Tirant, G., 1885. Poissons de la Basse Cochinchine et du Cambodge. Excursions et Reconnaissances. Serv. Ocean. Peches Indochine, 6è note, pp. 43-163. Excerpt. (Kate Spear and Noémie Legras, Trans.)
*[Translators notes italicized in brackets.]*

**Fish of Cochinchina and Cambodia.**

No one will be surprised to hear that fish play a leading zoological role in Cochinchina *[French colony "Cochinchine" 1862-1954; Nam Bộ region; southernmost portion of Vietnam today]*; the entire country seems designed for the "aquatic race." The vast floodplains inundated either year-round or throughout the rainy season and covered in extensive vegetation, the rice fields with their *bưng [mangrove swamp]*, or rather, muddy basins where the water is deeper; the forests with their *bàu*, that is, grassy ponds scattered throughout clearings: all seem to offer especially favorable spawning conditions. One must see the Vietnamese and Cambodians in certain areas, with their bamboo baskets woven as finely as screens, separating, filtering water from fish, to imagine the prodigious quantity of individual fish that are born each year, allowing populations to grow and later expand, thanks to a dense network of canals, streams, and rivers; despite the unbelievable waste resulting from the commonly used methods of fishing, and despite the many hungry mouths feeding upon the fish along the way, be it from the nursery grounds to the Mekong.

South Indo-China forms an ichthyological province directly connected with Indo-Malaysia; lower Cochinchina, particularly, presents, regarding the wildlife, curious affinities with the island of Borneo. We find ourselves in the "Indian" zoological geographic region, which extends throughout south Asia, from the Tiger to the Yang-tse-kiang; a region, as we know, that is exceptionally rich in fish; there are, in fact, 1,907 marine species of the 3,587 described in the literature, and 625 freshwater species of the known 2,269. Comparatively, it suffices to note that the African region, comprising the entire vast continent, counts only 255 freshwater species; Europe, better explored, counts only 360, and North America 339; furthermore, the Atlantic Ocean contains only 531 species. One must look to tropical America (especially the Amazon Basin) to find such an abundance of ichthyological life (672 fresh water species).

The generally low and flat coast up to the Bình Thuận province and Cape Padaran has wide sand and mud banks that make approach perilous, but allow, on the other hand, the installation of many fisheries. Except at Cape St. Jacques, the numerous river mouths of Cambodia and Đồng Nai (rivers of Saigon and Biên Hòa) are more or less obstructed by bars which hinder navigation but are not an obstacle to the free passage of the great number of fish which live in the brackish waters and ascend the distributaries of the Mekong up to Tonle Sap Lake, which can be considered in this respect a true marine gulf.

These fish of marine and brackish waters have few special features. Most of them can be found on all shores of the Indian Ocean, from Zanzibar to the Pacific and to Panama.

I could not find any document that allows me to form an opinion on the pelagic and abyssal fauna of the surrounding seas. This uncommonly interesting study is reserved for the future; the works of French and English experts and sailors of the *Porcupine*, *Challenger*, *Travailleur*, and *Talisman* have already shaken up ideas formed by old school naturalists and have steered zoological research in a fruitful direction for all.

Bold like all coastal people, Vietnamese fishermen go to sea in primitively constructed boats with immense nets bearing coarse hooks, attached to a bottom rope or longline buoyed by bamboo. This device, quite similar to those used by French fishermen, is used for sharks and rays; it is called *lưỡi câu*. Large nets called *lưỡi bén* or *lưỡi rê*, depending on the size of the mesh, are also used—the *lưỡi rê* is specialized for the fishing of *cá mối* (Clupeids); this net is similar to the "manet", a net in which Sciaenids, Polynemids, and herring are caught by their gills—and also similar to the "folles," a large mesh net (*lưỡi gôc*) used to catch rays, dogfish, spiny lobsters, and crabs. The *lưỡi gan* net, or the "seine," has a cosmopolitan use.

According to the season, Chondrichthyes, which provide the highly sought fins for Chinese cuisine, dominate the catch, or Sciaenids and Polynemids, or Clupeids.

What species are thrown from the boat each day to the sands of *Phước Hải*, *Phước Tỉnh*, and other beaches for food and commerce? The number is generally not that large; the fishing done around the rugged rocks of Poulo Condore *[Côn Son]*, of Phú Quốc and the islands of the Gulf of Siam *[Gulf of Thailand]*, is otherwise more productive and varied in a naturalist perspective. There each day one sees many more "marine" species, in bright colors difficult to describe and impossible to preserve, such as the *Chaetodon* and *Holacanthus* among the Squamipinnes, the *Lethrinus* and *Chrysophrys* among the Sparidae, the *Cheilinus, Julis, Novacula, Pseudoscarus,* etc., among the Labridae (the brightest of the fishes); these genera remain as unknown to inland Vietnamese as those brought back by the *Travailleur*'s dredges are to the French. I will tell here the inventory of fishing executed the night of April 27 of this year, off *Phước Hải* (Bà Rịa), as an example of what can be harvested.

The Plagiostomes form the basis of the fishing. It is by the thousands that one can count the *cá nhám* and the *cá xà* (various *Carcharias* and *Zygoena*); the *cá chèo bẻo* (*Chiloscyllium*), sharks; then the *cá đuối* (various *Trygon*), *cá ghiêm* (*Trygon walga*), the *cá chà vao* or *cá ó* (*Aetobatis marinari*), the *cá bống* or *cá giống* (various Rhinobatids) and the *cá đao* (Pristides).

These various Plagiostomes constitute at least half of the fishing.

The Scombridae are numerous. There are superb *cá cháng* (*Cybium commersonii*) and *cá mùa* (*Cybium guttatum*) (the young of these two species are named *cá áu* and *cá thu*), which would thrill food lovers from Saigon, if the fish could arrive fresh enough; beautiful *cá giác* (*Pelamys orientalis* and *Thynnus thunina*); bonitos and tunas that should not be confused with the *cá bè* (*Chorinemus sancti Pietri*, Carangidae family) with a dry and tasteless flesh.

Third place belongs to the *Arius* (Silurids) which constitute the only catch of many boats. There are four or five species named in Vietnamese *cá thiêu*, *cá ghún* and *cá út*, according to size, without considering our classification features.

Fourth place belongs to the Polynemides, *cá chét* (*Polynemus quadrifilis*) and *cá ngúa* (*Polynemus plebeius*).

The boats also currently bring a great quantity of *cá mòi dầu*. These are the Alosa (*Clupea kanagurta*), in good condition of fat, often mistaken for related species such as *Clupea macroura*, *Clupea toli*, and *Clupea ilisha*, called "*cá cháy*" when fished in the rivers that they ascend each year to spawn. These same fish are named *cá mòi xơ* when they are lean, which is at the end of the rainy season, when they return to sea after spawning.

We must add the *cá chim* (*Stromateus*), quite numerous and varied; *cá huong* (*Lutianus roseus*); *cá lò có* (*Pristipoma maculatum*)*; cá lưỡi trâu* (*Synaptura*); *cá ngô* (*Psetodes erumei*); some *cá vũng* (*Ephippus orbis*) and finally small fish composed of numerous *Caranx, Otolithus, Engraulis, Sillago*, etc.

The most productive and sought after species are the Sciaenids, Polynemids, and Clupeids, which dried, pickled, or specially fermented make the diverse *mắm* and *nước mắm [fish sauce]*, local products with significant commercial importance.

The *mắm* resembles cured fish used in Burma called *nga-pee*. The Cambodians prepare two varieties more odorous and repugnant than all the others called *phââk* and *prahok*.

The *mắm* of Thanh hoa, known here as *mắm ngan*, is highly regarded. The *mắm* of Binh-thuan, similar to that of our coasts, comprises two principal varieties: the *mắm ŏp* made with Sciaenids and the *mắm mòi* made with Clupeids (*mắm mòi xé, mắm mòi tinh,* or *mắm mòi gà*, according to the species). Clupeids, arriving in compact schools at various periods, supply, besides *mắm,* a type of oily sauce called *nước mắm*, from a special fermentation, of an odor and, especially, taste *sui generis*, used almost universally this side of Indo-China; certain varieties made in Phú Quốc with small *Clupea, Engraulis,* and *Coilia*, have a local reputation well deserved and ensured, I believe. *Nước mắm ruột,* made with a variety of shrimp called *ruột,* well known in the Gulf of Siam islands, appears to be superior to all others.

*Nước mắm* is indispensible to indigenous cuisine, with or without *trái ới* (hot pepper), to overcome insipid steamed rice, and in other preparations such as soups or hash, equally tasteless, which when arranged in a series of saucers and bowls have the pretension to claim to be dishes that constitute a meal.

Many Europeans have overcome an instinctive repugnancy due to the pronounced briny taste of the liquid and the somewhat false and widespread idea that *nước mắm* is made with spoiled or rotten fish. Without doubt the native manufacturers put little care and cleanliness into this industry, as in all others, and their taste buds are immune, as the poor consume all types of quite improbable *mắm* and *nước mắm* products (*mắm sõng* and *cá thúy* from Tonle Sap Lake in Cambodia have a horrible odor).

But the good varieties of *nước mắm* are merely a very salty condiment, and of elevated taste, which is as easy to become accustomed to as English or Japanese sauces; it happily improves the blandness of the national *cơm* (cooked rice), soft soups, and gelatins or vegetable aspics.

During moonlit nights in April and May, fishermen drive to the coast compact schools of small Clupeids (*cá mòi* and *cá bẹ)* through seines operated by eight or ten men. Each haul delivers piles of small silvery fish as large and wriggling like grasshoppers, aptly named *cá ve* or *cá ve ve* (grasshopper) when they are taken at this small size under these circumstances. Brine tanks are quickly filled by successive layers of fish and white salt; fermented without method and resulting in a type of *nước mắm*, mediocre in *Phước Hải,* slightly better in *Phú Quốc.*

Freshly caught fish is hardly consumed except in the coastal villages. The catch cannot get far into the interior due to lack of rapid transportation and even routes. Fishermen unload the contents of their boats onto the hot sand where it sits in the heat until sold, dismembered, and then transported to be dried or cooked. It would spoil before arriving in Saigon *[Ho Chi Minh City]* or Cholon, and often before arriving in Bà Rịa. The fish sold in the interior markets do not come from the sea; these are fish from the river mouths and brackish waters, such as the *cá phèn (Polynemus paradiseus* and *melanopus), cá mang do* (*Toxotes*), *cá dõi* or *dúi* (*Mugil*), *cá chim* (*Stromateus*), *cá mú* (*Serranus*), *cá thu* (*Cybium*), *cá vượt* and *cá chém* (*Lates calcarifer*), etc. True marine species would not be able to be sold and then eaten in time.

Good-sized *Lates calcarifer* (*cá vượt*), very tasty and especially prized by the wealthy Chinese clientele of Cholon, arrive in the best condition possible, thanks to a true post by boat, organized in the river mouths of *rạch Cát* on the *Lôi-rạp* and Cholon. The "tidal trains" are reduced to this.

In contrast, salted or dried marine fish are used universally, and in the smallest inland markets one can smell the nauseous odor of insufficiently prepared fish, with all varieties of *mắm* and *nước mắm* enclosed in sundry earthen pots by primitive, poorly sealed lids.

Fishing of the Mekong in Cochinchina and Cambodia, and especially the fishing of Tonle Sap Lake, merits special study that has been initiated multiple times already. We are obliged to Mr. Moura[1], Mr. Aymonier, and especially Mr. Buchard[2], for the very precise and interesting information on their undertakings. Even so, ichthyological questions remain, one must confess, incompletely addressed. Neither Dr. Ricard[3], who published a list of 62 species, neither Dr. Corre[4], who provided a short note in *Excursions et Reconnaissances*, were sufficiently prepared for this type of work; they were not equipped at the time for scientific research, and they lacked an understanding of the tools and regional languages. One must not fault Mr. Ricard too much for these circumstances, however; he acknowledges in his memoirs that he can only provide coarse information. It was attempted in Saigon to make illustrations of the species collected during Mr. Buchard's mission. Such work would be more difficult than so appears and surpassed

---

[1] See Moura, *Bulletin du Comite agricole et industriel de la Cochinchine,* 1869, p. 83. Note on the fishing of Tonle Sap Lake.

[2] See Buchard, *Excursions et Reconnaissances,* 1880, p. 243. Report to the Governor on the mission of Tonle Sap Lake entrusted to M. Buchard, ensign.

[3] See Ricard, *Excursions et Reconnaissances,* 1880, p. 291 and following. Description of the principal fish of Tonle Sap Lake.

[4] See Corre, *Excursions et Reconnaissances,* 1880, p. 293 and following. Note on the beginning of the year's fishing in Pnom-Penh, Cambodia.

the abilities of the local art students who were charged with this task. The representation of natural objects by drawing, watercolor, or even photography exists to provide scientific value of special care by exacting certain details and highlighting particularities for analysis. Regarding Mr. Ricard's list of fish, made without pretention or criticism, it responded only to the moment's notice, such as those of Thorel in 1865, in the *Revue maritime et colonial*, or by Jouan in 1866 in the *Annales de la Société des sciences naturelles de Cherbourg*; it would be difficult to do more than mention them as merely a first step.

The study of the fish of Cochinchina and Cambodia must be revisited *ab ovo.* In this respect, the remarkable ichthyological atlas of the Dutch East Indies *[Indonesia]*, published by the Amsterdam government from the work of Dr. Bleeker in 1841 to 1878, offers an unparalleled model due to the richness and scientific precision of its colored plates; on the other hand, in 1878 Mr. Francis Day completed a work of capital interest on the fish of the Indian Ocean from Burma to Ceylon[5]. As a result of its careful descriptions, the author's bibliography, a strict methodology, and practical application, it is quite valuable.

The rich collections of the Paris Museum, created by Dr. Harmand and numerous naturalists and already partially expanded upon by experts such as Mr. Leon Vaillant and Mr. Sauvage, and those of the Lyon Museum, created by Dr. Morice and ourselves, form the largest body of knowledge concerning the local fauna acquired thus far.

The fish of Tonle Sap Lake have significant economic value. Only a small portion is exported to Siam *[Thailand]* or consumed in Cambodia. The largest portion provides great export for Saigon and Cochinchina, and is in fact the most valuable export, with the exception of rice.

In 1883, the colony exported 269,160 piculs of dried fish, valuing 1,605,480 piastres. The figures in 1882 were 242,324 piculs, valuing 1,057,003 piastres, and 1,602,419 piastres in 1881.

We should add to these exportation figures approximately 20,000 piastres of ichthyocolle[6] and 28,970 piastres of fish oil; these two industries are barely established.

All these products are made with various species of Silurids (*cá tra,* Cambodian: *trey pra; cá dầu,* Cambodian: *trey réach*; *cá vô*, Cambodian: *trey pau*, etc.), various Ophicephalids (*cá bông*, Cambodian: *trey chdo; cá lȯt*, Cambodian: *trey râs)*, a Sciaenid (*cá sú*, Cambodian: *trey pama*), and finally various Cyprinids (*cá ét*, Cambodian: *trey kâék; cá cháy*, Cambodian: *trey pralung; cá hô*, Cambodian: *trey kâhe; cá duông*, Cambodian: *trey pruôl; cá ngựa*, Cambodian: *trey kampho*; *cá cóc*, Cambodian: *trey chkok*, etc.). We will return various times throughout these notes to the fish of Tonle Sap Lake.

Regardless of the importance of cured fish, one must not forget that across the country, fresh fish holds greater interest. The entire population of Vietnam lives, in some way, on fish taken each day from surrounding creeks, rice paddies, or the closest ponds. Pork is a luxury food

---

[5] *The Fishes of India, being a natural History of the Fishes known to inhabit the Seas and fresh Waters of India, Burma, and Ceylon, 1877-1878, London.*

[6] 56,770 in 1881.

reserved for family and community celebrations. Grilled or boiled fish with rice forms the basis of the local diet.

Four principal families are noted for their abundance; in freshwaters, the Cyprinids, Silurids, Ophiocephalids, and Labyrinthiforms. The fauna of the Indian Ocean and Indo-China are characterized among equatorial fauna by the presence and development of these four families, and also the Mastacembelids and Cobitids. Upon a single visit to Cochinchina and Cambodia one sees these distinctive traits and finds in market baskets the *cá lót* and *cá bông* (Ophiocephalids); *cá trê, cá lăng,* and *cá trèn* (Silurids); *cá rô* and the *cá sạc* (Labyrinthiforms); *cá chạch* (Mastacembelids); and finally the *cá dün, cá mè, cá ngựa, cá roi,* and *cá lòng tong* (Cyprinids) that are found everywhere.

The names of many of these fish are part of the common language and refer to familiar entities. In fact, the natives know this branch of natural history better than all others. Their names for fish are generally more exact and carefully designed for distinct species than those that exist for reptiles. One must not forget, however, that there is a certain latitude and fantasy in this characterization; the Vietnamese are rarely familiar with that which is outside their daily life; few of them have traveled the country to make comparisons. The *dân [people]* of the rice paddies and adjacent lands do not know the coast; the oarsman of the Mekong would be surprised and unfamiliar with the forest if he was transported there; the well-read struggle to spell names of Chinese species that have never existed in the south and are lost outside of their folkloric books. Yet let us not forget also that a large number of fish in our European rivers remain poorly known, and the list of well-known fish is not that long.

We have indicated as exactingly as possible in these notes the native names of species. It is an imperfect nomenclature, as are several of the most learned, which nevertheless offers a practical advantage, which is to help find assistance and support among the Vietnamese and Cambodians more familiar with these exotic animals than us. Indeed, those living in Cochinchina quickly remember everyday common names more quickly than genus and species names following the rules and laws of zoologists—terrible people with the pretention to speak Latin. The variety of types brings as large a complication and even a little confusion in our synonymies. Some people, because of their special scientific temperament, are struck most by slight differences and tempted to see "species" that are in fact separated by chasms; or other observers, over generalizing, only perceive mere "local varieties." The notion, even, that a species is not established in an absolute manner, and there are hardly reasons that it could be one day, the different series of beings comprising our world cannot be more clearly limited in naturalistic designs than they are in reality. Genera are close to genera, and each day species become associated with neighboring species. No system of classification allows one to place together all similar individuals, following the rules of nomenclature.

Nevertheless, it is confusing at times to apply scientific or local names to various fish, for example the Silurids or the Cyprinids. European scholars name species from samples sometimes poorly conserved in alcohol, create divisions that the natives have trouble following, and risk

giving different names to the same fish, if multiple people are involved. One must be aware of this difficulty.

The author of *Gia định thông chí* (description of lower Cochinchina)[7], *Trần hội đức*, does not fail to enumerate the ichthyological riches of his country and notes 32 species of marine fish, 37 species of riverine fish, 8 species of marsh fish, and finally 3 species of venomous fish. Many animals designated as fish (or *cá*) in Vietnam would not be kept in this branch of the animal kingdom. C*á voi (tướng ngư)* sometimes refers to the whale[8] from the Mysticeti among the Cetaces or the dugong (*Halicore Dugong)*, much more common and at the time frequenting the coasts and the Mekong, which it ascends quite far. The dugong belongs to the order Sirenia. *Cá voi* designates therefore two mammals.

Likewise, *cá mực* (*mặc ngư*) is not a fish, but a cuttlefish from the class Cephalopoda (mollusks). Aubaret's translation contains much evident confusion:

"The *mặc ngư* fish, commonly known as *con mực*, is round and has eight brushes similar to hair of a beard; the skin is red and the flesh white. It has a very thin and brilliant white bone.

"The *mê chi mac trương* fish, commonly known as *con mực cơm*, is long at 5 or 6 inches. The flesh must be dried to eat. This species is smaller than the previous and no longer than an inch in diameter; it is similar to a big spider and good to eat.

"There is a species of round dried fish, larger than the previous, called *ô tặc*, commonly known as *mực nang*, and also called *phiêu thiêu*, of which the flesh is tough and tasteless."

Aubaret took four features for a fish's name (the fish *mé chi mac trương*) which designated solely that the *mặc ngư* has a grainy fat and an "ink sac." Likewise *phiêu thiêu* is not another name for *ô tặc*. The author simply wanted to say that this species possesses a cuttlebone depicted in Chinese by the features *phiêu thiêu*.

Here is what the Vietnamese text says:

"The *mặc ngư* (*cá mực*). Round; eight tentacles, red skin, white flesh; a bright, light, foliated bone; grainy fat; black visceral pocket[9]. Length of body 5 to 6 *thŏn*. It is somewhat dried. A small round variety, of a single *thŏn*, similar to a spider, is equally good to eat. The large round species is called *ô tặc*; it is this one, when full grown, that has the *phiêu thiêu* "cuttlebone;" however its flesh is tough and bland."

The *thúy mầu (tạc ngư)* should also be removed from the list of fish. They are instead Medusozoa (*cơn sứa*).

The descriptions of *Gia định thông chí*, quite simple and laconic, are generally very clear and exact, if read in the original text and not Mr. Aubaret's translation, who, not being a naturalist and being a novice in the study of Indo-China languages, gleaned from his

---

[7] *Gia định thông chí (Histoire et description de la basse Conchinchine)* by G. Aubaret, Paris, 1863, p. 324 and following.

[8] M. Chavassieux observed in 1877 the stranding of a whale in Phú quốc. Fishermen rushed in and vainly tried to put it back into the water; it was only a corpse they managed to return to the sea with pious care.

[9] The ink bag of cephalopods opens in a funnel on the side of the intestine and provides the *Sepia [ink]*.

collaborators many misinterpretations which make his work unrecognizable. It is not surprising that Dr. Corre, using this translation and its names and trying to match them to his own, without having the time to learn them, declared that "the synonymy of Vietnamese common names for fish could create deplorable confusion."[10]

We do not share this opinion and also believe that the fish of *Gia định thông chí* are more recognizable and determinable than the fish featured in many recent lists.

We do not intend to provide diagnostics, except in a few cases, and will be content to clearly indicate Cochinchina species with the names attributed to them by recent authors and some of the most distinctive and apparent features of which we will add remarks.

The authors divide the fish into four classes:

1) Paloeichthyes
2) Teleostei
3) Cyclostomata
4) Leptocardii

Cyclostomata and Leptocardii are not found in Indo-China and will thus not be discussed further.

*[Outline follows of the remaining document.]*

Paloeichthyes Class
- Sharks
  - Carcharhinidae Family
    - Zygoena Genus
    - Carcharias Genus
      - *Carcharias laticaudus*
      - *Carcharias acutus*
      - *Carcharias Walbehmii*
      - *Carcharias acutidens*
      - *Carcharias tricuspidatus*
      - *Carcharias hemiodon*
      - *Carcharias sorrah*
      - *Carcharias limbatus*
      - *Carcharias melanopterus*
      - *Carcharias gangeticus*
      - *Carcharias Dussumieri*
      - *Carcharias menisorah*
    - Hemigaleus Genus
    - Galeocerdo Genus
    - Mustelus Genus

[10] *Excursions et Reconnaisances* 1880, p. 394 and following.

- Lamnidae Family
- Notidanidae Family
  - Notidanus Genus
- Scylliidae Family
  - Scyllium Genus
  - Ginglymostoma Genus
  - Stegostoma Genus
  - Chiloscyllium Genus

Rays

- Pristidae Family
  - Pristis Genus
    - *Pristis Perrotteti*
    - *Pristis zisron*
    - *Pristis cuspidatus*
- Rhinobatidae Family
  - Rhyncobatus Genus
    - *Rhyncobatus ancylostomus*
    - *Rhyncobatus djeddensis*
  - Rhinobatus Genus
    - *Rhinobatus halavi*
    - *Rhinobatus granulatus*
    - *Rhinobatus Thouini*
- Torpedinidae Family
  - Narcine Genus
    - *Narcine Timlei*
    - *Narcine lingula*
  - Astrape Genus
    - *Astrape dipterygia*
- Rajidae Family
- Trygonidae Family
  - Urogymnus Genus
    - *Urogymnus asperrimus*
  - Trygon Genus
    - *Trygon uarnak*
    - *Trygon walga*
    - *Trygon Bennettii*
    - *Trygon Kuhlii*
    - *Trygon zugei*
    - *Trygon sephen*
  - Toeniura Genus

- Pteroplatea Genus
  - *Pteroplatea micrura*
- Myliobatidae Family
  - Myliobatis Genus
    - *Myliobatis Nieuhoffi*
    - *Myliobatis maculata*
  - Aetobatis Genus
    - *Aetobatis narinari*
  - Rhinoptera Genus
  - Dicerobatis Genus

Teleostei Class

- Lophobranches Order
  - Solenostomidae Family
  - Syngnathidae Family
    - Syngnathus Genus
      - *Syngnathus serratus*
      - *Syngnathus longirostris*
      - *Syngnathus spicifer*
      - *Syngnathus cyanospilos*
    - Ichthyocampus Genus
      - *Ichthyocampus caree*
    - Doryichthys Genus
      - *Doryichthys brachyurus*
      - *Doryichthys boaja*
    - Gastrotokeus Genus
      - *Gastrotokeus biaculeatus*
    - Hippocampus Genus
      - *Hippocampus trimaculatus*
      - *Hippocampus guttulatus*
- Plectognaths Order
  - Sclerodermes Family
    - Triacanthus Genus
      - *Triacanthus brevirostris*
      - *Triacanthus strigilifer*
    - Balistes Genus
      - *Balistes stellatus*
      - *Balistes maculatus*
      - *Balistes vetula*
      - *Balistes niger*
      - *Balistes mitis*

- *Balistes conspicillum*
- *Balistes viridescens*
- *Balistes fuscus*
- *Balistes flavomarginatus*
- *Balistes aculeatus*
- *Balistes rectangulus*
- *Balistes undulates*
- *Balistes erythrodon*

Monacanthus Genus

- *Monacanthus setifer*
- *Monacanthus choirocephalus*
- *Monacanthus Monoceros*
- *Monacanthus scriptus*

Anacanthus Genus

Ostracion Genus

- *Ostracion turritus*
- *Ostracion cubicus*
- *Ostracion punctatus*
- *Ostracion nasus*
- *Ostracion cornutus*

Gymnodontidae Family

Diodon Genus

- *Diodon maculatus*
- *Diodon spinosissimus*
- *Diodon hystrix*

Triodon Genus

- *Triodon bursarius*

Tetrodon Genus

- *Tetrodon inermis*
- *Tetrodon lunaris*
- *Tetrodon sceleratus*
- *Tetrodon hypselogenion*
- *Tetrodon oblongus*
- *Tetrodon rubripes*
- *Tetrodon immaculatus*
- *Tetrodon nigropunctatus*
- *Tetrodon steilatus*
- *Tetrodon reticularis*
- *Tetrodon hispidus*
- *Tetrodon fluviatilis*

- *Tetrodon biocellatus*
- *Tetrodon Palembangensis*
- *Tetrodon Lorteti*
- *Tetrodon margaritatus*

Xenopterus Genus

- *Xenopterus naritus*

Physostomes Order

Physostomes apodes Group

Symbranchidae Family

Monopterus Genus

- *Monopterus javanensis*

Symbranchus Genus

- *Symbranchus bengalensis*

Murenidae Family

Anguilla Genus

Congromuraena Genus

Uroconger Genus

Muraenesox Genus

- *Muraenesox telabon*
- *Muraenesox telabonoides*
- *Muraenesox cinereus*

Muraenichthys Genus

Moringua Genus

Ophichthys Genus

- *Ophichthys boro*

Muraena Genus

- *Muraena meleagris*
- *Muraena reticularis*
- *Muraena tessellata*

Gymnomuraena Genus

Physostomes abdominaux Group

Clupeidae Family

Engraulis Genus

- *Engraulis melanochir*
- *Engraulis taty*
- *Engraulis telara*
- *Engraulis breviceps*
- *Engraulis encrasicholoides*
- *Engraulis Commersonianus*
- *Engraulis tri*

- *Engraulis indicus*
- *Engraulis Hamiltonii*
- *Engraulis kammalensis*
- *Engraulis mystax*
- *Engraulis setirostris*
- *Engraulis Dussumieri*
- *Engraulis crocodilus*

Coilia Genus

- *Coilia Dussumieri*
- *Coilia Bornoensis*
- *Coilia Pfeifferi*
- *Coilia clupeoides*

Chatoessus Genus

- *Chatoessus nasus*
- *Chatoessus chacunda*

Clupea Genus

- *Clupea leiogaster*
- *Clupea longiceps*
- *Clupea lile*
- *Clupea Huoe*
- *Clupea ilisha*
- *Clupea kanagurta*
- *Clupea toil*
- *Clupea macrura*

Corica Genus

Pellona Genus

- *Pellona elongate*
- *Pellona indica*
- *Pellona brachysoma*
- *Pellona megaloptera*
- *Pellonga amblyuroptera*

Opisthopterus Genus

- *Opisthopterus tartoor*

Raconda Genus

- *Raconda Russeliana*

Dussumieria Genus

- *Dussumieria Hasseltii*
- *Dussumieria acuta*

Spratelloides Genus

- *Spratelloides delicatulus*

- Albula Genus
  - *Albula conorhynchus*
- Elops Genus
  - *Elops saurus*
- Megalops Genus
  - *Megalops cyprinoides*
- Chanos Genus
  - *Chanos salmoneus*

Chirocentridae Family

- Chirocentrus Genus
  - *Chirocentrus dorab*

Notopteridae Family

- Notopterus Genus
  - *Notopterus kapirat*
  - *Notopterus chitala*

Scopelidae Family

- Harpodon Genus
  - *Harpodon nehereus*

Scombresocidae Family

- Belone Genus
  - *Belone annulata*
  - *Belone leiurus*
  - *Belone canciloides*
  - *Belone strongylurus*
- Hemirhamphus Genus
  - *Hemirhamphus Cantori*
  - *Hemirhamphus Buffonis*
  - *Hemirhamphus ectuntio*
  - *Hemirhamphus limbatus*
- Exocoetus Genus
  - *Exocoetus micropterus*
  - *Exocoetus poecilopterus*
  - *Exocoetus evolans*
  - *Exocoetus furcatus*
  - *Exocoetus bahiensis*
  - *Exocoetus mento*

Cyprinodontidae Family

- Haplochilus Genus
  - *Haplochilus panchax*
  - *Haplochilus argyrotoenia*

- Cyprinidae Family
  - Cobitidae Sub-family
    - Misgurnus Genus
      - *Misgurnus anguillicaudatus*
    - Nemachilus Genus
      - *Nemachilus spilopterus*
    - Botia Genus
      - *Botia Morleti*
      - *Botia modesta*
      - *Botia hymenophysa*
    - Acanthopsis Genus
      - *Acanthopsis choirorrhynchus*
  - Homalopteridae Sub-family
    - Homaloptera Genus
    - Psilorhynchus Genus
      - *Psilorhynchus Aymonieri*
  - Abramidae Sub-family
    - Culter Genus
      - *Culter flavipinnis*
    - Chela Genus
      - *Chela hypophtalmus*
      - *Chela siamensis*
      - *Chela oxygastroides*
      - *Chela paralaubuca*
      - *Chela macrochir*
  - Danionidae Sub-family
    - Danio Genus
      - *Danio Rheinarti*
    - Squaliobarbus Genus
      - *Squaliobarbus annamiticus*
  - Rasboridae Sub-family
    - Nuria Genus
      - *Nuria danrica*
    - Rasbora Genus
      - *Rasbora daniconius*
      - *Rasbora aurotoenia*
      - *Rasbora Paviana*

Cyprinidae Family cont.

- Cyprinus Genus
- Carassius Genus

*Carassius auratus*

Catla Genus

*Catla Buchanani*

Cirrhina Genus

*Cirrhina mrigala*

Dangila Genus

*Dangila Cuvieri*

*Dangila toeniata*

Osteochilus Genus

*Osteochilus melanopleurus*

*Osteochilus borneensis*

*Osteochilus Hasseltii*

*Osteochilus Schlegelii*

*Osteochilus vittatus*

*Osteochilus triporus*

*Osteochilus melanopterus*

Labeo Genus

*Labeo chrysophekadion*

*Labeo pleurotoenia*

*Labeo pruol*

Tylognathus Genus

*Labeo (Tylognathus) lehat*

Crossochilus Genus

*Crossochilus latius*

*Crossochilus reba*

*Crossochilus cambodgiensis*

Barbus Genus

*Barbus enoploldes*

*Barbus Laoensis*

*Barbus altus*

*Barbus gonionotus*

*Barbus maculatus*

*Barbus goniosoma*

*Barbus siaja*

*Barbus macrolepidotus*

*Barbus chola*

*Barbus aurotoeniatus*

*Barbus bulu*

*Barbus melanopterus*

*Barbus apogon*

*Barbus proctozysron*
*Barbus aureus*
Amblyrhynchichthys Genus
*Amblyrhynchichthys truncatus*
Albulichthys Genus
*Albulichthys albuloides*

*[End of available manuscript.]*