

Major Taxa of fresh water fishes- Major Classes

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Order : Cypriniformes

Body oblong. Compressed, with small to large scales.

1. Head without scales.
2. Bony planes never developed.
3. Mouth usually protractile and always tooth less.
4. Jaws, palatine and preopercular bones are tooth less.
5. Branchiostegal rays usually three and no supra branchial organ.
6. Single dorsal fin. No adipose dorsal fin except in some nemachelins and cobitins.
7. Barbels present around the mouth (or) absent.
8. Weberian apparatus mostly modified.

In Cypriniformes consists of 5 important families

i) Cyprinidae (Carps, Minnows)

ii) Parapsilorhynchidae

iii) Balitoridae

iv) Cobitidae

v) Psilorhynchidae

Family : Cyprinidae

1. Body with scales, generally compressed abdomen rounded or cutting.
2. Eyes never covered with skin.
3. Lips usually thin, not with papillae, developed in various stages. Sometimes absent from one of the jaws (or) closely infesting both jaws or reflected from one or the other.
4. A labial fold continuous (or) interrupted present. Occasionally a few genera have a cartilaginous covering to either of the lips or both.
5. No subocular spines. Opercular bones well developed.
6. Barbels one or two pairs, present (or) absent.
7. Last undivided dorsal fin ray osseous or articulated
8. No adipose dorsal fin.
9. Pharyngeal teeth one to 3 rows, never more than eight teeth in any one row.
10. Lateral line complete (or) incomplete.
11. Air bladder usually large and divided into anterior and posterior chamber not surrounded by a bony capsule.

This family consists of five sub families and 58 genera. The subfamilies are namely.

1. Leuciscinae
2. Oreininae (= schizothoracinae)
3. Garrinae
4. Danioninae (= Rasborininae)
5. Cyprininae

1. Subfamily : Leuciscinae (Hypophthalmichthyinae)

Abdomen strongly keeled from breast to vent.

- No barbells and maxillary foramen
- Scales don't extend to interorbital space
- Epibranchial organ present

Genus : Hypophthalmichthys

Species : i) *H. molitrix* ii) *H. nobilis*

2. Subfamily : Danioninae (= Rasborinae)

Small (or) medium sized bilvery with an abdominal keel usually extending upto the level of pectoral fins.

1. A symphyseal knob on lower jaw may be present (or) absent
2. Danionin notch when present is a large and peculiarly shaped indentation in the medial margin of the mandibles (absent in *Horadandia*)
3. Mouth oblique, terminal (or) directed upwards.
4. Pharyngeal teeth in one to 3 rows.
5. Dorsal fin without osseous ray usually with seven branched rays, placed in posterior half of body behind pelvic fin base.
6. Lateral line complete and curved downwards in lower half of caudal peduncle (absent in *Horadandia*)

Genus: Which has 16 numbers of genera

1. *Securicula gora* – only one species
2. *Salmostoma* spp – which consists of 12 species
3. *Aspidoparia* – consists of two species

1. *A. Jaya* 2. *A. morar*

4. *Barilius spp* – consists of 17 species

5. *Inlecypriis auropurpureus* – only one species

6. *Chela* – consists of 4 species

1. *C. Cachisus* sub genera

2. *C. fasciatus* 1. *Chela*

3. *C. laubuca* 2. *Allochela*

4. *C. dadyburjori* 3. *Neochela*

7. *Esomus* which consist of 5 species

E. ahli

E.altus

E.barbatus

E. danricus

E. thermoicos

8. *Danio* which consist of 12 species

9. *Brachydanio* which consist of 7 species

10. *Horadandia atukorali*. Only one species

11. *Microrasbora* – which has 3 species

12. *Danionella translucida* – only one species

13. *Rasbora* – consists of 7 species

14. *Rasboroides vaterifloris* – only one species

15. *Bengala elanga* - only one sp.

16. Amblypharyngodon – 5 species

3. Subfamily: Cyprininae

1. Body generally elongated (or) oval
2. Head and body compressed former without scales.
3. Abdominal edge rounded, sometimes compressed into a sharp keel like edge.
4. Mouth mostly protractile and always tooth less.
5. Jaws smooth or with a horny covering
6. Barbels one (or) 2 pairs present (or) absent
7. Dorsal fin with (or) without spines which may be smooth (or) serrated and with 7 to 30 branched rays.
8. Anal fin short with 5 to 9 branched rays
9. Lateral line complete (or) incomplete, generally running in middle of the body.

It consist of 32 genera namely

1. *Crenopharyngodon idella* – only one species
 2. *Cyprinus sp.* – only one species
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1. *Cyprinus carpio carpio*
 2. *C. carpio communis* (scale carp)

3. *C. carpio specularis* (mirror carp)
4. *C. carpio nudus* (Leather carp)

3. *Carassius sp.* – 2 species – Gold fish
 1. *carassius auratus*
 2. *carassius carassius*

4. *Tinca tinca* - only one species Commonly known as 'Tench'
5. *Thynnichthys sandkhol* - only one species
6. *Capoeta Capoeta* - only one species
7. *Tor spp.* – which has 9 species. Commonly called as “Mahseer”
Important species are

- *1. *Tor khudree*
2. *T. mosal*
3. *T. mussullah*
4. *T. putitora*
5. *T. tor*

8. *Naziritor spp.* – two species
9. *Neolissochilus* – It consist of 11 species
10. *Osteobrama* - nine species including 1 subspecies
11. *Cyclochelichthys apogon* - only one species
12. *Rohree ogilbii* - only one species
13. *Mystacoleucus* - two species
14. *Poropuntius* - six species

15. *Chagunius* – three species
16. *Dreichthys cosuatis* - only one species
17. *Puntius* – consist of 75 species
18. *Sawbwa resplendens* - only one species
19. *Hampala macrolepidota* - only one species
20. *Gononproktoptenus* - consist of 10 species
21. *Semiplotus spp* – consist of 4 species (commonly known as king-fish)
22. *Scaphiodonichthys burmanicus* – single species
23. *Osteochilichthys* – 4 species
24. *Cyprinion* – two species
25. *Kantaka brevidorsalis* - single species
26. *Labiobarbus leptocheilus* – single species
27. *Osetochilus hasselri* – single species
28. *Cirrhinus* – which has 5 species

- 1, *cirrhinus cirrhosus* Sub genera
- 2, *C. fulungee* 1. *Henicorhynchus*
- 3, *C. mrigala* 2. *Cirrhinus*
- 4, *C.reba* 3. *Cirrhinus*
- 5, *C. macrops*

29. *Catla catla* – only one species
30. *Labeo* – consist of 28 species

Important species are

1. *Labeo rohita*

2. *L. konitus*
3. *L. dussimieri*
4. *L. calbasu*
5. *L. beta*

31. *Schismatorhynchos nukta*

32. *Hgoralabiosa* - three species

3. Subfamily: *Oreininae* (= *Schizothoracinae*)

(Snow Trouts, snow carps and snow minnows)

1. mouth inferior or slightly anterior
2. A suctorial disc on chin may be present
3. Pharyngeal teeth in two or three rows
4. Dorsal fin with or without spines
5. Scales very small
6. A tile – like row of scales present enclosing vent and anal fin base.

It consist of 8 genera

1. *Schizothorax* – Four species
2. *Schizothoraichthys* – 13 species
3. *Schizopygopsis stoliczkae* – only one species
4. *Diprychus maculates* – single species
5. *Phychobarbus corirostris* – single species

6. *Schizocypris brucei* - single species
7. *Gymnocypris biswasi* – single species
8. *Lepidopygopsis typus* – single species

4. Sub family: Garrinae

- Mouth inferior
- Suctorial disc formed by the lower lip on ventral surface of head present (or) absent
- Pectoral fin laterally inserted
- Upper and lower lip may (or) may not be connected
- Upper lip continuous with skin and snout and crenulated
- No groove between upper lip and snout

It consist of two Genus

1. *Garra sp* – 38 species
2. *Crosso cheilus* – 3 species

Family : Parapsylorhynchidae

1. Body spindle – shaped with the ventral surface flat
2. Head short, compressed with the operculum pointed and narrow
3. Mouth very small, inferior
4. Lower jaw with sharp edges with its lips prominent with a callous thickening behind it
5. Barbels a single rostral pair only
6. Eyes fairly prominent , lateral in position and visible from below ventral surface
7. Anal fin with 5 branched rays.
8. Dorsal fin inserted opposite to pelvic fins with 8 branched rays

It consist of only one genus with 3 speices

1. *Parapsilorhynchus discophorus*

2. *P. prareri*

3. *P. tentaculatus*

Family : Psilorhynchidae

1. Body flattened on ventral surface, covered with small scales.
2. Mouth small, inferior and snout projecting
3. Gill opening narrow and gill membranes united with isthmus
4. No pseudobranchiae
5. Pharyngeal bones slender with four teeth on each side arranged in a single row
6. Barbels absent
7. Four to nine pectoral and two of pelvic rays
8. Complete lateral line and air bladder greatly reduced.

This family which has two genera

1. *Psilorhynchus spp* – It has four species
2. *Psilorhynchoides spp* – It has 3 species

Family : Balitoridae (Loaches)

1. Body covered with small cycloid scales, greatly depressed ventral surface flattened
2. Body head and part (or) whole of ventral surface without scales
3. Gill openings either greatly restricted and situated above base of pectoral fins or of moderate size extending to ventral surface for a short distance
4. Gill membranes united with isthmus
5. Pseudobranchiae absent
6. Paired fins may or may not be horizontally placed with one or two simple unbranched rays

7. Lateral line well marked and complete
8. Operculum elongated and pre operculum reduced
9. Air bladder reduced, divided and enclosed in a bony capsule, formed by the dorsal ribs of the second and fourth vertebrae

Two subfamilies

Family Balitoridae, consist of two subfamily with 16 genera

Sub family i) Balitoridae ii) Nemacheilinae

Sub family i) Balitoridae

1. Body streamlined, moderately (or) greatly depressed, ventrally flattened
2. Pelvic and pectoral fins horizontally inserted
3. Pectoral fins with two simple rays
4. No spine under or before eye

It consist of 4 genera namely

1. *Bhavana australis* - single species
2. *Homaloptera spp* – which has 7 species
3. *Travancoria spp* – which has 2 species
4. *Balitora spp* – which has 3 species

ii) Sub family – Nemacheilinae

1. Pelvic and Pectoral fins not inserted horizontally
2. Only one ray, the outer most pectoral fin ray is simple
3. Dorsal fin moderately long with 7-20 rays
4. Upper part of caudal penduncle may be with an adipose ridge

It consist of 12 genera namely

1. *Acanthocobitis* sp – six species
2. *Neemacheilus* sp - 4 species
3. *Neonoemacheilus* sp – 3 species
4. *Schistura* sp - 63 species (including 5 sub species)
5. *Longischistura* sp - 2 species
6. *Physoschistura* sp - 5 species
7. *Mesonoemacheilus* sp -9 species
8. *Nemachilichthys* sp - 2 species
9. *Triplophysa* sp - 17 species
10. *Oreonectes* sp -2 species (Subgenera : *Indoreonectes*)
11. *Aborichthys* sp -4 species
12. *Yunnanilus brevis* – only one species

Family : Cobiridae

1. Body short, low, more or less cylindrical, posteriorly compressed but never depressed
2. Body with small cycloid scale when present, usually immersed in mucus, may be present on head also
3. Mouth subterminal to inferior
4. Lips thick, fleshy and papillated
5. 3 pairs of barbells
6. An erectile spine before or below eye present
7. Verticle fins with out any spine
8. Pelvic fins may be absent

Two sub families with eight genera

Subfamily : Botinae

1. Two pairs of rostral barbells placed very close to each other
2. Caudal fin well forked
3. Dorsal fin with 10 to 15 rays (8 to 13 branched)

Genus

1. *Botia spp* – with 11 species

Sub family 2 – Cobitinae

1. Only one pair of rostral barbells. Caudal fin rounded (or) Slightly emarginated (exception *Acantopsis*)
2. Dorsal fin with 8 – 30 rays

It consist of 7 genera. They are

1. *Neoeucirrhichthys mayelli* - single speices
2. *Enobarbichthys macularus* – single species
3. *Pangio spp* - 4 species
4. *Somileptus gongota* -single species
5. *Lepido cephalichthys sp.* – 11 species
6. *Misgurnus anguillicaudatus* – only one species
7. *Acantopsis sp* – two species

Order : Siluriformes

- Commonly called as catfishes.
- Mesopterygoid very reduced
- Pre opercle and inter opercle relatively small
- Adipose fin usually present
- Spine like (=spinous) rays present at the front of the dorsal and pectoral fins
- Dorsal fin of most cat fishes has two spines; The first being very short and forming a locking mechanism for the second spine.
- Body either naked or covered with bony plates.
- Usually up to barbells present on head
- The nasal and chin barbels may be variously absent.

- Maxilla toothless and rudimentary (except in Diplomystidae and the extinct Hypsidoridae)
- Caudal fin rays 18 or fewer (most with 17)
- Caudal skeleton varying between having six separate hypural plates to complete fusion of caudal elements.
- Eye usually small
- Air breathing organs present in Claridae and Heteropreustidae
- Many cat fishes have a maximum length of below 12 cm. The largest cat fish is *Silurus glanis* (commonly reaches 3m in length)
- Pangasiid and Pimelodid are also known to reach exceptionally large sizes.
- Siluriformes consists of

Families : 34

Genera : 412

Species : 2,405

Of which, about 1,440 species are presently available. Siluriformes with approximately 437 genera and 2734 species represent about 32% of all Freshwater fishes.

Ariidae and Plotosidae consist largely of marine species but also representatives that are frequently found in brackish, coastal waters and sometimes only in fresh water.

Other families are freshwater, although some have species that can invade brackish water.

Indian Siluroids

The Indian region comprises of India, Bangladesh, Nepal, Myanmar, Nepal and Sri Lanka. In this vast area we have 13 families under 52 genera and 197 species. The families and genera with the number of species are as below:

Sl.No.	Family	Genera	Number of Species
1.	Bagridae	8	48
2.	Siluridae	4	13
3.	Schilbidae	6	16
4.	Pangasiidae	1	2
5.	Amblycipitidae	1	7
6.	Akysidae	1	4
7.	Sisoridae	15	68
8.	Erethistidae	6	14
9.	Clariidae	2	3
10.	Heteropneustidae	1	2
11.	Chacidae	1	2
12.	Plotosidae	1	3
13.	Ariidae	5	15
	Total	52	197

Family : Ictaluridae (Ameiuridae)

o North American freshwater catfishes

- o Freshwater; North America (Southern Canada to Guatemala)
- o Four pairs of barbels on head; skin naked.
- o Dorsal (except in *prietella*) and pectoral fins with a spine
- o Dorsal fin usually with six soft rays
- o Palate tooth less except in fossil *Astephus*
- o Three species of unrelated blind (eye less)
- o Cat fishes are known (*Satan*, *Triglo glanis* and *pritella*)

Seven genera namely

1. Ictalurus spp (Channel cat fish)

- about 9 species among which 5 species are only in Mexico and Guatemala.
- *Trigloglanis* – one species
- *Ameiurus sp* (bull heads) – seven species
- *Noturus* spp – 25 species
- Stone cat and madroms which have a poison gland at base of pectoral

spine.

Pritella

Saran

Pylodictis (flat head cat fish)

Totally 45 species in this family

Family : Bagridae (bagrid cat fishes)

- o Freshwater, Africa and Asia (to Japan & Borneo)
- o Dorsal fin has one spine along with 6 or 7 soft rays (rarely 8 – 20)
- o Adipose fin present and highly variable in size between species
- o Pectoral fin serrated
- o Usually four pairs of well developed barbells
 - widely distributed in fresh and brackish-water bodies
 - rayed dorsal fin inserted above first half of pectoral fin and anal fin mostly short.
 - Jayaram, K.C. (1972) divided the family into 5 subfamilies: Ritinae, Chrysichthyinae, Bagrinae, Bagroidinae and Auchenoglaninae. Chrysichthyinae was further subdivided into three tribes.

Five subfamilies are now in vogue with the following genera :

1. Ritinae. This was proposed by me in my revision and it is now valid. The Indian genera are: *Rita* Bleeker only, although under this subfamily another African genera *Nanobagrus* has been included by Mo. The main character is the presence of 7 or 8 pelvic rays against 6 in other bagrid genera.
2. Bagrinae. This was proposed by Regan (1911) and is valid. The Indian genera are:
3. ***Sperata* (in place of *Aorichthys* Wu, *Osteobagrus* Jayaram); *Mystus*; *Hemibagrus*; *Rama*,, *Neotropius* (previously considered under *Schilbidae* but osteological studies have shown that it belongs to *Bagridae*).**
4. Batasininae proposed by Tilak is valid . *Batasio* is the only genus.
5. Olyrinae. Previously treated as a separate family create d by Hora (1936), it has been shown by Mo (1991) that *Olyra* the only genus is deeply nested within other Bagrid genera and as such cannot be retrained as a separate family.

This family consists of 30 genera and with roughly 210 species

1. *Austroglanis* 8. *Gephyroglanis*
2. *Auchenoglanis* 9. *Leiocassis* (= *Liocassis*)
3. *Bagruchrhys* 10. *Mystus*
4. *Bagroides* 11. *Parauchenoglarus*
5. *Bagrys* 12. *Pelteobagrus*

6. *Chrysichthys* 13. *Platyglarus*

7. *Clarotes* 14. *Pseudobagrus*

15. *Rita*

Family : Siluridae (Sheat fishes)

- Freshwater, Europe and Asia
- Dorsal fin usually with fewer than seven rays, sometimes absent, not preceded by a spine.
- Anal fin base very elongate (41 – 110 rays)
- Nasal barbell absent
- 1 or 2 pairs of barbells on lower jaw, and maxillary barbels usually elongate.
- Largest species of this family is *silurus glarus* which commonly reaches 3m.
- About 12 genera with 100 species

The genera of this family are given below

1. *Belodontichrhys*
2. *Ceratpglanis*
3. *Hemisilurus*
4. *Hito*
5. *Kryptopterus* (glass cat fish)
6. *Ompok bimaculatus*
7. *Parasilurus*

8. *Pterocryptis*
9. *Silurichthys*
10. *Silurus*
11. *Wallago attu*

Family : Pangasiidae

- Freshwater, southern Asia (Pakistan to Borneo).
- Usually two pairs of barbells (maxillary and one pair of mandibular or mental barbells present, nasal barbells always absent, only maxillary barbels in adult *pangasius gigas*).
- Body compressed
- Adipose fin present, small, never confluent with caudal fin.
- Dorsal fin far forward with one or two spines of 5-7 soft rays.
- Anal fin with 26 -46 rays
- Vertebrate – 39 -52
- widely separated nostrils
- Fused gill membranes
- Canine teeth absent
- These fishes inhabit lower portions of large rivers and estuaries. It is a food fish.

Two genus

- *Helicophagus* – 2 species
- *Pangasius* - 19 species
- *Pangasianodon*

Family : Sisoridae (Bagariidae) - Sisorid catfishes

- Freshwater, Southern Asia
- Body usually with small unculiferous tubercles
- Thick leathery skin
- Adipose fin present (confluent with caudal in some genera and consisting of a small spine in the elongate *Sisor*sp.)
- Dorsal fin base short, fin with or without a spine
- Adhesive apparatus in thoracic region present or absent
- Four pairs of barbells with fleshy bases.
- Head and anterior part of body depressed
- [Gill membranes](#) restricted to sides.

20 genera with about 85 species. Eg. of genus

1. *Bagarius*
2. *Erethistes*
3. *Exostoma*
4. *Puchiloglarus*
5. *Gagata*
6. *Glyptosternum*
7. *Glyptothorax*

8. *Hara*
9. *Nangra*
10. *Pseudecheneis*
11. *Sisor*

Family : Clarridae-(Air breathing catfishes)

- o Freshwater
- o Distributed through Africa, Syria, southern and western Asia
- o Dorsal fin base very long, with more than 30 rays not preceded by a spine, separate or continuous with caudal fin.
- o Pectoral and pelvic fins absent in some species
- o Caudal fin rounded gill openings wide
- o Four pairs of barbells
- o Air breathing labyrinthic organ arising from gill arches
- o About 13 genera with about 100 species

Head greatly depressed, its dorsal and lateral parts covered with heavily ossified plates or with skin

Eg. Genus are

1. *Clariallabes*
2. *Clarias batrachus* and *Clarias dussumieri*
3. *Dinotopterus*
4. *Heterobranchus*
5. *Horaglanis*
6. *Vegitglarus*

Family : Malapteruridae (Electric cat fishes)

- Freshwater
- Distributed to Africa and Nile
- Well developed Electrogenic organ present, derived from anterior body musculature.
- Dorsal fin absent; Adipose fin far back
- Caudal fin rounded
- 3 pairs of barbells (nasal pair absent)

One genus *malapterurus* with 2 species

1. *M. electricus*
2. *M. microstoma*

Family : Plotosidae (Eel tail cat fishes)

- o Marine, brackish water and freshwater
- o Distributed in Indian Ocean and Western Pacific

- o Body eel-like, tail pointed or bluntly rounded
- o Usually four pairs of barbels

Family : Loricariidae (Sucker mouth armored catfishes)

- Freshwater; Panama and South America
- Body with bony plates
- Mouth ventral, with or without noticeable barbells
- Ventral lip papillose
- If adipose fin present, usually with a spine at anterior border.

Five subfamilies with 80 genera and 550 species are represented in this family.

Family Heteropneustidae

Commonly known as Sting fishes these are also air breathing fishes, which have a tubular air sacs as accessory respiratory organ. Two species are known *H. fossilis* and *H. longipectoralis*. Clariidae and Heteropneustidae have different types of accessory respiratory systems. Because of this the family is kept separately.

Family Amblycipitidae

Characterised by the presence of a fold of skin above and anterior to pectoral fin base, extending below to gill openings present.

The single genus *Amblyceps* was known only by a single species *A. mangois* . At present there are ten species are known of which seven are in our region.

Family Akysidae

Characterised by the pectoral fins placed horizontally with a strong osseous spine, furrowed longitudinally, serrated or smooth, covered with thick skin and provided with a long cartilaginous filament which may reach pelvic fin. A single genus with four species, most of them with coloured vertical bars.

Family Schilbidae

Characterised by widely separated nostrils, along border of snout, posterior one slit-like with a flap. Barbels elongated , one, two, or four pairs, well developed. Gill openings large. Anal fin very long, free from caudal fin. This family consists of about 16 genera and 40 species equally divided between Africa and Asia. Asian taxa are restricted to the Indian subcontinent. Much osteological work has been done on the genera of this family. On the basis of the recent findings genera such as *Neotriopius*, *Pseudeutropius* have been transferred to Bagridae and *Horabagrus* to Schilbidae. The phylogeny of the family is in confusion, whether it is polyphyletic or not is yet to be determined. Teugels (1996) opined that a detailed phylogenetic study of the family is absolutely necessary. Much work remains to be done.

Three subfamilies are known. Ailinae (two genera), Schilbinae (three genera) and Horabagrinae (one genus) a new one erected by me.

Subfamily Schilbinae: *Genus Clupisoma* : It has now been shown that the genus *Proeutropiichthys* Hora is a synonym of this genus. Hora (1941) established *Proeutropiichthys* on the basis of differences in the palate dentition, which he himself agreed later to be variable. On the basis of examination of about 300 specimens of *P. taakree* Prof. S . V. Sharma of Nagarjuna University clearly demonstrated that the dentition is not a reliable character and that it overlaps with that of *Clupisoma* .species The fusion or separation of the teeth is a function of growth and hence undependable. Roberts & Vidthayanon (1991:101) consider *Laides* Jordan, 1919 as a senior objective synonym of *Proeutropiichtys* Hora. Now that Hora's genus has been merged under *Clupisoma* this problem does not arise Three species are known of the genus *Pseudeutropius*. *P. longipinnis* from Burma, *P. moolenburghae* and *P. brachyopterus* from Sumatra. Of these the first one comes under the Indian region, but there is no mention of this species in Day's Fish India and or any other work. *P. acutirostris* is a species which is now under *Neotropius*. As such the genus *Pseudeutropius* does not occur in the Indian region.

Subfamily: Horabagrinae Jayaram: Characterised by a long anal fin with 23 – 28 rays, large eyes visible from below, a dark shoulder spot. Type genus *Horabagrus* .I proposed (1955) the genus *Horabagrus* to accommodate *Macrones chryseus* Day = *Pseudobagrus brachysoma* Guenther. .The history of *Macrones chryseus* itself is a very interesting story. The species was present in ZSI by a single small specimen of Day but with a long anal fin contrary to other *Macrones* or *Mystus* species. The locality was stated to be Cochin-China, a *lapsus calami* in place of Cochin. When revising the family I collected several specimens from Kerala and proposed the new genus which was confirmed by the BM. However many authors referred the species to *Pseudobagrus* known from China and Japan. I was able to

clearly demonstrate that these genera are distinct from the Indian taxa and thus established *Horabagrus*. It has already been stated that the genus has been transferred to Schilbidae on the basis of work done by Tilak, Mo.. De Pinna and Ferraris(1992) indicated that Mo's Cladogram showed *Horabagrus* phylogenetically different from Schilbidae. De Pinna (1993) opined that *Horabagrus* is a relict sister group of larger Siluriform clade and fit to be in a separate family. Further work is needed to confirm this however I have placed the genus under a subfamily for the present.

Order : Channiformes

Body elongate with scales. Head with plate-like scales. Gill openings wide. Suprabranchial accessory respiratory apparatus well developed. No pseudobranchiae. Branchiostegals five. Teeth on jaws and palate. A single long dorsal fin, and a similar anal fin, both without spines. Pelvic fins thoracic or absent. Lateral line abruptly curved or almost interrupted. Air-bladder present.

A single family with a single genus is dealt with here.

Family : Channidae Murrels

Body elongate, subcylindrical anteriorly. Body with large scales; head with plate-like scales. Cephalic pits present. Teeth on jaws, vomer and palate. Branchiostegals five. Pseudobranchiae absent. Gills four. Gill membranes connected beneath isthmus. A suprabranchial organ present. A single long spineless dorsal fin present and a similar anal fin, both free from caudal fin. Lateral line abruptly curved or almost interrupted. Air-bladder present, not bifid posteriorly. Pyloric appendages few, when present.

Basisphenoid roughly Y-shaped. Frontals articulating with the basisphenoid, not with the parasphenoid. Posterior edge of nasal suturely united with frontal. Each epiotic produced into a prominent epiotic process posteriorly.

A single genus is dealt with here.

Genus: *Channa Scopoli* Snake Headed Fishes

Diagnosis

Body elongated, subcylindrical anteriorly. Abdomen rounded. Head depressed with plate like scales. Snout somewhat obtuse. Mouth opening moderate to wide, may extend to below orbit. Eyes lateral, moderate, in anterior part of head, not visible from below ventral surface. Lips moderate. Jaws equal. Teeth on jaws and palate. Gill openings wide, membranes of two sides connected beneath isthmus. An accessory respiratory organ in the form of a thin bony laminae present in a cavity in gill chamber. Dorsal fin long, inserted almost above pectoral with 29-55 rays and no spine. Anal fin long, with 21-36 rays. Both dorsal and anal fin free from caudal. Caudal fin rounded, Scales small. Lateral line abruptly curved or almost interrupted with 37-110 scales.

Distribution

Throughout India, Nepal, Pakistan, Afganistan, Bangladesh, Sri Lanka, Burma, Thailand, China and the Malay Archipelago.

Species

1. *Channa amphibian* (McClelland) – India : Bhutan
2. *Channa barca* (Hamilton) – India : W. Bengal, Meghalaya, Bangladesh, Pakistan.
3. *Channa marulius* Hamilton – Throughout India, Sri Lanka, Pakistan, Bangladesh. Burma. Thailand. China.

4. *Channa micropeltes* Kuhl & van Hasselt – India : Kerala, Thailand to Malay Archipelago.
5. *Channa orientalis* (Schneider) – Throughout India. Nepal. Sri Lanka. Bangladesh. Burma. Pakistan.
6. *Channa punctatus* (Bloch) (Pl. V, Fig. B) – Throughout India. Nepal. Sri Lanka. Bangladesh. Pakistan. Burma. Malaya. China. Tahiti. Polynesia.
7. *Channa stewartii* (Playfair) – India : Meghalaya, Bihar, W. Bengal, Arunachal Pradesh. Nepal
8. *Channa striatus* (Bloch) – Throughout India. Sri Lanka. Bangladesh. Pakistan. Burma. China. Philippines. Malaya, Malay Archipelago. Thailand.

KEY TO SPECIES

1.	Four or five scales between orbit and angle of preopercle, 12 or 13 predorsal scales. 2
	Nine to 17 scales between orbit and angle of preopercle, 15 or 22 predorsal scales. 4
2.	Pelvic fin less than half length of pectoral fin. Pectoral fins spotted in zones, darker and lighter patches. Chin marbled. 3
	Pelvic fin more than half length of pectoral	<i>C. punctatus</i>

	fin. Pectoral fins plain.	
3.	Anal fin with 26 rays. Circular black spots each occupying part of a scale present, base of dorsal iridescent blue in life. Dorsal fin with 39 - 40 rays.	<i>C. stewartii</i>
	Anal fin with 21-23 rays. No black spots on scales. Dorsal fin with 32-37 rays.	<i>C. orientalis</i>
4.	16 or 17 scales between orbit and angle of preopercle 22 predorsal scales.	<i>C. micropeltes</i>
	9 or 10 scales between orbit and angle of preopercle 5
5.	18 – 20 preopercle scales. Lateral line with peninsula of the darker Colour extending into the yellow.	<i>C. striatus</i>
	15-16 preopercle scales. No such colour markings on lateral line. 6
6.	A black white - edged ocellus on basal	<i>C. marulius</i>

	portion of caudal fin present. ...	
	No such ocellus. 7
7.	Lateral line scales 80. ...	<i>C. amphibia</i>
	Caudal fin rounded. Lateral line scales 60 – 65. ...	<i>C. barca</i>