*One Small Voice* Boston Globe. Oct. 14, 1943

# The Strange Career of Rafinesque C. Schmaltz

By JOHN KIERAN

In one of the sliding racks in the Index Room of the New York Public Library at 42d st. and Fifth av. there are 36 cards referring to books or articles by or about Constantine Samuel Rafinesque (Schmaltz), the eccentric scientist whose corpse, held for debt by a landlord, was stolen for burial by kind friends under cover of darkness in Philadelphia about a century ago. Those who like fantastic tales and strange characters should read up on Rafinesque.

The name alone still baffles this ready reader. The "Constantine Samuel Rafinesque" goes down easily but the "(Schmaltz)" that is added to formal papers and some portraits is the mystery. Perhaps Donald Culross Peattie or some other registered Rafinesque rooter will clear that little matter up.

Even so, there are some larger matters connected with the career of Rafinesque that may never be cleared up. How close did he come to absolute genius? How far was he from partial insanity? His eccentricities fell in with John Dryden's lines:

Great wits are sure to madness near allied,
And thin partitions do their bounds divide.

Rafinesque devoted his life to science with great fury. He was born of prosperous parents in a suburb of Constantinople—the Istanbul of today—in 1783 and by dint of deep study, wide travel, enormous industry and indomitable courage he died a bankrupt in a Philadelphia attic in 1840. He pursued his scientific studies in Europe and in this country. He wrote volumes in three languages, English, French and Italian. He lectured fluently. He painted. He composed a long poem. He gave judgment on religion and philosophy.

He spent some years in this country and then went to Sicily where he lost what money he had accumulated up to that time. His wife left him to run off with another man. His son died. His daughter married against his wishes and, in the traditional manner, he "cut her off without a shilling" in his will, which was not such a blow to the vanished daughter because his estate, after the sale of all his books and scientic connections, came to a deficit of $14.43.

# ICHTHYOLOGIA OHIENSIS,



OR

## NATURAL HISTORY

OF

## *THE FISHES INHABITING THE*

# RIVER OHIO

AND ITS TRIBUTARY STREAMS,

*Preceded by a physical description of the Ohio and its branches.*

BY C. S. RAFINESQUE,

Professor of Botany and Natural History in Transylvania University, Author of the Analysis of Nature, &c. &c. Member of the Literary and Philosophical Society of New-York, the Historical Society of New-York, the Lyceum of Natural History of New York, the Academy of Natural Sciences of Philadelphia, the American Antiquarian Society, the Royal Institute of Natural Sciences of Naples, the Italian Society of Arts and Sciences, the Medical Societies of Lexington and Cincinnati, &c. &c.

*The art of seeing well, or of noticing and distinguishing with accuracy the objects which we perceive, is a high faculty of the mind, unfolded in few individuals, and despised by those who can neither acquire it, nor appreciate its results.*

LEXINGTON, KENTUCKY:

PRINTED FOR THE AUTHOR BY W. G. HUNT. (PRICE ONE DOLLAR.)

1820.

These Pages

and the Discoveries which they contain

in one of the principal Branches

of Natural History,

are respectfully Inscribed

by the Author;

To his fellow-labourers in the same field of Science:

Prof. Samuel L. Mitchill, M. D.

who has described the Atlantic Fishes of New York,

and to

C. A. Le Sueur,

who was the first to explore the Ichthyology of the

Great American Lakes, &c.

In Token

of Friendship, Respect, and Congratulation.

# NATURAL HISTORY

*OF THE FISHES OF THE OHIO RIVER AND ITS TRIBUTARY STREAMS,*

BY C. S. RAFINESQUE,

*Professor of Botany and Natural History in Transylvania University.*

## INTRODUCTION.

Nobody had ever paid any correct attention to the fishes of this beautiful river, nor indeed of the whole immense basin, which empties its water into the Mississippi, and hardly twelve species of them had ever been properly named and described, when in 1818 and 1819, I undertook the labour of collecting, observing, describing, and delineating those of the Ohio. I succeeded the first year in ascertaining nearly eighty species among them, and this year I added about twenty more, making altogether about one hundred species of fish, whereof nine tenths are new and undescribed.

Many of them have compelled me to establish new genera, since they could not properly be united with any former genus; and I could have increased their number, had I been inclined, as will be seen in the course of this ichthyology; but I have in many instances proposed sub-genera and sections instead of new genera. I sent last spring to Mr. Blainville of Paris, a short account of some of them, to be published in his Journal of Natural History, in a Tract named *Prodromus of seventy new genera of Animals and fifty new genera of Plants from North America*, and I now propose to publish a complete account of all the species I have discovered. I am confident that they do not include the whole number existing in the Ohio, much less in the Mississippi; but as they will offer a great

proportion of them, and, as the additional species may be gradually described in supplements, I venture to introduce them to the acquaintance of the American and European naturalists; being confident that they will not be deemed an inconsiderable addition to our actual knowledge of the finny tribes. To the inhabitants of the western states, to those who feed daily upon them, their correct and scientific account ought to be peculiarly agreeable. I trust they will value the exertions through which I have been able to accomplish so much in so short a period of time, and I wish I could induce them to lend me their aid, in the succession of my studies of those animals, by communicating new facts, details, and rare species. I may assure them that their kind help shall be gratefully received and acknowledged.

The science of Ichthyology has lately received great additions in the United States. A few of the atlantic fishes had been formerly enumerated by Catesby, Kalm, Forster, Garden, Linnæus Schoepf, Castiglione, Bloch, Bosc, and Lacepede; but Dr. Samuel L. Mitchell has increased our knowledge, with about one hundred new species at once, in his two memoirs on the Fishes of New-York, the first published in 1814, in the Transactions of the Literary and Philosophical Society of New-York, and the second in the American Monthly Magazine in 1817. Mr. Lesueur was the first naturalist who visited Lake Erie and Lake Ontario, where he detected a great number of new species, which he has already begun to publish in the Journal of the Academy of Sciences of Philadelphia, and which he means to introduce in his General History of American Fishes, a work on the plan of Wilson's Ornithology, which he has long had in contemplation. And I have added thereto about forty new species, which I discovered in Lake Champlain, Lake George, the Chesapeake, the Hudson, near New-York, Philadelphia, the Atlantic, &c. and published in my *Precis des Decouvertes*, my Memoirs on Sturgeons, my decads and tracts in the American Monthly Magazine, the American Journal of Science, &c. besides three new fishes of the Ohio, published in the Journal of the Academy of Philadelphia.

Many other fishes of the United States have been partially

described by Bartram, Carver, Lewis and Clarke and other travellers. It is reasonable to suppose that several others have escaped their notice, and my discoveries in the Ohio prove this assertion. I calculate that we know at present about five hundred species of North American fishes, while ten years ago we hardly knew one hundred and twenty. Among that number about one half are fresh water fishes, and one fourth at least belong to the waters of the western states; but, although there are fifty other species imperfectly known, I should not wander far from reality if I should conjecture that, after all, we merely know one third of the real numbers, when we consider that the whole of the Mexican Provinces is a blank in Ichthyology, as well as California, the North West Coast, the Northern Lakes, and all the immense bason of the Missouri and Mississippi, except the eastern branch of the Ohio: all those regions having never been explored by any real naturalists. From those who are actually surveying the river Missouri much may be expected; but I venture to foretell that many of the fishes of the Ohio will be found common to the greatest part of the streams communicating with it, and therefore throughout the Mississippi and Missouri, whence the ichthyology of the Ohio, will be a pretty accurate specimen of the swimming tribes of all the western waters; while in Mexico, the North West Coast, and in the basin of the St. Lawrence or even in the Floridian waters, a total difference of inhabitants may be detected: since I have already ascertained that out of one hundred species of Ohio fishes, there are hardly two similar to those of the atlantic streams.

I have in contemplation to visit many other western streams and lakes, where I have no doubt to reap many plentiful harvests of other new animals; meantime communications on the fishes of every western stream are solicited from those, who may be able and willing to furnish them.

It is probable that some of the fishes of the Mississippi are anadromic or come annually from the gulf of Mexico to spawn in that stream and its lower branches; but all the fishes of the Ohio remain permanently in it, or at utmost travel down the Mississippi during the winter, although the greatest proportion dwell during that season in the deep spots of the Ohio

This is proved by their early appearance at the same time in all the parts of the river and even as high as Pittsburgh. This happens even with the Sturgeons and Herrings of the Ohio, which are in other countries periodical fishes, travelling annually from the sea to the rivers in the spring, and from the rivers to the sea in the fall.

Fishes are very abundant in the Ohio, and are taken sometimes by thousands with the seines: some of them are salted; but not so many as in the great lakes. In Pittsburgh, Cincinnati, Louisville, &c. fish always meets a good market, and sells often higher than meat; but at a distance from those towns you may buy the best fish at the rate of one or two cents the pound. It affords excellent food, and, if not equal to the best sea fish, it comes very near it, being much above the common river fish of Europe: the most delicate fishes are the Salmon-perch, the Bubbler, the Buffaloe-fish, the Sturgeons, the Catfishes, &c. It is not unusual to meet such fishes of the weight of thirty to one hundred pounds, and some monstrous ones are occasionally caught, of double that weight. The most usual manners of catching fish in the Ohio are, with seines or harpoons at night and in shallow water, with boats carrying a light, or with the hooks and lines, and even with baskets.

I am sorry to be compelled to delay the publication of my figures of all the fishes now described: these delineations shall appear at another period.

To facilitate the knowledge of the streams mentioned, I prefix a physical description of the Ohio and its principal branches.

*Lexington, Kentucky, 15th November*, 1819.

## RIVER OHIO.

Head. It is formed by the junction of the rivers Alleghany and Monongahela, in Pennsylvania, at Pittsburgh, near the 40½ degree of north latitude. It is difficult to say which of them is the main branch or stream, the Alleghany being the longest and in the most direct course, while the Monongahela appears to be the largest at the junction, and to have similar waters.

52d Species. Blackheaded Fat-head. *Pimephales promelas.* Pimephale tete-noire.

Diameter one fourth of the length, body olivaceous silvery, head blackish, snout truncated, and with soft warts: fins whitish, dorsal with a large irregular black spot at the anterior base, with eight forked rays, and one simple shorter obtuse hard: anal with eight rays; lateral line flexuose and raised at the base, tail lunulate.

A small fish three inches long. It is rare and hardly known by the anglers. I describe it from a specimen taken with a hook baited with earth-worm, by Mr. William M. Clifford, in a pond near Lexington, in the month of April 1820, and now preserved in the Museum in Lexington. Its head is very remarkable, soft and fat all over, the snout sloping, broad, truncate with soft warts in front, mouth at its inferior extremity very small, elliptical transversal, with equal circular hard lips. The whole head and even the eyes are of dusky and bluish black colour. Pectoral fins trapezoidal with 15 rays, the upper rays of the colour of the head. Tail olivaceous lunulated, with 20 forked rays and 5 short simple rays on each side of the base. Abdominal fins quadrangular. The first ray of the dorsal is singular, thick, short, hard, and yet blunt, almost cartilaginous, or not properly spinous, and not at all serrate as in the Carps. Scales pretty large.

XX Genus. Sucker. Catostomus. Catostŏme.

Body oblong cylindrical scaly. Vent posterior or nearer to the tail. Head and opercules scaleless and smooth. Mouth beneath the snout, with fleshy, thick, or lobed sucking lips: Jaws toothless and retractible. Throat with pectinated teeth. Nostrils double. Gill-cover double or triple. Three branchial rays to the gill membrane. A single dorsal fin commonly opposite to the abdominal fins, which have from eight to ten rays.

Lesueur has established this genus, in the first volume of the Journal of the Academy of Natural Sciences of Philadelphia, with all the American species of the genus *Cyprinus* which have the above characters, and he has described eighteen species belonging to it. I have discovered twelve additional new species in the waters of the Ohio, where about sixteen new spe-

cies have already been detected. This genus having become so extensive at an early period, and many other species existing probably in North America and Siberia, I have therefore divided it into five subgenera, employing principally the number of abdominal rays. All these fishes are permanent in the Ohio its branches and the ponds. Some however disappear in winter, retreating into deep water or into the mud. Many bite at the hook. They feed on univalve shells, small fishes and spawn. They offer a tolerable food.

1st. Subgenus. MOXOSTOMA.

Body oblong, compressed; head compressed, eight abdominal rays, dorsal fin commonly longitudinal, tail commonly unequally forked.

53d Species. OHIO CARP SUCKER. *Catostomus anisurus.* Catostome anisure.

Diameter one fifth of the length: silvery, slightly fulvescent above, fins red, the dorsal olivaceous falcated with 17 rays, nearer to the head and reaching the vent: lateral line curved upwards and flexuose at the base: snout gibbose: tail forked, upper part longer. Anal fin falcate with eight rays.

A large species common all over the Ohio and the large streams, as far as Pittsburgh. Permanent and sometimes taken in winter. It is called Carp every where. Length from one to three feet. It is taken with the hook, seine, and dart. Its flesh is pretty good, but soft. The male fish has a red tail; while it is olivaceous in the female. Snout divided from the head by a transverse hollow which makes it gibbose. Eyes black, iris silvery and golden above. Sides often with copper shades. Scales large with concentric stria. Pectoral fins large oval acute with 15 rays and reaching the abdominal fins. Caudal with 24 rays.

54th Species BUFFALO CARP SUCKER. *Cotostomus anisopturus.* Catostome anisopture.

Diameter one fourth of the total length: silvery: head sloping, lateral line curved as the back: tail unequally bifid, upper part much longer: dorsal fin longitudinal, beginning above the pectorals and reaching the end of the anal, sinuated by a double falcation, first ray very long.

A singular species which I have never seen. I describe it from a drawing of Mr. Audubon. It is found in the lower part of the Ohio, and is called Buffalo Carp, Buffalo perch, Buffalo Sucker, White Buffalo-fish, &c. Length about one foot. Very good to eat. Taken with the seine in the spring only. Body broad, dorsal fin broad and large, remarkable by its shape like a double sickle, and first ray which reaches the tail. Anal fin small and falcate. Pectoral fins reaching the abdominal fins. The number of abdominal rays was not observed, if it should have nine it would be nearer to *C. Velifer* and *C. setosus*, or it may form a peculiar subgenus.

The *C. tuberculatus* of Lesueur belongs also to this subgenus, having eight abdominal rays; but its tail is regularly bifid.

2d Subgenus Ictiobus.

Body nearly cylindrical. Dorsal fin elongated, abdominal fins with nine rays, tail bilobed, commonly equal.

The *C. gibbosus* and *C. Communis*, of Lesueur, appear to be intermediate between this subgenus and the foregoing, having nine abdominal rays, but an unequal bilobed tail.

55th Species. Brown Buffalo-fish *Catostomus bubalus*. Catostome bubale.

Diameter one fifth of the total length; olivaceous brown, pale beneath, fins blackish, pectoral fins brown and short: head sloping, snout rounded, cheeks whitish: lateral line straight, dorsal fin narrow with 28 equal rays, anal trapezoidal with 12 rays.

One of the finest fishes of the Ohio, common also in the Mississippi, Missouri, and their tributary streams. It is called every where Buffalo-fish, and Piconeau, by the French settlers of Louisiana. I had called it *Amblodon bubalus* in my 70 N. G. of American Animals, having been misled by the common mistake which ascribed to it the teeth of the *Amblodon grunniens*; but it is a real *Catostomus*, without any such teeth. Length from two to three feet; some have been taken weighing thirty pounds and upwards. It is commonly taken with the dart at night when asleep, or in the seine; it does not readily bite at the hook. It feeds on smaller fishes and shells, and often goes in shoals. It retires into deep water in the winter, yet is sometimes taken even then. It comes as far as Pittsburgh. Its flesh

is pretty good but soft. Scales rather large. Tail with 24 rays and two equal rounded lobes. Iris gilt brown, eyes small. Pectoral fins with 16 rays. Dorsal fins shallow and even beginning just before the abdominal fins, and ending at the base of the anal fin.

56th Species. Black Buffalo-fish. *Catostomus niger.* Catostome noir.

Entirely black, lateral line straight.

I have not seen this fish. Mr. Audubon describes it as a peculiar species, found in the Mississippi and the lower part of the Ohio, being entirely similar to the common Buffalo-fish, but larger, weighing sometimes upwards of fifty pounds, and living in separate shoals.

3d Subgenus. Carpiodes.

Body oblong, somewhat compressed; head compressed, nine abdominal rays, dorsal fin commonly elongate, tail equally forked.

The *C. cyprinus* and *C. setosus*, of Lesueur, belong to this Subgenus.

57th Species. Olive Carp Sucker. *Catostomus carpio.* Catostome carpe.

Diameter one fourth of the length: olivaceous above, pale beneath, chin white, abdomen bluish: lateral line straight, dorsal fin somewhat falcated with 36 rays, anal trapezoidal with 10 rays; head sloping, snout rounded.

Seen at the falls of the Ohio, commonly called Carp. Length from one to two feet. Eyes very small and black, fins olivaceous brown, the pectorals olivaceous, trapezoidal short and with 16 rays. Tail with 24. Dorsal fin beginning before the abdominal and reaching the end of the anal fin. Not so good to eat as the Buffalo-fish.

58th Species. Sailing Sucker. *Catostomus velifer.* Catostome volant.

Diameter less than one fourth of the length: body elliptical, silvery with golden shades, lateral line flexuose, dorsal fin very broad falcated with 25 rays, the first ones very long, anal fin trapezoidal lunulate with 10 rays: head sloping, snout rounded.

*Catostomus* anonymous Lesueur in Journ. Ac. Nat. Sc. of Philadelphia, Vol. 1, page 110.

A singular fish, not very common, yet found as far as Pittsburgh. It has received the vulgar names of Sailor fish, Flying fish, and Skimback, because, when it swims, its large dorsal fin appears like a sail, and it often jumps or flies over the water for a short distance. Length commonly from twelve to sixteen inches, of which the tail, which is very large, includes one fourth, and has 24 rays. Back slightly olivaceous, scales very large. Fins olivaceous brown, except the abdominal and pectoral, which are white. The dorsal beginning before the abdominal and reaching the end of the anal, the second and third rays are one third of the whole body, the first is short and cleaving to the second; mouth small, quite terminal at the lower end of the rounded snout; head small, convex above. Pectoral fins with 16 rays. Not very good to eat. Seen only in summer.

59th Species. Mud Sucker. *Catostomus xanthopus.* Catostome xanthope.

Diameter one fourth of the length: lateral line straight: silvery, back olivaceous, head brown above, snout gibbose rounded: dorsal fin hardly falcate with 14 rays, anal lanceolate with 8 rays: lower fins yellowish.

Found below the falls. Length from six to ten inches. It lives in muddy banks, and conceals itself in the mud. Flesh very soft. Head large, flattened above, mouth large, eyes large, iris silvery. Lateral line hardly raised at the base. Dorsal fin above the abdominal, fins olivaceous as well as the tail, which has 20 rays. Pectorals with 18 rays. Scales large.

4th Subgenus. Teretulus.

Body elongate cylindrical or somewhat quadrangular, nine abdominal rays, dorsal fins commonly small, tail equally forked.

An extensive Subgenus to which belong all the following species of Lesueur: *C. aureolus*, *C. macrolepidotus*, *C. longirostrum*, *C. nigricans*, *C. vittatus*, *C. maculosus*, *C. Sucetta*, besides the *C. teres* and *C. oblongus* of Mitchell.

60th Species. Black-face Sucker. *Cotostomus melanops.* Catostome melanopse.

Diameter one seventh of the length: head squared, blackish above, snout convex obtuse; back olivaceous, sides whitish with scattered black dots, a black spot on the gill cover, and a

large one between the dorsal and caudal fins: lateral line straight, dorsal fin with 14 rays, anal with 9 rays.

A singular species seen at the falls. It is rare and called Spotted Sucker or Black Sucker. Length from four to six inches; body cylindrical, flattened beneath as far as the vent. Head flat above, blackish there and in the fore part. Mouth almost terminal with thick whitish lips, the lower one shorter and thicker, a few small black spots on the sides of the head and a large one on the preopercule. Gill cover silvery. Eyes black, iris brown with a gold ring. Back of a rufescent colour with gold shades. A very large black patch above the anal fin before the tail. Sides pale with small unequal black dots, belly whitish. Fins coppery, the pectoral elliptical elongated with 18 rays, the anal elongated reaching the tail, the dorsal broad and opposed to the abdominal. Tail with 20 rays. Scales rather large nervose radiated.

61st Species. Black-back Sucker. *Catostomus melanotus.* Catostome melanote.

Diameter one sixth of the length: bluish black above, whitish beneath; head convex, snout obtuse: lateral line straight: dorsal and anal fins with nine rays.

Seen only once at the falls. Length six inches, body nearly cylindrical. Mouth rather inferior, lips thick and somewhat gristly. Iris silvery. Scales pretty large. Fins whitish, the dorsal and caudal a little redish. Pectoral fins elliptical with 16 rays. Tail 20. Dorsal fin trapezoidal, opposed to the abdominal, the first ray shorter. Anal elliptical obtuse. Vulgar names Black Sucker and Blue Sucker.

62d Species. Rough-head Sucker. *Catostomus fasciolaris.* Catostomus fascie.

Diameter one sixth of the length: brown above, white beneath, sides with small transversal black lines: head sloping, tuberculated above, snout obtuse: dorsal fin longitudinal reaching the end of the anal fin, lateral line straight.

I have not seen this species, but describe it from a drawing of Mr Audubon. It is found in the lower part of the Ohio. Vulgar names Rough-head Sucker, Pike Sucker, Striped Sucker. Length about eight inches, body cylindrical tapering behind.

Eyes small, mouth beneath. Lower fins trapezoidal, about twenty transversal lines. A doubtful species, perhaps an Hydrargyrus, but the mouth is like that of the Sucker.

63d Species, Red-tail Sucker. *Catostomus erythrurus.* Catostome rougequeue.

Diameter one fifth of the length: rufous brown above, white beneath; tail olivaceous: head convex, snout rounded: lateral line straight: dorsal fin trapezoidal redish with 12 rays. anal fin elongated yellow, anal falcated, with 7 rays.

A fine species, not uncommon in the Ohio, Kentucky, Cumberland, Tennessee, &c. Vulgar names Red-horse, Red-tail, Horse-fish, Horse Sucker, &c. Length about one foot. Scales very large. Mouth beneath. Iris whitish, eyes black. Pectoral fins yellow elliptical reaching the abdominals and with 16 rays. Tail large with 20 rays. Its flesh is dry and not very good to eat.

64th Species. Kentucky Sucker. *Catostomus flexuosus.* Catostome flexueux.

Diameter one fifth of the length: silvery, back brownish, scales rather rough, opercule flexuose: head squared, snout gibbose truncate; lips very thick, the inferior bilobed: lateral line flexuose: tail brown: dorsal fin blackish with 12 rays, anal fin whitish with 7 rays and reaching the tail.

The most common species in Kentucky, in all the streams and ponds, called merely Sucker. Very good to eat. It conceals itself in the mud in winter. It bites at the hook, living on minnies and little lobsters. Body thick cylindrical. From ten to twelve inches long. Head large, a deep depresion between the snout and the head, mouth large with fleshy lips. Eyes large black, iris yellow. Opercule hard bony. Lower fins whitish, pectorals elongated elliptical with 20 rays. Tail 20 rays. Dorsal trapezoidal sloping behind. This fish is the most useful to keep in ponds.

65th Species. Big-mouth Sucker. *Catostomus? megastomus.* Catostome megastome.

Diameter one fifth of the length: blackish above, yellowish beneath, very broad: a spine at the base of the pectoral fins: lateral line straight.

A very doubtful species seen by Mr. Audubon. It comes sometimes in shoals in March, and soon disappears. Only taken with the seine, not biting at the hook; vulgar name Brown Sucker. The mouth is very remarkable, being broader than the head, somewhat projecting on the sides. Length one foot. The head resembles that of Cat-fish, but has no barbs. Is it a peculiar genus owing to the mouth and pectoral spine? It might be called *Eurystomus*. The yellow colour covers the forehead and reaches to the anal fin. Dorsal opposed to the abdominal and trapezoidal, pectorals elliptical yellow.

5th Subgenus. DECACTYLUS.

Body nearly cylindrical, abdominal fins with 10 rays: tail equally forked.

Besides the two following species, the *C. bostoniensis* and *C. hudsonius*, must be enumerated here.

66th. Species. PITTSBURGH SUCKER. *Catostomus duquesni.* Catostome duquesne.

Diameter one fifth of the length, whitish; lateral line curved towards the back: anal fin with nine rays extending to the tail: dorsal with 14 rays and trapezoidal.

*C. duquesni* Lesueur J. Ac. Nat. Sc. v. 1, p. 105.

This species has been pretty well described by Lesueur: see his description. Length from 15 to 20 inches: good to eat, found in the Ohio as far as Pittsburgh: vulgar name White Sucker.

67th Species. LONG SUCKER. *Catostomus elongatas.* Catostomus allonge.

Diameter one seventh of the length; brownish; lateral line nearly straight: snout and opercules tuberculated: dorsal fin with 32 rays, long, falciform and raised anteriorly. Anal fin small with 8 rays.

*C elongatus* Lesueur J. Ac. Nat. Sc. v. 1, page 103.

It is found in the Ohio as far as Pittsburgh, and called Brown Sucker. length from 20 to 25 inches. Head small cuneiform above: Scales large. Good to eat. See Mr. Lesueur's description.

XXI Genus. Suckrel. Cycleptus. Cyclepte.

Difference from the foregoing genus—Two dorsal fins, mouth round and terminal.

The name means *small round* mouth.

68th Species. Black Suckrel. *Cycleptus nigrescens*. Cyclepte noiratre.

Blackish, belly whitish, mouth recurved, tail forked.

*Cycleptus*. 17th G. of Prod. 70 N. G. American Animals.

A singular and rare fish, which I have never seen, but mention upon the authority of Mr. Bollman of Pittsburgh; where it sometimes appears in the spring; but it is a rare fish, whose flesh is very much esteemed. It is also found in the Missouri, whence it is sometimes called the Missouri Sucker. Length two feet.

XXII Genus. Catfish. Pimelodus. Pimelode.

Body scaleless, elongated. Head large with barbs. Two dorsal fins, the second adipose and separated from the tail, the first short and commonly armed. Pectoral fins commonly armed. Teeth like a file. Vent commonly posterior.

The extensive genus *Silurus* of Linneus, which is scattered throughout the rivers of both continents, has not yet been completely illustrated, notwithstanding the labours of the modern ichthyologists. I have found in the Ohio about twelve species belonging to it: most of which offer consimilar characters and appear to belong to the genus *Pimelodus* of Lacepede and Cuvier: which have left the name of *Silurus* to the species having one dorsal fin. I have already published a monography of them in the Journal of the Royal Institution of London, under the generic name of *Silurus*. I now propose to form with them a peculiar *subgenus*, divided in many sections, and different from the subgenera *Bagrus*, *Synodontis*, *Silusox*, &c.

Subgenus. Ictalurus.

Head depressed with eight barbs, one at each corner of the mouth, longer than the others, four under the chin, and two on the snout behind the nostrils. Teeth in two patches, acute and file-shaped. Pectoral fins and first dorsal fin armed with an anterior spine. First dorsal trapezoidal and before the abdomi-

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*of Scientific Names.*



## INDEX

*of American Names.*

N. B. The names with asterisks are old generic names: those in italics are new subgenera, or French names in the second column.