

Remarks: the following two vouchers, GCRL 4487 and GCRL 4471, collected in the Omoa River, which is part of the Chamelecón River system, represents the first record of *C. spilopterus* in Honduras.

Achiridae. Peripheral.

Achirus lineatus (Linnaeus, 1758). Lined sole, suela listada. Native.

Departments: Cortés and Islas de la Bahía. Drainages: Atlantic slope: Chamelecón and Roatán.

Remarks: Vouchers GCRL 4478, GCRL 21693 from the Omoa River part of the Chamelecón River system, GCRL 4492, GCRL 6002, USM 31914 from the Chibana River, a tributary of the Chamelecón River, USM 31690 from the Cangrejal River, USM 31756 from the Salado River, USM 31805 from Lancetilla River USM 33991 from the Danto River, and FMNH 84968 from a small stream of the island of Roatán represent the first records of the *A. lineatus* in Honduras.

Trinectes fonsecensis (Günther, 1862). Spottedfin sole, suela rayada. Native.

Department: Valle. Drainage: Pacific slope: Goascorán.

Remarks: Voucher USM 33950 collected in the Goascorán River near the community of Caridad represents the first record *T. fonsecensis* in Honduras.

Trinectes maculatus (Bloch & Schneider, 1801). Hogchoker, suela tortilla. Native.

Department: Islas de la Bahía. Drainages: Atlantic slope: Roatán and Guanaja.

Remarks: USM field collection numbers WAM08-103 collected in creeks of the island of Roatán and WAM08-118 collected in creeks of the island of Guanaja represent the first records of *T. maculatus* in Honduras.

TETRAODONTIFORMES

Tetraodontidae. Peripheral.

Sphoeroides testudineus (Linnaeus, 1758). Checkered puffer, botete sapo. Native.

Departments: Atlántida, Cortés, Gracias a Dios and Islas de la Bahía. Drainages: Atlantic slope: Chamelecón, Cangrejal, Ulúa, Patuca and Roatán.

Results and discussion

The native freshwater fish fauna of Honduras is composed of 166 species in 96 genera, 41 families, and 18 orders (Appendix). In addition to the native species, six exotic species were found in the country. The most speciose families are Cichlidae (22 species), Poeciliidae (17 species), and Gobiidae (15 species). Based on published salinity tolerances (Myers, 1949), just 4.8% (8 species) of the total freshwater native fish species are primary or obligate freshwater. These eight species are represented in just three families: Characidae (*A. aeneus*, *B. guatemalensis*, *H. tortuguerae* and *R. bouchellei*), Heptapteridae (*R. guatemalensis* and *R. laticauda.*) and Gymnotidae (*G. cylindricus* and *G. maculosus*). The secondary and peripheral freshwater species represent 28.3% and 66.9% of the freshwater fish fauna, respectively. The paucity of Honduran primary or obligate freshwater fishes found in this study is not surprising, given Myers' (1966) suggested history and composition of the Central American freshwater fish fauna.

A total of 36 species were new records for Honduras, and there were 12 species found to have expanded ranges. Nine species appear to be endemic to Honduras, of which only two have been formally described: the cichlids *A. hogaboomorum* and *T. wesseli*. Of the remaining six endemic species, descriptions of *Profundulus* sp.1 and *Poecilia* sp.1 are either in review or in preparation and four other species listed herein are awaiting description.

With the exception of El Salvador, most Central American countries now have fairly recent formal species lists. These lists include: México (Miller *et al.*, 2005), Belize (Greenfield & Thomerson, 1997), Guatemala (Kihn-Pineda *et al.* 2006), Nicaragua (Villa, 1982), Costa Rica (Bussing, 2002), Panama (Loftin, 1965) and Honduras (this publication). The only formal list for El Salvador dates back to 1925 (Hildebrand, 1925). In addition, large areas of some countries, such as the Mosquitia region of both Honduras and Nicaragua, are logistically difficult to sample and require more exploratory work which would likely yield additional diversity. Compared to other Central American countries, Honduras appears to have the smallest primary or obligate freshwater fish diversity (8 species). Given the geologic history and drainage patterns for the region, it is likely that El Salvador is similarly depauperate in these groups.

The primary freshwater fish composition of Nicaragua is very similar to that of Honduras and differs only for a few species in the family Characidae which are absent in Honduras. A number of species in the families Heptapteridae (See Villa, 1982; Bussing, 2002) and Gymnotidae are found in both countries (see Albert & Miller, 1995, Albert *et al.*, 1999, Albert, 2001). Moving north of Honduras, major differences in fish assemblages appear to start in northern Guatemala near the Mexican border (see Kihn-Pineda *et al.* 2006; Valdez-Moreno *et al.*, 2005), Belize (see Greenfield and Thomerson 1997) and Southern México (see Miller *et al.*, 2005, Lozano-Vilano *et al.*, 2007 and González-Díaz *et al.*, 2008). A number of species of primary or obligate North American freshwater fishes families Ictaluridae and Catostomidae extend their ranges this far south. However, the central and southern portions of Guatemala bordering Honduras appears to have primary or obligate freshwater species assemblages very similar to that of Honduras.

Martin (1972) was struck by the apparent lack of endemism seen in Honduras. His surveys found just one endemic freshwater fish for the country (*A. hogaboomorum*). It was not until 1996 that *T. wesseli* was described (Miller, 1996). Our samples appear to contain a number of putatively undescribed species (Appendix), which are endemic to Honduras. We suspect that the perceived lack of endemism in Honduras is due to insufficient ichthyological research in the country. Further, of all putative new species reported here, none are primary freshwater fishes, and most are in the families Poeciliidae, Profundulidae, and Gobiidae.

As with most aspects of Honduran freshwater fish biogeography, the ecology and conservation impacts of exotic species are largely unknown. Most freshwater exotics were introduced for aquaculture purposes, with the notable exception of largemouth bass (*M. salmoides*) introduced in the early 1950's as a sport fish (Cruz, 1985). All indications are that *M. salmoides* has not spread beyond the original site of introduction. Of the remaining five exotic species, the Nile and Mozambique tilapias (*O. niloticus* and *O. mossambicus*, respectively) have spread the most widely and potentially pose the greatest threat to native species. Three other species have been introduced to Honduras since the early 1980's for the purpose of aquaculture (*Colossoma macropomum*, *Oncorhynchus mykiss* and *Oreochromis urolepis hornorum*; D. Meyer, pers. comm.), but there is no evidence that these species are reproducing in the wild.

One of the main goals of this project was to compile data from as much of Honduras as possible. Our broad approach was intended to be thorough, including museum material, published literature, and extensive direct sampling throughout the country. While our four-year sampling effort increased the number of Honduran freshwater fish on this checklist, substantial areas of the country remain unexplored. In particular, remote areas of the departments of Gracias a Dios and Olancho in the east, and Lempira, Intibucá and Ocotepeque in the west require further sampling (Fig. 1). Given these gaps, this study is not the definitive work on Honduran freshwater fishes, but it is our hope that the data presented here will serve as the foundation for further study and conservation action.

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Appendix

Honduran freshwater fish species by political department (Fig. 1). Sal. refers to tolerance to salinity based on Meyers (1949); primary = Pri; secondary = Se; and peripheral = Pe. Con. Sta. Stands for conservation status, and species were classified as native, endemic and exotic. NR stands for New Records. These are fishes that are reported for the first time in Honduras. RE stands for Range Extension. These are fishes whose natural range has been expanded based on the findings of this study.

FAMILY / species	Atlántida	Choluteca	Colón	Comayagua	Copán	Cortés	El Paraíso	Francisco	Gracias a	Intibucá	Isl. Bahía	La Paz	Lempira	Ocotepeque	Olancho	Santa	Valle	Yoro	Sal.	Con. Sta.	N	R	E
CARCHARHINIDAE																							
<i>Carcharhinus leucas</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat			
<i>Rhizoprionodon porosus</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat			
PRISTIDAE																							
<i>Pristis pectinata</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat			
MEGALOPIDAE																							
<i>Megalops atlanticus</i>	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat			
ANGUILLIDAE																							
<i>Anguilla rostrata</i>	1	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	PE	Nat			
OPHICHTHIDAE																							
<i>Myrophis punctatus</i>	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	PE	Nat			
CLUPEIDAE																							
<i>Harengula clupeola</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat			
<i>Harengula humeralis</i>	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat			
<i>Jenkinsia lamprotaenia</i>	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat			
<i>Ophistonema oglinum</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat			
ENGRAULIDAE																							
<i>Anchoa colonensis</i>	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat			
<i>Anchoa filifera</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat			
<i>Anchoa parva</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat			
<i>Anchovia clupeoides</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat			
<i>Anchoviella elongata</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat			
CYPRINIDAE																							
<i>Ctenopharyngodon idella</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	PR	Exo			
<i>Hypophthalmichthys molitrix</i>	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	PR	Exo			
CHARACIDAE																							
<i>Astyanax aeneus</i>	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	PR	Nat			
<i>Brycon guatemalensis</i>	0	1	0	1	1	1	1	1	0	0	0	1	1	0	0	1	0	1	PR	Nat			
<i>Hypheobrycon tortuguerae</i>	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	PR	Nat			
<i>Roeboides bouchellei</i>	0	1	0	0	0	0	1	1	1	0	0	0	0	0	1	0	1	0	PR	Nat			X
ARIIDAE																							
<i>Cathorops higuichii</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat			
<i>Cathorops melanopus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	PE	Nat	X		X

<i>Cathorops sp</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	PE	Nat		
<i>Cathorops steindachneri</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	PE	Nat		
<i>Cathorops taylori</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	PE	Nat		
<i>Sciades assimilis</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat		
<i>Sciades guatemalensis</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	PE	Nat		
<i>sciades seemanni</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	PE	Nat		
ICTALURIDAE																						
<i>Ictalurus punctatus</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	PR	Exo		
HEPTAPTERIDAE																						
<i>Rhamdia guatemalensis</i>	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	PR	Nat		
<i>Rhamdia laticauda</i>	1	0	0	1	1	1	1	1	0	1	0	0	1	0	1	1	0	0	PR	Nat		
GYMNOTIDAE																						
<i>Gymnotus cylindricus</i>	1	1	1	1	0	1	0	0	1	0	0	0	0	0	0	1	0	1	PR	Nat		
<i>Gymnotus maculosus</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	PR	Nat		
BATRACHOIDIDAE																						
<i>Batrachoides gilberti</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat	X	
GOBIESOCIDAE																						
<i>Gobiesox strumosus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X	
ATHERINOPSIDAE																						
<i>Atherinella argentea</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	PE	Nat		
<i>Atherinella blackburni</i>	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat	X	
<i>Atherinella guija</i>	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat		
<i>Atherinella meeki</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X	X
<i>Atherinella milleri</i>	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat		
<i>Atherinella pachylepis</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	PE	Nat		
RIVULIDAE																						
<i>Kryptolebias marmoratus</i>	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	SE	Nat	X	
<i>Rivulus tenuis</i>	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	SE	Nat		
PROFUNDULIDAE																						
<i>Profundulus guatemalensis</i>	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	SE	Nat		
<i>Profundulus sp.1</i>	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	SE	End		
<i>Profundulus sp.2</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	SE	End		
POECILIIDAE																						
<i>Alfaro cultratus</i>	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	SE	Nat	X	X
<i>Alfaro huberi</i>	1	0	0	1	1	1	1	1	1	1	0	1	1	0	1	1	0	1	SE	Nat		
<i>Belonesox belizanus</i>	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	SE	Nat		
<i>Gambusia nicaraguensis</i>	1	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	1	SE	Nat		
<i>Heterandria anzuetoii</i>	1	0	1	1	1	1	0	1	1	0	0	0	0	0	1	1	0	1	SE	Nat		
<i>Heterandria bimaculata</i>	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	SE	Nat		
<i>Phallichthys amates</i>	1	0	1	0	0	1	0	0	1	0	0	0	0	0	1	0	0	1	SE	Nat		
<i>Poecilia gillii</i>	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	SE	Nat		
<i>Poecilia marcellinoi</i>	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	SE	Nat		
<i>Poecilia sp.1</i>	1	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	SE	End		

<i>Poecilia sp.2</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SE	End		
<i>Poecilia sp.3</i>	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	SE	End		
<i>Poecilia orri</i>	1	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	1	SE	Nat		
<i>Poeciliopsis pleurospilus</i>	0	1	0	1	1	1	0	1	0	1	0	0	1	0	0	1	1	SE	Nat		
<i>Poeciliopsis turrubarensis</i>	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	SE	Nat		
<i>Xiphophorus helleri</i>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	SE	Nat		
<i>Xiphophorus mayae</i>	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	SE	Nat	X	X
ANABLEPIDAE																					
<i>Anableps dowei</i>	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	SE	Nat	
BELONIDAE																					
<i>Strongylura marina</i>	1	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	PE	Nat		
<i>Strongylura notata</i>	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	PE	Nat	X	
<i>Strongylura timucu</i>	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	PE	Nat		
HEMYRHAMPHIDAE																					
<i>Hyporhamphus roberti hildebrandi</i>	0	0	0	1	0	1	0	0	1	0	1	0	0	0	0	1	0	1	PE	Nat	
<i>Hyporhamphus unifasciatus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	PE	Nat		
SYNGNATHIDAE																					
<i>Microphis brachyurus lineatus</i>	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X	
<i>Pseudophallus mindii</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X	
<i>Pseudophallus starksi</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	PE	Nat		
<i>Syngnathus pelagicus</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	PE	Nat	X	
<i>Syngnathus scovelli</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	PE	Nat		
SYNBRANCHIDAE																					
<i>Ophisternon aenigmaticum</i>	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	SE	Nat		
<i>Synbranchus marmoratus</i>	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	1	SE	Nat		
CENTROPOMIDAE																					
<i>Centropomus ensiferus</i>	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	PE	Nat		
<i>Centropomus nigrescens</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat		
<i>Centropomus parallelus</i>	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	PE	Nat		
<i>Centropomus pectinatus</i>	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	PE	Nat		
<i>Centropomus undecimalis</i>	1	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	PE	Nat		
<i>Centropomus unionensis</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat		
CENTRARCHIDAE																					
<i>Micropterus salmoides</i>	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	PR	Exo	
CARANGIDAE																					
<i>Caranx bartholomaei</i>	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	PE	Nat	X	
<i>Caranx latus</i>	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	PE	Nat		
<i>Olygoplites saurus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X	
<i>Trachinotus goodei</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	PE	Nat		
LUTJANIDAE																					
<i>Lutjanus apodus</i>	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	PE	Nat		

<i>Lutjanus jocu</i>	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat		
GERREIDAE																						
<i>Diapterus auratus</i>	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat		
<i>Eucinostomus argenteus</i>	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat		
<i>Eucinostomus harengulus</i>	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat	X	
<i>Eucinostomus jonesi</i>	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat	X	
<i>Eucinostomus melanopterus</i>	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat		
<i>Eugerres plumieri</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat		
<i>Gerres cinereus</i>	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat		
HAEMULIDAE																						
<i>Pomadasyς crocro</i>	1	0	1	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	PE	Nat		
SCIAENIDAE																						
<i>Bairdiella ronchus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X	
<i>Cynoscion praedatorius</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X	
<i>Menticirrhus americanus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat		
<i>Paralonchurus dumerilii</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat		
<i>Umbrina broussonnetii</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X	
POLYNEMIDAE																						
<i>Polydactylus virginicus</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat		
MUGILIDAE																						
<i>Agonostomus monticola</i>	1	0	1	0	0	1	1	0	1	0	1	0	0	0	0	1	0	1	PE	Nat		
<i>Joturus pichardi</i>	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat		
<i>Mugil curema</i>	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	PE	Nat		
<i>Mugil liza</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X	
CICHLIDAE																						
<i>Amatitlania nigrofasciata</i>	0	1	0	0	0	0	1	1	1	1	0	0	0	0	1	0	1	1	SE	Nat		
<i>Amatitlania siquia</i>	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	SE	Nat		
<i>Amphilophus alfari</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	SE	Nat		
<i>Amphilophus hogaboomorum</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SE	End	X	
<i>Amphilophus longimanus</i>	0	1	0	0	0	0	1	1	1	0	0	0	0	0	1	0	1	1	SE	Nat		
<i>Amphilophus robertsoni</i>	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	1	0	1	SE	Nat		
<i>Archocentrus centrarchus</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SE	Nat		
<i>Archocentrus multispinosus</i>	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	SE	Nat		
<i>'Cichlasoma' trimaculatum</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	SE	Nat		
<i>'Cichlasoma' urophthalmus</i>	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	SE	Nat		
<i>Criptoheros cutteri</i>	1	0	1	1	1	1	0	1	0	0	0	0	0	0	0	1	0	1	SE	Nat	X	
<i>Hypsophrys nicaraguensis</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	SE	Nat	X	X
<i>Oreochromis mossambicus</i>	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	SE	Exo		
<i>Oreochromis niloticu</i>	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	SE	Exo		

<i>Parachromis dovii</i>	0	0	1	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	SE	Nat	
<i>Parachromis friedrichsthalii</i>	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	SE	Nat	
<i>Parachromis loisellei</i>	1	1	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	SE	Nat	X
<i>Parachromis managuensis</i>	0	0	0	1	0	1	1	0	1	0	0	0	0	0	1	1	0	1	SE	Nat	
<i>Parachromis motaguensis</i>	0	1	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	SE	Nat	
<i>Rocio octofasciata</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	SE	Nat	
<i>Theraps wesseli</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	SE	End	X
<i>Thorichthys aureus</i>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	SE	Nat	
<i>Vieja maculicauda</i>	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	1	0	1	SE	Nat	
<i>Vieja microphthalmala</i>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	SE	Nat	
LABRISOMIDAE																					
<i>Labrisomus nuchipinnis</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	
DACTYLOSCOPIDAE																					
<i>Dactyloscopus tridigitatus</i>	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	
BLENNIIDAE																					
<i>Lupinoblennius vinctus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X
ELEOTRIDAE																					
<i>Dormitator latifrons</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	PE	Nat	
<i>Dormitator maculatus</i>	1	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	PE	Nat	
<i>Eleotris amblyopsis</i>	1	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	PE	Nat	
<i>Eleotris perniger</i>	1	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	PE	Nat	
<i>Eleotris picta</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	PE	Nat	
<i>Erotelis smaragdus</i>	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat	X
<i>Gobiomorus dormitor</i>	1	0	1	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	PE	Nat	
<i>Gobiomorus maculatus</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	PE	Nat	
<i>Leptophilypnus fluviatilis</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat	
GOBIIDAE																					
<i>Awous banana</i>	1	1	1	0	1	1	0	1	1	0	1	0	0	0	0	0	1	0	PE	Nat	
<i>Bathygobius soporator</i>	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat	X
<i>Ctenogobius boleosoma</i>	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	PE	Nat	
<i>Ctenogobius fasciatus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X
<i>Ctenogobius sagitulla</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	PE	Nat	
<i>Ctenogobius stigmaticus</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	PE	Nat	
<i>Evorthodus lyricus</i>	1	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	PE	Nat	X
<i>Gobionellus oceanicus</i>	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	PE	Nat	X
<i>Lophogobius cyprinoides</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X
<i>Sicydium gymnogaster</i>	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	
<i>Sicydium multipunctatum</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	
<i>Sicydium plumieri</i>	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat	X X
<i>Sicydium punctatum</i>	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat	X X
<i>Sicydium sp1</i>	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat	
<i>Sicydium sp2</i>	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	PE	Nat	
MICRODESMIDAE																					

<i>Microdesmus carri</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X
ACANTHURIDAE																						
<i>Acanthurus bahianus castelnaui</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	PE	Nat	
SPHYRAENIDAE																						
<i>Sphyraena barracuda</i>	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	PE	Nat	
<i>Sphyraena guachancho</i>	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	PE	Nat	
PARALICHTHYIDAE																						
<i>Citharichthys abbotti</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X
<i>Citharichthys arenaceus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X
<i>Citharichthys gilberti</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	
<i>Citharichthys macrops</i>	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	PE	Nat	
<i>Citharichthys spilopterus</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	PE	Nat	X
ACHIRIDAE																						
<i>Achirus lineatus</i>	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	PE	Nat	X
<i>Trinectes fonsecensis</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	PE	Nat	X
<i>Trinectes maculatus</i>	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	PE	Nat	X
TETRAODONTIDAE																						
<i>Sphoeroides testudineus</i>	1	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	PE	Nat	