

Checklist of Fishes Found in the Fresh and Brackish Waters of Negros and Siquijor, Philippines

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Abstract - A total of 89 species of fish found in fresh and brackish waters belonging to 45 families is known in Negros and Siquijor islands. The most species rich is the Family Gobiidae (13 species) followed by the Family Eleotridae (10 species), Ophichthidae (six species), Cyprinidae (three species), and Poeciliidae (four species). The Families Muraenidae, Ambassidae and Mugilidae are represented by three species each and the Families Plotosidae, Syngnathidae, Terapontidae, Apogonidae, Carangidae, Lutjanidae, and Cichlidae are represented by two species each. The rest of the families are represented by only one species. Most of the species belonging to the Families Poeciliidae, Clariidae, Cyprinidae, and Loricariidae are all introduced species and brought to the country through the aquarium trade and aquaculture programs.

Keywords - fresh and brackish water fishes, fish checklist, fish fauna

INTRODUCTION

The fish fauna in the river systems of the Philippines is relatively well-known as reflected in numerous publications (e.g. Herre 1923, 1924, 1927, 1940a,b; Herre 1953, 1959; Roxas & Ablan 1940; Kottelat 1992; Randall 1998; Davies 1999). The Albatross Expedition (1907-1910) had collected fishes in most islands in the Philippines (Smith & Williams 1999), including southern and northern Negros. Some of the fishes (including those from rivers and estuaries) collected during the Albatross are now deposited in the United States National Museum of Natural History (USNM) and reported by Smith (2004).

Biodiversity studies have been conducted in some river systems such as in Leyte by Kottelat (1992), the Agos River in Luzon by Carumbana (2002), Jalaur River in Panay by Alcala, Bucol and Averia (2010, monograph). In Negros Island, two major studies have been conducted: Siaton River in Negros Oriental by Carumbana (2006, unpublished report), and in Bago River by Pacalioga, Menes, Linaugo, Patiluna & Turbanos (2010, monograph).

There is a need to update and clarify the listing of riverine fishes in the Philippines, including the brackish water species that migrates into the freshwaters systems.

This checklist is an initial step to summarize what has been known about the fishes found in the fresh and brackish waters of Negros and Siquijor islands. The number of species included in this study should be considered only as tentative, since there is an on-going collection in Pagatban River in southern Negros Island which may reveal additional species.

MATERIALS AND METHODS

This checklist is compiled based on published literature and recent collections made by the authors on the freshwater and brackish water fishes of Negros Island (Figs. 1a,b) and the adjacent island of Siquijor. We made extensive collections in the Siaton River (9°05'47.62" N;

123°01'34.37" E) between May 2004 and October 2005, using various techniques such as gill nets, spear guns, bamboo traps, etc., in four stations.

Samples were immediately fixed in the field using 10% formalin. After about a week in formalin, the samples were transferred to 70% ethanol. In October 2005, the second author brought the samples to the United States National Museum of Natural History in Smithsonian Institution (USNM) in Washington D.C. as part of her short-term visit as a visiting scientist. The samples were subsequently donated to this institution to be part of the worldwide collection of USNM.

We have also examined published accounts and small-scale collections (2006-2010) made by us and our collaborators in the freshwater and brackish waters of Negros such as in Bago River (10.51–10.55°N, 122.83–123.26°E) and the adjacent island of Siquijor (9°09'N; 123°35'E).

Scientific names and sequence of the taxonomic list follows that of Randall & Lim (2000) and Froese & Pauly (2010) with a few modifications. Since there are on-going surveys being implemented in some rivers in Negros and Siquijor, it is expected that additional species will be added in the list.

Note: Museum abbreviations are as follows: USNM (United States National Museum of Natural History in Smithsonian Institution), PNM (Philippine National Museum); ANSP (Academy of Natural Sciences of Philadelphia), and CAS (California Academy of Sciences).

CHECKLIST

We compiled the information of the 89 species of fish found in the fresh and brackish waters belonging to 45 families known in Negros and Siquijor islands. The most species rich is the Family Gobiidae with 13 species followed by the Family Eleotridae (10 species), Ophichthidae (six species), and Poeciliidae (four species). The Families Muraenidae, Ambassidae and Mugilidae are represented by three species each and the Families Plotosidae, Syngnathidae, Terapontidae, Apogonidae, Carangidae, Lutjanidae, and Cichlidae are represented by two species

each. The rest of the families are represented by only one species.

The checklist of fishes below is arranged according to a broad ecological classification based on their origins and tolerance to seawater as described by Davies (1999) and not according to major taxonomic groups. The major taxonomic category is on the family level. Based on the ecological classification, the 89 species can be further classified as: 1) primary freshwater fishes (11 species in six families); 2) secondary freshwater fishes (two species in a single family Cichlidae); 3) migratory fishes (six species in three families); and 4) sporadic visitors and brackish water species (70 species in 35 families).

Species belonging to the Families Poeciliidae, Clariidae, Cyprinidae (except *P. binotatus*), and Loricariidae are all introduced species, either through the aquarium trade or aquaculture.

It appears that the majority of the fishes in this river system are either marine or brackish water species that spend only a part of their lives in freshwaters.

ANNOTATED CHECKLIST

The photographs of the fishes are found on pages 116-125, Figs. 3 to 30.

Primary freshwater fishes

Fishes that have evolved in freshwater and can only survive in low salinity. The following families belong to this category: Cyprinidae, Clariidae, Anabantidae, Belontiidae, Poeciliidae and Channidae. All primary freshwater fishes, except the Spotted Barb *Puntius binotatus*, found in the freshwaters of Negros are all introduced species.

CYPRINIDAE

Cyprinus carpio Linnaeus, 1758

Remarks: Common in freshwater systems of Negros Island (e.g. Bago, Pagatban, La Libertad, and Siaton rivers). It has been introduced in the Twin Lakes Balinsasayao-Danao.

Danio rerio Hamilton, 1822 (Fig. 10)

Remarks: Samples were collected from Bago River in Station 2 in

Lopez Jaena. A few individuals were also collected in a creek near the Central Philippine Adventist College campus in Murcia. It may have been introduced through the aquarium trade.

Puntius binotatus Valenciennes, 1842 (Fig. 26)

Remarks: We recently collected samples from a small river tributary of Pagatban River in Cabigti-an, Basay, Negros Oriental and also in subterranean streams in Siquijor (Tulawog Cave) and Mabinay (Mambajo Cave), Negros Oriental. It is also common in Cambugahay Falls, which is part of the Señora River in Siquijor. This variable cyprinid is widespread in Southeast Asia (Herre 1940b; Froese and Pauly 2010) from Myanmar, Thailand, Indonesia and the Philippines.

POECILIIDAE

Gambusia affinis Baird & Girard, 1853

Remarks: This species is popularly known as the mosquito fish as it was introduced in many Asian countries to control mosquitoes, primarily by A. Seale from Honolulu, Hawaii (Herre 1959) but seemed inefficient and competes the native species (Allen 1991). It is common in creeks and streams of Negros Island.

Poecilia sphenops Valenciennes in Cuvier and Valenciennes, 1846 (Fig. 26)

Remarks: Our samples of this molly were confirmed by L. Parenti of USNM. This may have been introduced in the area through the aquarium trade. The anal fins of males have modified into a gonopodium used to transfer sperm bundles to females (Parenti 1999).

Poecilia reticulata Peters, 1859

Remarks: Common in canals, creeks, and rivers in Negros Island. Probably introduced through the aquarium trade.

Xiphophorus hellerii Heckel, 1848

Remarks: A few individuals were collected from the Bago River by means of fine-mesh nets. This may have been introduced through the aquarium trade. Easily distinguished by the presence of a sword-like extension of the caudal fin in males.

LORICARIIDAE

Pterygoplichthys disjunctivus Weber, 1991

Remarks: Six individuals of this species were caught by gillnets in Bago River at Village Lopez-Jaena in Murcia municipality. It is distinguished from *P. pardalis* in having vermiculated patterns on the belly while the latter possess rounded spots. This is the first account of this fish (or this genus) in a river system in the Visayas. The genus may now be widely distributed due to its popularity in the aquarium trade and has been reported in some places like Zamboanga in Mindanao and Aparri, Cagayan in northern Luzon (Chavez *et al.* 2006).

CLARIIDAE

Clarias batrachus Linnaeus, 1758

Remarks: Common in Bago River, Pagatban, and Siaton River (USNM 385600)

CHANNIDAE

Channa striata Bloch, 1793 (Fig. 7)

Remarks: Common in rivers and streams of Negros Island. We obtained samples from Pagatban and Siaton (USNM 385602) rivers. The juveniles (reddish-orange in color) can be seen in isolated pools near the river.

BELONTIDAE

Trichogaster trichopterus Pallas, 1770

Remarks: Specimens were collected from Siaton River (USNM 385443). This species is potamodromous, which migrates within freshwater bodies only (Forese & Pauly 2010).

Secondary freshwater fishes

This category includes fishes of marine origin which are now confined to freshwater. They can tolerate brackish water, but can tolerate full seawater for short periods (Davies 1999).

CICHLIDAE

Oreochromis mossambicus Peters, 1852

Remarks: Samples were collected from the estuarine area of Bago River (Pacalioga, Menes, Linaugo and Turbanos 2010 unpublished manuscript).

Oreochromis niloticus Linnaeus, 1758

Remarks: This species is widespread and commonly introduced in most rivers and lakes in the country. In Negros Island, we collected and observed this species from the Siaton River, Pagatban River, Bago River, La Libertad River, Pagatban River, Calango water-impoundment in Zamboanguita, Negros Oriental, Twin Lakes Balinsasayao-Danao Natural Park, Sibulan. D. Lindstrom (pers. comm.) also observed this fish in Lake Nailig, ca. 1600m.a.s.l. in Mt. Talinis, Negros Oriental.

Migratory fishes

Fishes in this category make regular migrations from the sea to freshwater or vice versa. Most of them migrate from saltwater to freshwater when juvenile and returns to the sea to spawn when mature (Davies 1999).

ANGUILLIDAE

Anguilla marmorata Quoy & Gaimard, 1824 (Fig. 3)

Remarks: This eel is common and widespread in the Indo-Pacific. It can be distinguished easily from other species of *Anguilla* by its mottled color and long dorsal fin which originates closer to the gill opening than the anus (Smith 1999). Samples were also examined from Siaton River (USNM 385461), Bago River, Negros Occidental (courtesy of J. Linaugo) and Calango water-impoundment in Zamboanguita, Negros Oriental.

MUGILIDAE

Liza subviridis Valenciennes, in Cuvier & Valenciennes, 1836

Remarks: Our samples were obtained from Siaton River (USNM 385603). Bluish dorsal coloration, scale serration and forked tail distinguish this species from the two other mullets below.

Liza vaigiensis Quoy & Gaimard, 1825

Remarks: Samples were from the estuary of Bago River (Pacalioga, Menes, Linaugo and Turbanos 2010 unpublished manuscript). Easily distinguished by having truncate caudal fin and fewer scale counts (Harrison & Senou 1999).

Valamugil seheli Forsskål, 1775 (Fig. 29)

Remarks: Relatively smaller than *L. vaigiensis* but often confused with *L. subviridis*, examining the scale serrations may help distinguish easily the two species (see Harrison & Senou 1999).

CARANGIDAE

Caranx sexfasciatus Quoy & Gaimard, 1825

Remarks: Juveniles were often collected using gill nets in the estuary of Bago River.

Carangoides ferdau Forsskål, 1775 (Fig. 5)

Remarks: Samples were collected by means of gill nets in Siaton (USNM 385444), Pagatban, and Bago Rivers.

Sporadic visitors and brackish water inhabitants

Fishes in this category make irregular visits to freshwater, especially in the lower reaches of the river. In this category, we included marine fishes that visit irregularly in fresh and brackish waters.

MEGALOPIDAE

Megalops cyprinoides Broussonet, 1782 (Fig. 15)

Remarks: We collected our samples from Pagatban River (August 25 2010), ca. 1 km upstream from the mouth of the river. A few individuals were also collected from the Bago River in Negros Occidental by J. Linaugo and party in 2009. Like its congener, the tarpon, *M. atlanticus* spawns in offshore waters (Wade 1962; Smith 1959; Miller & Tsukamoto 2004).

ELOPIDAE

Elops machnata Forsskal, 1775

Remarks: Smith (1999) recognized only one species (*E. hawaiiensis*)

in the Indo-Pacific but noted that it may constitute more species. Other authors, however, recognize two species, *E. hawaiiensis* and *E. machnata* Forsskal 1775 (Miller & Tsukamoto 2004; McBride, Rocha,

Ruiz-Caruz and Bowen, 2010). Juveniles are often caught using fine-nets near the estuaries.

MORINGUIDAE

Moringua raitaborua Hamilton, 1822 (Fig. 16)

Remarks: Hundreds of individuals of various stages were collected while burrowing in the heavily silted estuary of Bago River. The description by Hamilton (1822) “vent is behind middle, upper jaw longest, back (dorsal) fin behind the middle...” is indicative of the series of samples from the Bago River. It appears that *M. cagayana* and *M. robusta*, described by Herre (1923) belong to this species. They may be considered synonyms of *M. raitaborua* Hamilton.

MURAENIDAE

Gymnothorax polyuranodon Bleeker, 1853

Remarks: A single individual (USNM 385604) was captured in the lower reaches of the river (Carumbana 2006). Herre (1924) included this eel as among the rare anguilliform fishes in the Philippines.

Gymnothorax punctatofasciatus Bleeker, 1863

Remarks: Reported by Smith & Bohlke (1997): ANSP 164638 from the tidal inlet (0-1m) of Sabanj (probably Sabang in the municipality of Siquijor, Siquijor) by L. Knapp on May 16, 1979. Also from southwestern Negros CAS by B. Dean in 1901, and Dumaguete by A.W. Herre on July 6, 1948.

Strophidon sathete Hamilton, 1822 (Fig. 27)

Remarks: Juvenile specimens were found in the muddy estuary while the single adult specimen was captured from the mouth of the river of the Bago River.

OPHICHTHIDAE

Neenchelys sp. (Fig. 17)

Remarks: Specimens were found in the estuarine area of Bago

River (October 22 2009).

Muraenichthys thompsoni Jordan & Richardson, 1908
Remarks: A few samples were obtained from the estuarine area with the use of a local gear *garab*. *M. malabonensis* was synonymized by McCosker (1970).

Scolecenchelys Ogilby, 1867

Remarks: Distinguished from the genus *Muraenichthys* by the presence of teeth on vomer, maxilla and dentary (McCosker 1970). Because we only have limited specimens to examine vertebral counts, identification is at the genus level.

Cirrhimuraena chinensis Kaup, 1856

Remarks: Identification provisional given that the genus needs revision (McCosker, J. pers. comm.).

Pisodonophis cancrivorus Richardson, 1844

Remarks: Its broad pectoral fin base, paler yellowish coloration on belly and generally dark-brown coloration, and presence of a small papilla protruding halfway between the anterior nostril and the eye (Herre 1923) confirms its identity. The only known specimen was found near the estuary in Pungtod Islet of the Bago River.

Phaenomonas cooperae Palmer, 1970

Remarks: Specimens were found in the muddy estuary of the Bago River estuary.

PLOTOSIDAE

Plotosus canius Hamilton, 1822

Remarks: Specimens were found in the estuary of Bago River by J. Linaugo (October 2009).

Plotosus lineatus Thunberg, 1787

Remarks: Common in coastal waters; a few individuals were collected by the local fishers near the mouth of Pagatban River in August 2010.

CLUPEIDAE

Sardinella sp.

Remarks: Samples were obtained from the estuarine area of Pagatban using gill nets.

ENGRAULIDAE

Stolephorus indicus van Hasselt, 1823

Remarks: Samples were purchased from the local fishers of Pagatban estuary, Negros Island.

CHANIDAE

Chanos chanos Forsskål, 1775 (Fig. 8)

Remarks: Common in the estuarine areas of Negros Island. Specimens were obtained from Siaton, Pagatban, and Bago Rivers.

HEMIRAMPHIDAE

Zenarchopterus dispar Valenciennes in Cuvier and Valenciennes, 1847 (Fig. 30)

Remarks: Collected from the Siaton River, (USNM 385451) and in Pagatban River (February and August 2010).

SYNGNATHIDAE

Microphis leiaspis Bleeker, 1853

Remarks: Known based on specimens from Siaton River were from the lower reaches of the river (USNM 385601).

Microphis brachyurus Bleeker, 1853

Remarks: Specimens were from Siaton River (USNM 385459).

TETRAROGIDAE

Tetraroge niger Cuvier, in Cuvier & Valenciennes, 1829

Remarks: Specimens were gill netted and speared from the middle stations of the Siaton River (USNM 385449).

AMBASSIDAE

Ambassis miops Günther, 1872

Remarks: We tentatively identified the samples from Bago River as

A. miops based on certain characters such as depth and fin ray counts but this will be separately discussed later when sufficient samples are examined.

Ambassis uroteania Bleeker, 1852

Remarks: Specimens were collected from Siaton River (USNM 385450)

Ambassis gymnocephalus Lacepède, 1802

Remarks: Specimens were collected from Siaton River (USNM 385455)

SILLAGINIDAE

Sillago sihama Forsskål, 1775

Remarks: Specimens were collected from Siaton (USNM 384350), Pagatban and Bago rivers.

SERRANIDAE

Epinephelus chlorostigma Valenciennes, 1828

Remarks: Specimens collected from the downstream stations in Bago and Pagatban rivers (USNM 385452).

TERAPONIDAE

Mesopristes cancellatus Cuvier, 1829

Remarks: Commonly caught in the estuaries of Bago, Pagatban, and Siaton (USNM 385605) rivers.

Terapon jarbua Forsskål, 1775

Remarks: Common and widespread in the Indo-Pacific, usually found in brackish waters.

KUHLIIDAE

Kuhlia marginata Cuvier, in Cuvier and Valenciennes, 1829 (Fig. 13)

Remarks: Specimens were obtained from Bago and Siaton (USNM 385606) rivers.

APOGONIDAE

Apogon hyalosoma Bleeker, 1852

Remarks: Specimens were collected from the estuary of Pagatban River.

Sphaeramia orbicularis (Cuvier, 1828)

Remarks: Specimens were from mangroves and estuaries in Siquijor (USNM 385699).

LEIOGNATHIDAE.

Leiognathus equulus Forsskål, 1775

Remarks: More species could be revealed by the on-going collection trips in some river systems in Negros Island.

LUTJANIDAE

Lutjanus argentimaculatus Forsskål, 1775 (Fig. 14)

Remarks: Both adults (reddish coloration) and juveniles (darker color) were obtained from the lower reaches of Pagatban, Bago and Siaton rivers.

Lutjanus fuscescens Valenciennes, 1830

Remarks: Specimens were collected from Siaton River. It is distinguished from *L. argentimaculatus* by having a rounded dark blotch on the lateral side towards the tail and lighter over-all coloration.

GERREIDAE

Gerres filamentosus Cuvier, 1829

Remarks: This species is widespread in the Indo-Pacific. Our samples were from Pagatban, Bago, and Siaton (USNM 385445) rivers.

LETHRINIDAE

Lethrinus harak Forsskål, 1775

Remarks: Often enters river mouths in Negros and embayments in Siquijor.

MULLIDAE

Mulloides flavolineatus Dor & Ben-Tuvia, 1984

Remarks: Often collected in the estuary of Pagatban and Siaton Rivers using gill nets.

TOXOTIDAE

Toxotes jaculatrix Pallas, 1767 (Fig. 28)

Remarks: Distinguished by having four dorsal-fin spines and four or five black bars on upper sides (Allen 1991, 1999). Our samples were collected by gill nets in the estuary of Pagatban River in May 2010.

MONODACTYLIDAE

Monodactylus argenteus Linnaeus, 1758

Remarks: We recently obtained samples from the estuary of Pagatban River, Negros Oriental.

ELEOTRIDAE

Belobranchus belobranchus Valenciennes, 1837

Remarks: A. Alcala (1983, unpub. report) recorded this species from Okoy River. We have not sampled this species so far but it may be common in Negros.

Bostrychus sinensis Lacepède, 1801 (Fig. 4)

Remarks: In 2006, J. Rodriguez donated to us a single specimen from Pagatban River.

Butis amboinensis Bleeker, 1853

Remarks: We have examined samples of this eleotrid from the estuary of Bago River through J. Linaugo. Herre (1927) provided an earlier account of this species on Negros.

Butis butis Hamilton, 1822

Remarks: Recorded on Negros earlier by Herre (1927).

Bunaka pinguis Herre, 1927

Remarks: Herre (1927) described specimens from Dumaguete River (now Banica River). We have not examined any specimen of

this species, which appear to be a synonym of any *Bunaka* species. In addition, it may no longer be found in the said River due to heavy pollution of domestic sewage.

Eleotris fusca Forster, 1801

Remarks: Listed by Herre (1927). Herre's specimens included samples from Dumaguete River (Banica River) and also from Lasay (Lazi), Siquijor. We have not examined any specimen that we can attribute to *E. fusca*, and this will be one of our investigations in the near future.

Hypseleotris cyrpinoides Valenciennes, 1837

Remarks: Known from the accounts of Herre (1927) collected by B. Dean from southern coast of Negros.

Oxyeleotris wisselensis

Remarks: Carumbana (2006) collected two specimens (USNM 384351) from Siaton River. Larson & Murdy (1999) listed only three species of the genus *Oxyeleotris* occurring in the Indo-Pacific: *O. marmorata* (Bleeker, 1852), *O. urophthalmoides* (Bleeker, 1853), and *O. urophthalmus* (Bleeker, 1851). These differences will be treated and reported elsewhere.

Ophiocara porocephala Valenciennes, in Cuvier & Valenciennes, 1837 (Fig. 19)

Remarks: Specimens were from Bago and Pagatban rivers. In Siquijor, A. Bucol collected three juvenile specimens from a small river in Sabang, Siquijor.

Ophieleotris aporos (Bleeker, 1854) (Fig. 18)

Remarks: Samples were from the upper stations of Pagatban and Bago Rivers. Herre (1927) listed this species as *Ophiocara aporos*. His specimens included individuals from Dumaguete River (Banica River).

GOBIIDAE

Caragobius urolepis Bleeker, 1852

Remarks: Known from Negros Oriental, Philippines: Canauay

River, about 75 m upstream from mouth in tidal mangrove pool: USNM 243404 (Murdy & Shibukawa 2003) and Siquijor Island, Philippines: tidal inlet at Sabanj (probably in Village Sabang, Larena): USNM 243403 (Murdy & Shibukawa 2003). Herre (1927) described *B. olivaceus*, synonymized with *C. urolepis* by Murdy & Shibukawa (2003), from La Libertad, Negros Oriental and another specimen collected from a strait (probably referring to Guimaras Strait) between Negros and Iloilo.

Mahidolia mystacina Valenciennes, 1837

Remarks: G. Quinones of the Fish Larvae Project in Silliman University-IEMS allowed us to examine a single specimen collected in the vicinity of Sibulan, Negros Oriental which might be attributed to this species. The fish has first dorsal fin tail and broad with dark bands and/or spots; body with dark oblique bars (Larson & Murdy 1999).

Glossogobius giuris Hamilton, 1822 (Fig. 12)

Remarks: Specimens were collected from Bago River, Pagatban River, and Siaton River (USNM 384352).

Glossogobius aureus Akihito and Meguro, 1975 (Fig. 11)

Remarks: Two specimens were recently collected from Pagatban River, distinguished from *G. giuris* in having pit organs arranged in single rows (Akihito and Meguro, 1975).

Pseudogobius javanicus Bleeker 1856

Remarks: Herre (1927) described this as *Vaimosa piapensis* from Piapi Creek, Dumaguete. Larson *et al.* (2008) synonymized *V. piapensis* Herre with *P. javanicus* Bleeker.

Awaous melanocephalus Bleeker, 1849

Remarks: Herre (1927) reported this species as *Chonophorus melanocephalus* from the Negros and Lasay (probably Lazi), Siquijor.

Rhinogobius philippinus Herre, 1927

Remarks: Herre (1927) described the lizard goby “Tukugobius”, including specimens from Fabrica (now Sagay) in Negros Occidental. We have examined gobies of this species from the upper reaches of

Bago River collected by J. Linaugo and J. Pacalioga in 2009. The gobies have generally dark coloration with eyes located dorsally (Herre 1927). The genus described by Herre as *Rhinogobius* has been re-assigned to various marine genera (see FishBase.org for a list of valid species). As a result, Herre's "real" Philippine *Rhinogobius* (= *Tukugobius*) are now limited to Luzon, except *R. philippinus* which is widely distributed.

Periophthalmodon freycineti Quoy & Gaimard, 1824 (Figs. 20 & 21)

Remarks: Herre (1927) reported that specimens from Negros were collected from Polo, Tanjay, Negros Oriental. The species often hide in deep mud burrows (1m and deeper).

Periophthalmus argentilineatus Valenciennes, in Cuvier & Valenciennes, 1837

Remarks: Common in the mangrove embayments of Siquijor.

Periophthalmus kalolo Lesson, 1831

Remarks: In Siquijor, specimens of this species were obtained by A. Bucol in a brackish mangrove swamp within the San Juan embayment.

Scartelaos histophorous Hamilton, 1822 (Fig. 25)

Remarks: Herre (1927) cited Jordan & Seale's list of *S. viridis*, a synonym of *S. histophorous*, from southern Negros, collected by B. Dean. The specimens have upper part of caudal with diagonal cross-bands (eight or more), the lower part of fin white with black tip.

Sicyopterus longifilis De Beaufort, 1912

Remarks: Distinguished by having gap in the middle of upper jaw tooth rows (Larson & Murdy 1999) and extended rays on the first dorsal fin. We have examined samples from the rivers of Siaton (USNM 385460) in 2005 and Bago in 2009.

Sicyopus zosterophorum Bleeker, 1856-57

Remarks: A single specimen was obtained by Aladin Bucol and party in the middle section of Pagatban River in 2006.

RHYACICHTHYIDAE

Rhyacichthys aspro Valenciennes, 1837

Remarks: Specimens from Siaton, Pagatban, and Bago (courtesy of J. Linaugo & party) were recently examined by us.

EPHIPPIDAE

Platax orbicularis Forsskål, 1775

Remarks: Juveniles were encountered in brackish embayments and tidal inlets near mangroves in Siquijor.

SCATOPHAGIDAE

Scatophagus argus Linnaeus, 1766

Remarks: Common in the estuaries of the following rivers: Pagatban, Bago, and Siaton (USNM 385457). It is also common in embayments and mangroves.

SIGANIDAE

Siganus guttatus Bloch, 1787

Remarks: Juveniles often enters rivers, especially towards the river mouth, and also in mangroves.

SPHYRAENIDAE

Sphyraena jello Cuvier, 1829

Remarks: Both juveniles and adults were collected in the estuaries of Pagatban and Siaton rivers and also in the mangroves of Lapac, Tambisan, San Juan in Siquijor. Other species such as *S. putnamae* and *S. genie* overlap with the species range (Senou 2001; Froese & Pauly 2010), and may be found in the fresh and brackish waters of Negros and Siquijor as well. Unpublished reports by A. Alcala and party listed *S. putnamae*, however, we have not seen any specimen and hence remained unconfirmed by us.

TETRAODONTIDAE

Arothron reticularis Bloch & Schneider, 1801

Remarks: Samples from Siaton River (USNM 385453) were collected in the lower reaches of the river.

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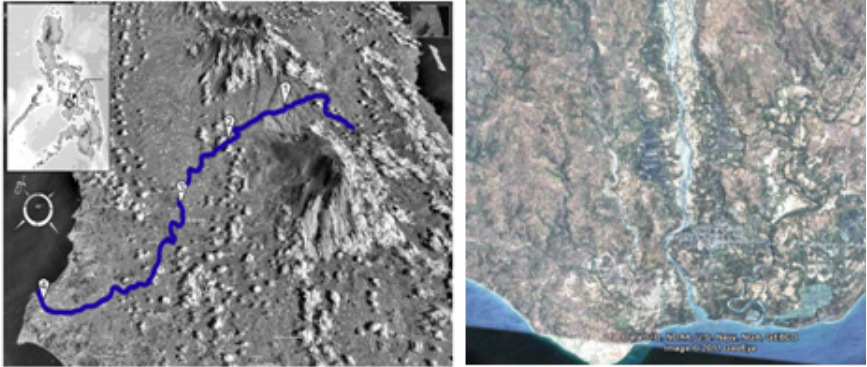


Fig. 1. Satellite images of two rivers on Negros Island (left: Bago River; right: Siaton River).

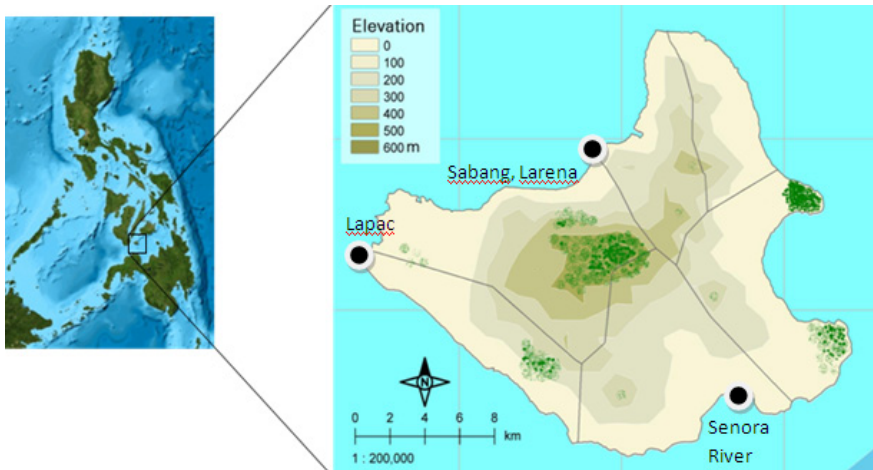


Fig. 2. Map of Siquijor Island showing collecting localities.



Fig. 3. The Mottled Eel, *Anguilla marmorata* from Bago River



Fig. 4. *Bostrychus sinensis*



Fig. 5. *Carangoides ferdau*



Fig. 6. *Caranx* sp.



Fig. 7. *Channa striata*



Fig. 8. *Chanos chanos*



Fig. 9. *Cirrhimuraena* sp.



Fig. 10. *Danio rerio*



Fig. 11. *Glossogobius aureus*



Fig. 12. *Glossogobius giuris*



Fig. 13. *Kuhlia marginata*



Fig. 14. *Lutjanus argentimaculatus juvenile*



Fig. 15. *Megalops cyprinoides*



Fig. 16. *Moringua raitaborua* from Bago River estuary, Negros Occidental



Fig. 17. The snake eel *Neenchelys sp.* from the estuary of Bago



Fig. 18. *Ophieleotris aporos*



Fig. 19. *Ophiocara porocephala*



Fig. 20. *Periophthalmodon freycineti*



Fig. 21. *Periophthalmodon freycineti*



Fig. 22. *Periophthalmus argentilineatus*



Fig. 23. *Phaenomonas* sp.



Fig. 24. *Poecilia sphenops*



Fig. 25. *Scartelaos histophorus*



Fig. 26. *Puntius binotatus*



Fig. 27. *Strophidon sathete*



Fig. 28. *Toxotes jaculatrix*



Fig. 29. *Valamugil seheli*



Fig. 30. *Zenarchopterus dispar*