

# PANCHAX vs. KILLIFISH: THE ORIGIN OF “PANCHAX”



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An ichthyologist defining and naming a new genus must specify one species as its type, referred to as the “type species.” The rules of zoological nomenclature used by ichthyologists state that the generic name goes with the type species.

In the early days of ichthyology, however, many ichthyologists did not consider it necessary to name a type species for a new genus. It was later realized that this would lead to nomenclatural confusion. Thus it became necessary to designate type species for genera for which none had yet been selected.

Our story starts when the genus *Aplocheilus* was established in 1839 by the ichthyologist, John McClelland. Be forewarned that what follows is a convoluted comedy of errors!

At that time, McClelland placed three fishes in *Aplocheilus*, of which two were newly described by him. These fishes were *Aplocheilus chrysostigmus*, *A. melastigmus*, and *A. panchax*. The last-named species was first described as *Esox panchax* in 1822 by the Scottish ichthyologist, Francis Buchanan Hamilton, and did not really belong in that genus or anywhere near it for that matter. McClelland, however, failed to name a type species for his new genus and since it later turned out to be composite (i.e., actually comprising two distinct genera), his oversight paved the way for confusion, a bit of which has been shared with killifish fanciers.

The next action was taken by the French zoologist, Valenciennes when in 1846, ignoring McClelland’s *Aplocheilus*, he established the genus *Panchax* containing four species: *Panchax lineatus*, *Panchax kuhlii*, *Panchax buchanani*, and *Panchax pictum*. However, *Panchax kuhlii* was a synonym for *Panchax panchax*, *Panchax buchanani* was a synonym for Hamilton’s *Esox panchax* (Valenciennes renamed it), and *Panchax pictum* really belonged in the genus *Betta*. This left only *Panchax panchax* and *Panchax lineatus* in the genus. *Panchax* was used in early aquarium literature in this sense.

The Dutch ichthyologist, Pieter Bleeker, was first to designate a type species for McClelland’s *Aplocheilus*, and in 1863, in his synopsis of the genera of killifishes, named *Aplocheilus*

*chrysostigmus* as its type species. In so doing, Bleeker committed an unintended error, as this was the opposite of what he intended, since *A. chrysostigmus* is a synonym of *A. panchax* and Bleeker, in the same synopsis, placed *A. panchax* in the genus *Panchax*. There is reason to believe that Bleeker intended to name *melastigmus* as the type species of *Aplocheilus*, but under the mistaken impression that *melastigmus* was a synonym of *chrysostigmus*, he used the latter name instead. Confusing, isn’t it?

The damage was done and *Aplocheilus* henceforth had to be associated with the species *panchax* (= *chrysostigmus*).

Since *Aplocheilus* predates *Panchax* by seven years, the correct genus for *panchax* and related species such as *lineatus* has to be *Aplocheilus* by the Law of Priority, one of the formal rules that taxonomic ichthyologists are expected to follow.

In 1906, the eminent American ichthyologist, David Starr Jordan and his colleague, John Otterbein Snyder, established the genus *Oryzias* for the Japanese cyprinodont then known as *Poecilia latipes*, a genus snubbed by other ichthyologists for many years because they considered *Oryzias* a synonym for *Aplocheilus*. Later, however, *Oryzias* was accepted as a valid genus (in which we now place the medaka and related fishes). Since McClelland’s *melastigmus* was really related to *latipes*, it was ultimately transferred to *Oryzias*.

Therefore, when all the evidence was in, the species in *Panchax* were transferred to *Aplocheilus*, the species in *Aplocheilus* were transferred to *Oryzias*, and *Panchax* was discarded, the whole business resembling an ichthyological version of musical chairs!

As aquarium hobbyists, it is interesting to consider what the present situation would be had Bleeker named *melastigmus* as the type species for *Aplocheilus* as we think he intended. If he had done this, all fishes now called *Oryzias*, would be placed in *Aplocheilus*, leaving *Panchax* open to accommodate *panchax* et al., and leaving *Oryzias*, the newcomer, vacant.

At the beginning of the 1900s, American killifish fanciers were strongly influenced by their German counterparts and by German immigrants to this country who brought their interest in killifishes with them. In Germany, the name given to killifishes was “*eiergelegende zahnkarpfen*,” translated as

“egg-laying tooth-carps.” Killies at the time were placed in the family Cyprinodontidae, a name meaning “toothcarps,” and the Germans merely translated it into their language. However, “egg-laying toothcarps” is a mouthful, and in time Americans began calling them panchax as that name had yet to be discarded in the aquarium literature and “killifish” was not yet in vogue.

In the mid-1950s and early 1960s, if you walked into a fish store and asked to see killies, you would have received a blank stare. Ask for “panchax,” however, and you would be taken to the killifish section that included species that never had any association with name “panchax,” such as African, South and Central American, and North American killifishes.

The objection to the use of “Panchax” as a general term for killifishes is not only based on the fact that it is a scientific name no longer used but, more importantly, that it applied originally to only a few species of killifishes from a small part of the world.

### THE ORIGIN OF “KILLIFISH”

“Kill” is a common Germanic word. The Old Norse form meant “bay” or “gulf” and gave its name to Kiel Fjord on the German Baltic coast and thence to Kiel, the port city founded there in 1240. In Middle Dutch the word is “kille” (the modern Dutch term is “kil” since nowadays no Dutch word ends in two consonants), meaning “riverbed” or “water channel,” although the primary meaning is a deep trench between steep banks.

The term was used in areas of Dutch influence in the Delaware and Hudson Valleys and other areas of the former New Netherland colony of Dutch America to describe anything from a stream or creek to a strait, river, or arm of the sea. These waters were home to fish that were new to the Dutch, who probably called them “killvis” (“fish from the kill”), but it is also possible that the name “killifish” originated in American English, after the locals had adapted the Dutch word to these bodies of water.

Although there is no connection, some people did and still do associate “kill” with “to kill,” as was apparent from a controversy about the name of Fishkill, a small town in the southwest part of Dutchess County, New York. In 1996, the animal rights organization, PETA (People for the Ethical Treatment of Animals), had proposed to change Fishkill into Fishsave, claiming that Fishkill suggested cruelty to fish!

In the 1980s, I was spending time at the University of Cincinnati poring over issues of the Bulletin of the United States National Museum. The University had a rather complete set of early issues but, as hardly anyone ever looked at these books, I was covered with dust and grime every time I made a library visit. I was fortunate since today these tomes are located away from the library in storage, and it takes three days

for them to be brought to the library for patrons to examine.

One day I came across a reference to “*Cobitis killifish*,” a scientific name given by Johann Walbaum in 1792 on the basis of a paper written by Johann Schoepff in 1788 wherein the latter described a fish he called “killifish” (note the absence of the “i”) that we now know as *Fundulus heteroclitus macrolepidotus*. “Killifish,” of course, literally means “fish of the kill.” This was exciting since it provided new information as to the origin of the name, which up to this time had been thought only to have been a common name not a scientific one. However, I had some unanswered questions and to answer them, I was on my own.

For one thing, Schoepff had previously published the term in a scientific journal, the *Berlinische Gesellschaft Naturforschender Freunde*, so why wasn’t he given the credit for being the first one to describe it scientifically? For another, Walbaum’s description was published in an edition of Peter Artedi’s *Ichthyologia* that he, Walbaum, edited; how did this description get into something that he was supposed to edit? Artedi, it should be noted, is credited with being the founder of modern ichthyology, and his posthumously published *Ichthyologia* was fundamental in establishing modern ichthyological methods.

Johann Julius Walbaum (1724-1799), a native of Lübeck, was a physician, naturalist, and taxonomist. He was the first to describe many previously unknown species from remote parts of the globe, such as the Great Barracuda (*Sphyræna barracuda*), the Chum Salmon (*Oncorhynchus keta*) from the Kamchatka River in Siberia, and the curimatá-pacú (*Prochilodus marginatus*) from the São Francisco River in Brazil. He was also the first to remark on the use of gloves as a preventative against infection in medical surgery. In 1758, the gloves he mentioned were made from the cecum of the sheep, rather than rubber, which had not yet been discovered. The *Naturhistorische Museum* in Lübeck, opened in 1893, was based on Walbaum’s extensive scientific collections.

As were most of the scientific books of the day, the Walbaum-edited book was written in Latin, its title being: “*Petri Artedi sueci genera piscium in quibus systema totum ichthyologiae proponitur cum classibus, ordinibus, generum characteribus, specierum differentiis, observationibus plurimis: Redactis speciebus 242 ad genera 52.*” The last part translates to “242 species and 52 genera added by the editor.” Walbaum described the fish – within the standards of the time – in six lines, using Schoepff’s account for location information, i.e., “*Habitat ibidem tam in aquis dulcibus quam salis*” (“Habitat in fresh as well as salt water”). He also made clear in the title of the book that he had added material to Artedi’s monumental work.

Well, that answered one question, but what about Schoepff’s contribution? Schoepff was a German botanist, zoologist,

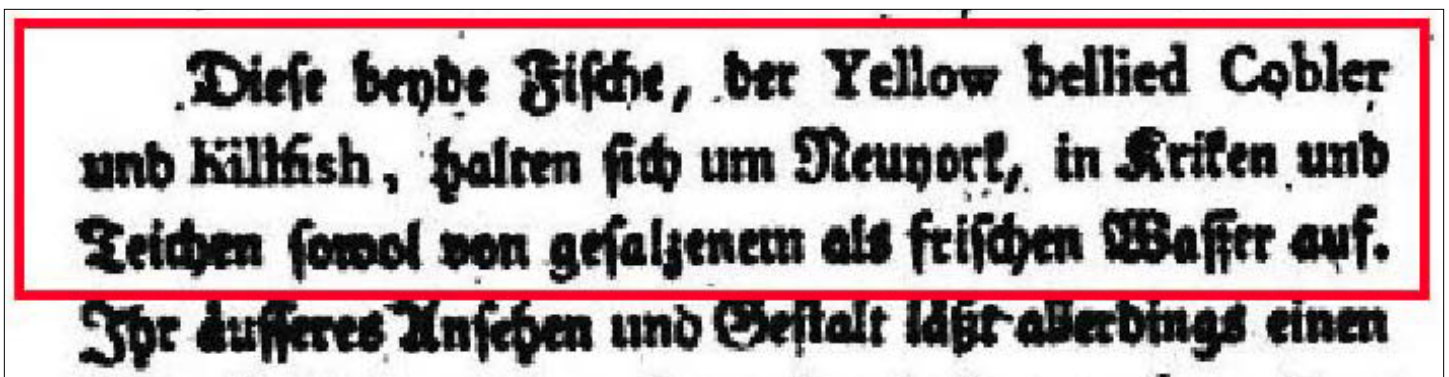


Figure 1. An excerpt from Schoepff's 1788 paper.

gist, and physician. He was born in Bayreuth and traveled to New York in 1777 as the chief surgeon for the Ansbach regiment of Hessian troops fighting for King George III of the United Kingdom. During the war Schoepff was stationed in Rhode Island. Determined to study the Americas as a scientist once the war ended, he traveled for two years in the United States, British East Florida, and the Bahamas. Schoepff returned to Europe in 1784, where he worked for a time at the United Medical Colleges of Ansbach and Bayreuth. He is well known among present-day herpetologists for his 1792 *“Historia testudinum iconibus illustrata”* (Illustrated History of the Iconic Turtles, “iconic” in this sense meaning the British definition, i.e., “well-known”).

Tracking him down was not easy since his name can be spelled Schoepff, Schoepf, or Schöpf. Also, the literature citations I came across were fraught with errors. The Northeastern Naturalist, published by the Humboldt Field Research Institute, for example, cited Schoepff's paper as *“Beschreibung einiger nordamerikanischen fische vorzuglick aus den neu yorkischen seewasser,”* not only misspelling *Beschreibung* but stating *“seewasser”* instead of the correct *“Gewässern”* and other minor errors as well. The correct citation is *“Beschreibung einiger Nord-Amerikanisher Fische, vorzüglich aus den Neu-yorkischen Gewässern.”*

Incidentally, the English translation of *“vorzüglich”* gave me an additional problem. If one goes to standard dictionaries, hard copy, or on-line, one usually gets two meanings for the word: (1) ideal, excellent, exquisite, or first-rate, and, less frequently (2) those associated with food and cooking, such as delicious and cordon bleu, none of which makes sense when you try inserting these definitions into the brackets in “A description of some North American fishes, [*vorzüglich*] from New York waters.”

In such cases, one needs to go to a reference work that presents a list of all synonyms for the word, both past and present. The disadvantage is that these are usually wholly in the language under consideration. The one I used listed 14 different basic meanings and over 339 synonyms. I picked the basic meaning of *“besonders,”* which gave me synonyms that

included “notably,” “primarily,” and “chiefly,” which solved the problem, my translation being “A description of some North American fishes, mostly from New York waters.”

From the Bielefeld University Library (*Universitätsbibliothek Bielefeld*) site I found Schoepff's article in digitized form. The text was digitized as an image and this difficulty was compounded by the fact that this was in a 1788 German publication and printed in Fraktur, a Gothic font. Furthermore, Schoepff's killfish description pages were especially blurry as Figure 1 shows.

I have outlined the excerpt *“Diese beyde Fische, der Yellow bellied Cobler und Killfish, halten sich um Neuyork, in Kriken und Teichen von sowohl gesalzenem als frischen Wasser auf”*, which I have translated as “Both these fishes, the Yellow-bellied Cobbler and Killfish, are found in creeks and ponds in both brackish and fresh waters about New York.” The figure shows that Schoepff did not provide a binomial name for his “Killfish” and so it was not, even for the times, scientifically described. In other parts of his paper fish were provided with a binomial name, and so his *“Labrus Burgall”* is referred to in today's scientific literature as *“Labrus burgall”* Schöpf 1788. Since his “Yellow-bellied Cobbler” and “Killfish” were not named scientifically, it remained for Walbaum to do so four years later.

One of the earliest references to killfish is Samuel Latham Mitchill's “The Fishes of New York” (Mitchill, 1815), but he refers to “killifishes” as names only, sans descriptions. One of the earliest descriptions of killfish, on the other hand, can be found in Samul Akerly's “Economical history of the Fishes sold in the markets of the City of New York” (Akerly, 1818). Akerly (1785-1845) was a surgeon, naturalist, geologist, founder of the New York Institution for the Instruction of the Deaf and Dumb, and author of many articles and books on medical and scientific subjects (one of the books he wrote was “An essay on the Geology of the Hudson river, and the adjacent regions illustrated by a geological section of the country, from the neighbourhood of Sandy-Hook, in New Jersey, northward, through the highlands in New York, towards the Catskill mountains: read before the Lyceum in Au-

gust, 1819”). American Ichthyology is dated from the feeble beginnings of Rafinesque and from Samuel Latham Mitchill (1764-1831) so it is interesting to note here that Akerly was Mitchill’s brother-in-law. The following is from Akerly’s 1818 paper:

The killifish frequent the shallows of the bays and the small streams of salt waters, following the recess of the tides and advancing with the flood. There are several species of them, and they afford sport to children during the summer months, and they fish for them with worms on a pin hook. In the winter they do not bite, but collect in great numbers and reside in the deep holes of creeks and bays. At such times they are taken by sweeping their haunts with a small scap-net. (Author’s Note: A scap-net is a dip net), and though they are not larger than the finger, they are brought to market for sale, and are esteemed an excellent little pan fish. They are sold for twelve cents a quart. They are put into blood-warm waters, which causes them to vomit the contents of their stomachs, and thus they are prepared for cooking. The white-bellied killifish is the one under consideration, and is the *Esox pisculentus* of Mitchill’s memoir (Author’s Note: the “memoir” mentioned here is Mitchill, 1815). Killifish is a provincial word for all small fish in New York, and appears to be derived from the Dutch word *kill*, applied to all small streams by the original settlers of New York.

It has always been assumed that the “kill” in both of these descriptions refers to the Dutch word. However, due to the fact that killifish – and especially *Fundulus heteroclitus* – were often used as bait fish, an alternate derivation of this term was suggested by Ken Lazara in an article (now re-

moved) that appeared on the first AKA web site titled, “On the Origin of the Term Killifish.”

There is documented usage that in angling publications from at least 1676 until 1885, a very successful bait was referred to as a “killing bait,” as in “Now, the cadis, or cod-bait, which is a sure killing bait...” (Walton and Cotton, 1676), “As killing a Bait as any whatever.” (Chetham, 1681), and “Fishing with the young frog is a very killing method of fishing for chub” (Francis, 1867). In these examples, “killing” is used as an adjective, not as a verb or noun.

Lazara contended that the transitions from “killing bait” > “killing fish” > “killifish” > “killifish” were perhaps how the term “killifish” was derived. However, although the last two transitions are certainly plausible, the transition “killing bait” > “killing fish” is a jump for which there is no documentation in the literature. For another, during this period, anglers used the terms “killing” and “catching” interchangeably, so “killing bait” means “catching bait,” and the transition to “killing fish” makes no sense.

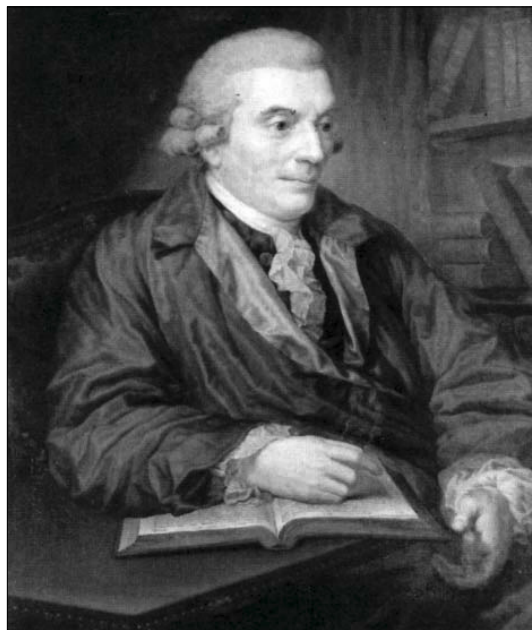
That derivation relies on references to British publications, namely the Oxford English Dictionary and the Chetham and Francis books. The idea that “killifish” was derived from “killing fish” first appeared in the Oxford dictionaries. For example, under “killifish” in the Oxford Universal Dictionary of 1933, updated to 1955, there is the following: “1836 [? f. KILL + FISH; but cf. (i.e., a standard dictionary abbreviation meaning confer or compare) KILLING].” Under “Killing” appears: “of bait: sure to kill 1681.” The “killing

bait” term originated in 1681 in England, over a century before the term “killifish” ever appeared in print.

However, the current on-line Oxford Dictionary site of the Oxford University Press now states for the origin of killifish, “early 19th century: apparently from KILL and FISH.” Oxford has thus abandoned the idea of “killing fish” as a possible origin of the word. (Although I myself would have cited 1792 as the date of origin, I have no real problems with “early



Johann David Schoepff (1752–1800).



Johann Julius Walbaum (1724 – 1799).



19th century”; I am thinking here of Mitchill, 1815 and Ak-erly, 1818.)

The question also arises as to whether these British references have relevance to the name “killifish,” since British usage is one thing and American usage quite another. To this end, I consulted three of the earliest books on American Angling (Forester, 1850; Norris, 1864; Scott, 1869).

One of the obvious differences between the British and American references cited is the infrequent use of the terms “killing” and “kill” in the latter. American anglers favored “catch” and “take” over “kill” and on page 129 of his book, Norris states that “Pickering (Ellis, 1835) in his Piscatorial Reminiscences, speaks of a Pike killed (caught) in Loch Spey that weighed one hundred and forty-six pounds.” Norris used the American equivalent in the parentheses, thus making sure that the reader was not confused by the term “killed.” Kill, by the way, is mentioned frequently throughout the Forester, Norris, and Scott books in place names, such as Kill van Kull, Bashe’s Kill, and Fishkill landing.

With regard to bait, although “killing bait” and related terms do occur with some frequency in American literature, they do not appear in connection with killifish. The reason is simple. Early on, not only were killifish referred to as “minnows,” but “minnows” referred to killifish and killifish alone, as the following (with its archaic spellings preserved) confirms (Forester, pg. 176-177):

#### MINNOWS

Hydrargyra; Auctorum

[Author’s Note: “Minnow” has its roots in Old English menow and Anglo-Saxon myne, meaning a very small freshwater fish, perhaps illustrated by Old French, menuise meaning small fish. Hydrargyra is an old synonym for *Fundulus*. Auctorum (abbreviated auct. or auctt.) in zoology is a term used to indicate that a name is used in the sense of a number of subsequent authors and not in its (different) sense as established by the original author.] The minnow proper of Europe, *Cyprinus*, *Leuciscus*, *Phoxinus*, is unknown to the waters of North America, but as their equivalents, and analogous to them, we have innumerable species of *Hydrargyra*, or American Minnow; which, in general appearance, habits and haunts, are very nearly assimilated to the European fish.

Its food consists of aquatic plants, small worms, and minute portions of any animal substances. It bites boldly and readily at small red worms, gentles, or the larvae of any of the Phryganea, known as caddis-baits, stick-baits, and the like, on the

least Limerick hooks, number twelve; and is constantly taken by boys with a worm alone tied to a fine string, which the little fish swallows so greedily that he is pulled out before he has time to disgorge it.

“Under many local names, this beautiful little *Cyprinus* is found in every swift-running stream with a gravelly bottom, and in the shallows of every pond or lakelet throughout the country. They are generally known as Killy-fish, and are an excellent bait for fish of almost every kind that prey on other fish.

“As live bait for Pike, Pearch or Catfish, they are not to be equalled; and in spinning or trolling they are excellent for the noble Striped Bass, the Pike, the Salmon, the Lake Trout in all its varieties, and for the Brook Trout – especially those which are found in the tide-creeks, where they are less willing than in other waters to take the fly. A more particular description of so common and well-known a fish would take up space needlessly, which is more required for other parts of my subject; and the species are, I was almost about to say, innumerable. Three of the commoner varieties, and those most useful as bait, are represented on the preceding page.”

Among the other bait fish mentioned by Forester were dace, shiners, and other small cyprinids (especially of the subfamily Leuciscinae), and in later years the term “minnow” included these fish as well, as evidenced in the Norris and Scott book. Webster’s Revised Unabridged Dictionary (1913) includes among its three definitions for “minnow” the following: “Any of numerous small American cyprinodont fishes of the genus *Fundulus*, and related genera. They live both in fresh and in salt water. Called also killifish, minny, and mummichog.” Therefore, even when the

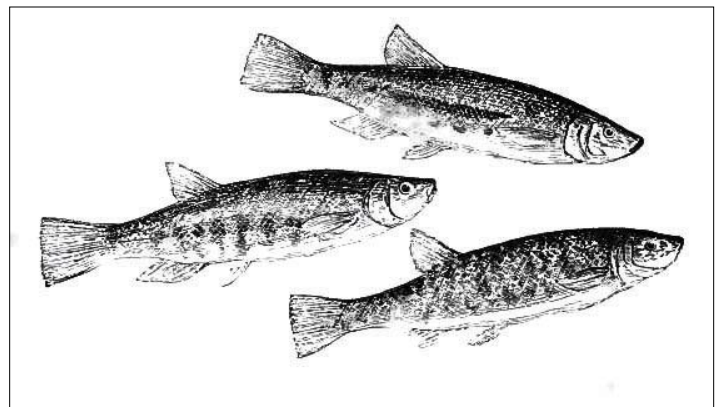


Figure from Forester’s “Fish and Fishing of the United States,” 1850.

bait in question was a killifish, the name originally used by American anglers was “minnow”, not “Killy-fish,” “kill-fish”, or “killifish.” There never was a need to use the lethal meaning of “kill” to modify “bait” when the object in consideration was a killifish.

When I first became interested in the origin of the term “killifish” (over half a century ago!), I posited that it could have come from only three possible communities: science, angling, and aquarium. With regard to the science community, there are two hypotheses, i.e., that Schoepff and Walbaum had location on their minds or fishing. Throughout ichthyological history, location, patrimony, and physical attributes have been the source of almost all names, and fishing is not included in any of them. Occam’s razor (Ariew, 1976), often expressed in Latin as the *lex parsimoniae* or the law of parsimony, is a principle that generally recommends selecting the competing hypothesis that makes the fewest new assumptions when the hypotheses are equal in other respects. Clearly, location wins on this count and I have documented here one of the earliest (i.e., 1818) usages of “killifish” in a scientific reference appearing after Schoepff and Walbaum descriptions in the prior century.

The American angling community was never a contender since their word for killifish was “minnow,” a term that originally only referred to *Fundulus* although later, anglers included dace, shiners, and other small cyprinids under the rubric of “minnow” as well. Thus the origin of the term “killifish” could not have come from the angling community since it was a term they never used until a century after its use in the scientific community.

With regard to the aquarium community, in 1955 in *Tropical Fish Magazine*, published by a consortium of New England aquarium societies, Dr. George S. Myers (Myers, 1955) proposed two new popular names: “killifish” for the egglayers (and he based this on its long-term usage in the ichthyological community) and “gambusino” for the live-bearers. However, the publication was largely unknown to any but those living in the New England areas and so neither term caught on with aquarists at the time, panchax remaining in common use among killifish fanciers. However, I had read the article and it prompted me to use “killifish” in my own writings, all this quite a few years before the founding of the AKA. The establishment of the American Killifish Association in 1961, of course, made “killifish” the *pro forma* term used by most aquarists on both sides of the Atlantic.

Although it can be argued that, just like “Panchax,” “Killifish” is based upon a no longer-used scientific name that applied to just a few killifishes (i.e., the fishes of the New York/New Jersey area), the latter is not actually based upon a scientific name but on a common name. Further-

more, it seems appropriate and desirable that an American organization should base its name on fishes found in this country, rather than in foreign ones.

Finally, there seems to some confusion about the correct spelling of killies in the singular, i.e., is it “killie” or “killy”? In the December 1969 issue of *Killie Notes* in the “Letters to the Editor” column, Editor Joseph F. Ricco reported on a letter he had received:

And finally an item from Dr. George Myers of Stanford University. Dr. Myers informed me that the name KILLIE NOTES is incorrect and the correct name should be KILLY NOTES. The reason being that KILLY is singular and KILLIES is plural.

In English, adjectives are always singular and thus whatever preceded “Notes” had to be singular. However, contrary to Dr. Myers’ opinion, “killie” is singular and had been known as such for many, many years in both the scientific and lay literature. A good example is Henry Fowler’s report on the fishes of New Jersey (Fowler, 1905) in which the following common names (all singular as common names are) were included in the list for *Fundulus heteroclitus macrolepidotus*: “Killy”, “Killie”, and “Killy Fish.” The following were included for two other killifish species, “Killie Fish” and “Killi Fish,” making a grand total of five different names for the singular of killifish!

In any case, usage out-trumps any grammarian and that which is “correct” changes with the times, as is shown clearly by Fowler’s report. Maugham, in his 1938 book, “The Summing Up,” wrote: “it is necessary to know grammar, and it is better to write grammatically than not, but it is well to remember that grammar is common speech formulated. Usage is the only test.” Therefore, *Killie Notes* is correct, and either “killie” or “killy” can be used safely for the singular.

Incidentally, when the AKA was founded in 1961, my own preference for the shortened singular of “killifish” was “killy,” since it was consistent orthographically with the ending of other well-established aquarium names, such as “molly” and “platy.” However, Jorgen Scheel had used “killie” prior to this and, as it was accepted among many well-known killifish fanciers, I decided against my better judgment to use it.

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## POSTSCRIPT BY BRUCE TURNER

I wasn't particularly enthusiastic about using the term "killifish" at first, but I did prefer it to "panchax" because it seemed potentially more inclusive, even though it was not then in wide use among aquarists. In the pet shops and aquarium stores in New York City that I frequented in those days, "Panchax" usually meant the fishes we now know as *Aplocheilus panchax*, *A. lineatus*, *Pachypanchax playfairi*, *Aphyosemion australe*, and perhaps *A. bitaeniatum* (though that species was very seldom seen); it probably would have been extended to *Aplocheilus dayi* and *Aplocheilus blocki*, had those species been around at the time. So far as I can recall, "Panchax" was not used for the few species of *Rivulus* that were infrequently available, nor for *Fundulopanchax sjoestedti* and *Callopanchax occidentalis* (both distributed by Paramount Aquarium in Ardley, NY, who episodically imported them from Aquarium Hamburg, its "sister firm" in Germany, nor for the few species of *Nothobranchius* that were beginning to make their appearance in the larger aquarium stores (e.g., the Aquarium Stock Co. in Manhattan).

Initially, though, the use of "killifish" for some aquarium fishes did seem downright strange to many hobbyists in the New York area, myself included. The word (or, more usually, just "killies") was then heard mostly in bait shops, and it referred almost exclusively to *Fundulus heteroclitus*. Every summer, gigantic numbers of this species, sometimes with a few *F. majalis* and *Menidia* sp. thrown in, were purchased, often half-dead, by hopeful anglers. The bait shops in Sheepshead Bay (Brooklyn) sold them out of large, ultra-crowded tanks or kiddie-pools. The situation was the same along the (New) Jersey shore, but there one could sometimes find a few *F. diaphanus* or *Cyprinodon variegatus* in the bait tanks as well. "Killies" were also sold in the Fulton Fish Market in downtown NY – generally in large wooden baskets, hundreds of fish interlayered with crushed ice. People did buy them for food; I was told they were cooked up into a stew or sauce. Near the end of the day, the fishmongers would sometimes dump the buckets

of unsold killies right on the concrete, and mobs of perpetually hungry, squalling, growling, and spitting cats would appear as if by magic. Many of these cats were enormous – larger than any I had seen before or have seen since – and they could very quickly slurp down a three inch *Fundulus* – whole. Understandably, perhaps, it was a bit difficult for me to suture these scenes of dirt-common, half-dead bait and flip-flopping cat food with my mental images of the “rare,” exquisitely-colored lyretails and nothos that I had in my tanks. I was vaguely aware, though, that ichthyologists had sometimes used the term “killifish” more inclusively, and, when Al Klee began to promulgate it, I figured that it served as well for the fishes I was interested in as any other name might (I remember thinking that “toothcarp” of “topminnow” would also have served, though perhaps not as well).

But I do feel a bit sad that “Panchax” cannot be used at least as a generic name instead of *Aplocheilus*. It is derived from “PangChak,” an example of what we used to call a “native” name, and, as a matter of personal philosophy, I prefer using the names given to fish by indigenous peoples wherever possible (which is why I like “mummichog” better than “killifish” for *F. heteroclitus*). Absent the sloppy, amateurish work on the part of some 19<sup>th</sup> century naturalists that Al Klee relates in his article, *Aplocheilus panchax* really would be *Panchax panchax*. In 1957, W. Klausewitz denoted some Thai populations of *A. panchax* as a separate subspecies, *A. panchax dorsomarginatus*, and, in 1968, J. Scheel similarly proposed an *A. panchax siamensis*. Others never took these subspecies very seriously; they were not widely used and are probably best forgotten. However, their descriptions nonetheless automatically imply a “nominate” subspecies, which would have been *A. panchax panchax*. So, if Panchax could have been retained as a genus, we would have had, at least nominally, a *Panchax panchax panchax*! Just think of the fun some fish taxonomy geeks could have had by perpetually arguing about this lovely trinomial with each other, naïve journal editors, referees, and type-setters! As a recreational opportunity, it would have been right up there with *Badis badis badis*!

If I were inclined to tweak some noses, I would point out that when the AKA was founded, species like *Crenichthys baileyi* and *Empetrichthys latos* were considered cyprinodontids, and, if an aquarist were lucky enough to have them, no one would have been disturbed if she had offered their eggs in our F & E listings. But now the two genera are considered to be oviparous goodeids. Does this mean she couldn't list them? And if she still CAN list them, why couldn't she also list viviparous goodeids like *Characodon* or *Ilyodon*? Or, can she?

Likewise, at around the same time, the evolutionary relationships of the medakas (*Oryzias*), previously thought to be perfectly “good” killifishes, were beginning to be re-evaluated, and nowadays they are not even included in the same ORDER as their erstwhile relatives like the fundulids, rivulids, aplocheilds, etc. Would we be so provincial as to deny an AKA member the ability to list, say, *O. melastigma*, in the BNL?

Obviously, it's not quite as easy to define “killifish” as we initially thought. Purists will shudder, but maybe that's a good thing... Sometimes there are advantages to some ambiguity... I would argue there is no reason to insist that the categories we use culturally (that is, by implicit common agreement) to label some organisms that interest us, must be congruent with the groupings used by biologists to suggest phylogenetic relationships. In fact, it would seem that congruence between the two group of categories doesn't matter very much: since the AKA was founded, perceptions of phylogenetic relationships among cyprinodontoid fishes have been in almost constant flux as a consequence of legitimate biological research, and that flux is very likely to continue indefinitely. But, though many more species are now available, the kinds of fishes sought by and exchanged among AKA members have remained, as a whole, pretty much the same. We didn't cease our interest in *Nothobranchius*, *Fundulopanchax*, or *Austrolebias* species, for example, when a couple of my colleagues lopped them and others off the cyprinodontoids as separate families. Likewise, it would be foolish and short-sighted for the AKA to stymie interest among its member in *Oryzias* species – a genus whose richness and diversity is now becoming increasingly apparent – just because they aren't cyprinodontoids. In essence, this is a long-winded way of saying that, as a group of specialists most directly involved, we can, and should, define “killifish” any way we find useful.

In closing, I'll go out on a limb and mention something that I think may have been overlooked. Well before the advent of the AKA, some biologists used the term “killifish” quite broadly indeed, even extending it to cyprinodontiform fishes in general. For example, the pioneering fish geneticist, Myron Gordon, used “killifish” for *Xiphophorus* (his “*Platypoecilus*”) *maculatus* in some of his earlier papers. And we still have “Least Killifish” and “Pike Killifish” for *Heterandria formosa* and *Belonesox belizanus*, respectively – names hallowed by time and usage. I know that not everyone will agree, and perhaps that not anyone will agree, but I think it's kind of a cool commentary that the tiniest and one of the largest of the “killifishes” are, in fact, poeciliids. Maybe we should invite the ALA to merge with us?