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Overview of Killifish research output

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Editor: Jean H. Huber (editor@killi-data.org)

Alert-co-analyst: none

INTRODUCTION

Within this time frame of present Wassup, nearly 5 months with fewer publications than usual, it must be noted 7 new species, *Nothobranchius sylvaticus*, *Fundulus caddo* and *cryptocatenatus*, with a major surprise for the former (hence the name) which is living under the forest and which looks similar by pattern to *Nothobranchius elongatus* and *interruptus*, but molecularly is closer to a very different group, *Nothobranchius kirki* and allied, also 2 new livebearers, *Phalloceros circummontanus* and *Phalloceros mimbi*, and 2 new neotropical annuals, *Moema humaita* and *Campellolebias insularis*, both only known from a single location-area.

And there are some further discussions on major themes:

First, and major change, is the description of the first molecular killifish sp. by US-researchers ; since the first description of molecular killifish sp. by Mexican-Spanish teams, then followed by Brasilian teams and researchers from other Latin South-American countries and from German, Dutch and English plus Turkish-Iranian and South African countries, there remained only US researchers and French researchers who were reluctant to name those species as new which are only separable by genetic data (i.e., not separable by morpho-meristics or by live or preserved pattern within the known variability of killifish) ; up to today, it seemed that the Pandora box was then not fully opened because of the position of the research community in USA for their own names local fishes (conservatively kept) ; now it is over and the wave of new names cannot be stopped (unless the naming by the brand new team of researchers of Mississippi State University supported by Zootaxa journal directed by Dr Zhi-Qiang Zhang, a previous ICZN commissioner, is ignored by the rest of the community and the many local US databases, who knows?) ; it is a neutral fact, not a personal opinion (negative or positive) : the description of *Fundulus caddo* and *Fundulus cryptocatenatus*, vs. identical congener *catenatus*, has no given morpho diagnoses, except molecular separation, supplemented by geographical separation of groups of populations ; research goes on and a new impetus and signal to name molecular species is given (will French molecularist Jean-François Agnèse, last but not least among killifish molecularists, keep reluctance over those molecular species, notably for African killifish fauna, or not, that is a -neutral- question?).

Second concerns a lab experiment on annual diving killifish, *Hypsolebias auratus*, in which 15 mature individuals are separated into 6 tanks, 3 containing trios (1 females and 1 male) and 3 containing only standard pairs, each with a nest for deposited eggs (replaced weekly over 5 weeks) ; like it is routine for annuals, nests are dried, and after 60 days, eggs are quantified according to its diapause state (embryonic development), DI, DII, or DIII, then moistened to determine hatching rates and unhatched eggs are moistened again after 30 days ; results are not surprising (they are congruent with aquarists experience, but they are quantified and stats evidenced) : average weekly oviposition rate per female is significantly higher in trio tanks compared to pairs; of the total embryos obtained, 95% remains in DI and 5% reaches DIII, of the embryos in DIII, 43% hatches, 28.5% dies, and 28.5% remains at this stage, no DI embryos hatches, and at the end of study, 84.4% of

embryos remained alive and in good condition ; as a personal comment of a non-aquarist (without intruding into their business), this interesting study raises ethical issues for oviparous killifish associations regarding conservation purposes (a major objective to each association) : is it acceptable to allow exchange of a single pair of live annual fish (better would be to require a minimum of a trio, no?) and is it acceptable to allow exchange of a single dozen of live eggs (better would be to require a minimum of 2+ dozens, no?) [full reading in Portuguese: https://revistaeletronica.icmbio.gov.br/index.php/BioBR/article/view/2366/1821].

Finally, let's inform the readers that, within a general fish fauna survey of upper rio Purus basin in Acre state of Brasil, Lucas Oliveira (pers. comm. to Huber, March 2025) report an extension of distribution of *Rivulus hoetmeri* {as genus *Anablepsoides*}, dedicated to famous aquarist and collector Jan Willem Hoetmer [cf. (free reading): https://doi.org/10.1590/1676-0611-BN-2024-1702].

SELECTION OF PUBLICATIONS (last in, first out)

- Nielsen, D.T.B., J.W. Hoetmer & E. Vandekerckhove. [Nielsen et al. describe annual *Moema humaita* from rio Madeira drainage, Amazon basin, northern Brasil, related to *staecki* group ; the new species originates from middle rio Madeira drainage, Amazon River basin, northwestern Brasil ; the authors assign it to the *Moema staecki* species group, but that group is identical to *Moema* s.s. {as subgenus, to separate it from *Aphyolebias* subgenus, until a new revision of those fish at genus level is published} ; it is diagnosed by male color pattern, with dots following interrupted lines arranged horizontally ; male presents body sides light grey, with 3 longitudinal lines, composed by small red dots lying in the center of each scale, alternating with 3 bright yellow lines, and Caudal fin with 3-4 long filamentous rays and Anal fin long, with its tip pointed, reaching vertical through near the end of Caudal fin, orange in color {the species has been identified as aff. *apurinan* in aquaristic circles at first} ; note : the authors show a dimorphic difference in predorsal length (as a % of S.L.), precisely 66.6-69.9% in males types, 74.1-72.2% in females, but do not comment on this (Huber, pers. obs.). 2025. Zootaxa, https://mapress.com/zt/article/view/zootaxa.5631.1.10] {Jean Huber, 1-May-2025} <°))))>< <°))))>< <°))))>< <°))))><
- Serra, S., Scarabino, F., Gobel, N. & Laufer, G. [Serra et al. describe *Phalloceros mimbi*, a cryptic sp. in *harpagos* group, from Uruguay and Argentina, vicariant to *caudimaculatus* ; the new species originates from floodplains of middle and lower Uruguay River in Uruguay (Rio Negro and Salto Departments) and Argentina (Entre Rios Province) ; by morphology, it species belongs to *harpagos* species complex and is diagnosed by the following unique combination of characters: 1) presence of a symmetric hood-like structure located immediately anterior to the uro-genital papilla in females, 2) absence of large papillae at the mandibular symphysis of large adult females, 3) possession of well-developed hooks positioned in distal portion of gonopodial appendices of males and 4) lateral spot usually present in both sexes ; geographically closest congener is widely distributed *caudimaculatus*, distoinct by lacking of hooks in gonopodial appendix in male ; 2 out 3 known populations of *mimbi* are relatively protected from the main threats to the species, but conservation initiatives should be considered since total range is less than 200.000 square km ; in total, there are 26 presumably valid species in *Phalloceros* genus, including the very old and mysterious taxon *reticulatus* and the recent synonymization of *aspilos* and *tupinamba*. 2025. A.Z.L., https://www.lillo.org.ar/journals/index.php/acta-zoologica-lilloana/article/view/2096] {Jean Huber, 6-April-2025} <°))))>< <°))))>< <°))))><
- Souto-Santos, I.C.A., Mejia, E., Arcila, D. & Buckup, P.A. [Souto-Santos et al. describe *Phalloceros circummontanus*, a cryptic sp. in *harpagos* group, from upper rio Parana, coastal Brasil ; another new *Phalloceros* congener derived from *harpagos* heterogenous species complex, originating from upper rio Parana, upper rio Paraiba do Sul, and headwaters of coastal rivers in southeastern Brasil ; according to the authors, *circummontanus* is easily distinguished from congeners by characters of both male and female

genitalia, Dorsal fin ray counts, dorsal-profile shape, and pigmentation and position of vertically elongated dark spot {blotch} on sides, and it has been misidentified many times in scientific literature as *harpagos* ; the authors restrict now *harpagos* with certainty to a very limited range only in Rio de Janeiro state, in drainages on right bank of the middle Paraiba do Sul and to nearby coastal drainages ; *circummontanus* differs from *harpagos* by a flattened, hood-like projection of skin located between anus and urogenital papilla in most females, and by a rounded lamellar flap on distal margin of both gonopodial appendices in small mature male (< 21.2 mm S.L.) ; molecular analysis (mitochondrial CO1 gene) shows a 6% genetic divergence between *circummontanus* differs from *harpagos* ; still, many more inland populations from more inland Brasil are labelled as aff. *harpagos*. 2025. N.I., https://www.scielo.br/j/ni/a/45pYY9jJxgvy994P98h9zZN/?format=pdf&lang=en] {Jean Huber, 3-April-2025} <°))))>< <°))))>< <°))))><

- Chan J., R. Karatgi, E. Malone, K. Patel, V. Shamsyna & R.C. Fuller. [The Fuller team tests female behavior of *Lucania goodei* along costs of delayed mating opportunities, overripening, and mate choice ; theory suggests that female mating preferences that may be costly (in term of spent energy) may favor low levels of preference in species that have to mate repeatedly ; in this study, the authors evaluate overripening potential cost of mating preference in Bluefin Killifish, *Lucania goodei*, which occurs in some external fertilizers when female ovulates but does not spawn their eggs (overripening may create a trade-off between the benefits of mate choice, e.g., rejecting males of poor quality, and egg viability due to delay) ; for the experiments, females are divided into 3 groups: mate every day, or mate every 2 days, or mate every 4 days ; for first experiment, females are paired with either a red or a yellow conspecific male on spawning days (males of the species are well known as polychromatic) ; for second experiment, females are paired with either a conspecific male (*goodei*) or a heterospecific male (congener *parva*) on spawning days and in both experiments, eggs are retrieved following spawning, and their viability (i.e., survival) is monitored for 5 days ; results show that females that are forced to 'hold onto' their eggs for extended periods have smaller clutch sizes and lower egg viability, demonstrating that costs to rejecting males potentially exist ; in first experiment, there is no evidence of female choice for red versus yellow colored phases males ; in second experiment, female preference for conspecifics versus heterospecifics declines when females could only mate once every 4 days, but the differences among treatments do not reach statistical significance {hence differences are valueless} ; this study illustrates a potential cost to female mate choice and suggests that benefits of mate choice {best male} may not outweigh the costs due to egg overripening. 2025. I+H, https://asih.kglmeridian.com/view/journals/cope/113/2/article-p225.xml] {Jean Huber, 2-April-2025} <°))))>< <°))))>< <°))))><
- Volcan, M.V., D.K. Garcez, L.J. Robe, C.R.M. Feltrin, W.J.E.M. Costa, L.E.K. Lanés. [Volcan et al. describe *Campellolebias insularis*, a new cryptic sp. from isolated island population in Brasil, previously known as *brucei* ; this is the 5th congener, totaling *brucei*, *chrysolineatus*, *dorsimaculatus*, *insularis*, *intermedius*, each with one or few collecting localities, very close to each other for each taxon and well apart between taxa {a case of very recessive distribution} ; *Campellolebias* 5 components, all very similar, rather as molecular sp., comprise small internally inseminating seasonal fishes that inhabit temporary pools in tropical and subtropical areas of the Atlantic Forest in southeastern Brasil ; according to the authors, minimum genetic distances found between this and other species of *Campellolebias* regarding mitochondrial markers are higher than 3% ; *insularis* is distinguished from all other congeners by a combination of a series of character states, including color pattern in both sexes, Ventral fins bases separated by an interspace, Ventral fin tips reaching base of the 1st Anal fin ray in male and urogenital papilla in female, by a somewhat distinct cephalic neuromast pattern, and by a more anterior Anal fin origin, being positioned at a vertical between base of 4th and 6th Dorsal fin ray in female ; however, due to advanced stage of habitat loss and degradation, its restricted distribution area, and the reduced populations sizes, *Campellolebias insularis* is considered as Critically Endangered ; an identification key for the 5 species of *Campellolebias* is

given. 2025. Z.A., https://www.sciencedirect.com/science/article/abs/pii/S0044523125000300] {Jean Huber, 29-March-2025} <°))))>< <°))))>< <°))))><

- Fast, K.M., Hundt, P.J., Alley, Z.D. & Sandel, M.W. [Fast et al. describe *Fundulus caddo* and *cryptocatenatus*, 2 molecular sp. in *catenatus* group, along highlands vicariance hypothesis ; the Central Highlands ecoregion of the eastern USA represents a hotspot of freshwater biodiversity, with replicated patterns of vicariant speciation east and west of the Mississippi River and with the 2 new taxa, the species group totals 8 names {*albolineatus*, *bifax*, *caddo*, *catenatus*, *cryptocatenatus*, *julisia*, *rathbuni*, *stellifer* (within recognized subgenus, or not depending on authors, *Xenisma*)} ; the authors use double digest restriction-site associated DNA sequencing (ddRADseq) to improve resolution of phylogeographic patterns and better characterize population genetic variation for a solid sample of the *catenatus* group ; results provide evidence for 3 species-level subdivisions of *catenatus*, inducing that restricted *catenatus* is limited to Tennessee river and its drainages, a new congener, *caddo* sp. nov., in the Ouachita Highlands, and *cryptocatenatus* sp. nov., occupying the remainder of the range {hence many populations of *catenatus* are renamed *cryptocatenatus*} ; modally, *catenatus* is characterized by fewer left Pectoral rays (16 vs. 17). *caddo* sp. nov. by fewer Anal rays (15 vs. 16) and LL scale rows (13 vs. 14), and *cryptocatenatus* sp. nov. by modally higher dorsal rays (15 vs. 14) and fewer caudal rays (16 vs. 17) {but those characters are overlapping, and the 3 species are true molecular sp.} ; according to the authors, geographical distribution is likely a result of multiple pre-Pleistocene vicariance events congruent with the Central Highlands Vicariance Hypothesis as well as separate, possibly subsequent, dispersal events {note : an important cultural move among US-ichthyologists since it is the first molecular *Fundulus* sp., formally described as molecular sp., the previous similar case back in 2001, consisting of revalidating a junior synonym, *Fundulus kansae*, from *zebrinus* definition, i.e., not describing any new species}. 2025. Zootaxa, https://mapress.com/zt/article/view/zootaxa.5604.3.5] {Jean Huber, 14-March-2025} <°))))>< <°))))>< <°))))><
- Rudershausen, P.J. & M.J. O'Donnell. [Rudershausen and ODonnell detail LHT parameters and overwinter survival of *Fundulus heteroclitus* in a North Carolina salt marsh creek ; despite mummichog (*Fundulus heteroclitus* s.l.), a trophically important fish inhabiting Atlantic coastal salt marshes in USA, is the most studied killifish (outside artificial transplant studies on livebearers), the authors give new insights on it ; they focus on field estimates of overwinter survival throughout species range {i.e., including *macrolepidotus* subspecies or molecular distinct species}, by taking the approximate mid-latitudinal species range, in coastal North Carolina (USA) from 4 tidal creeks that experience variable winter water temperatures ; they measure apparent survival apparent in 2 parameters : survival ('fi') (product of true survival and site fidelity) and detection probability ('p') ; results show that water temperature and fish metrics are not related to 'fi', that water temperature is directly related to 'p', indicating reduced fish activity and thus reduced detection probability or poor antenna detection performance at low temperatures ; creek, itself, is related to 'fi' and 'p', and the creek most open to its downstream estuary (lacking a culvert) has lower rates than the others ; greater loss (fish mortality plus emigration) in this one creek may more effectively transfer production of *heteroclitus* to larger waterbodies via emigration or predation ; finally, the authors discuss their 2 parameters limits (for example, lower 'fi' may reflect reduced detection efficiency) ; in total, results suggest that *heteroclitus* survival is insensitive to variable winter water temperatures that are typical of thermal dynamics in shallow estuaries in this region of its range (natural mortality could arise equally, or more so, from predation during the growing season than mechanisms such as starvation, direct mortality, thermal morbidity and stress-related susceptibility to predation resulting from intermittently low water temperatures during the overwinter season). 2025. J.F.B., https://onlinelibrary.wiley.com/doi/10.1111/jfb.70020] {Jean Huber, 14-March-2025} <°))))>< <°))))>< <°))))><

- Bellstedt, D.U., B. Nagy, P.d.W. van der Merwe, F.P.D. Cotterill, Q. Luke & B.R. Watters. [Bellstedt et al. describe *Nothobranchius sylvaticus* with 2 oblique bars, in a distinct lineage, relict in a Kenya forest refugium ; the new species is originating from ephemeral swamps in open areas of Gongoni Forest (a unique ecological niche for annual *Nothobranchius* sp.), not far from coastal town Gazi (home of a distinct Pantanodontidae sp.) ; it is diagnosed by a combination of pattern characters (notably posterior scale margins on postorbital portion of opercle creating 2 pronounced brown-red oblique bars), but even more by separate meristics ; it looks similar by pattern to *Nothobranchius elongatus* and *interruptus*, which are located not far, but it is not at all related to them ; molecular tree from mitochondrial ND2 and COI and the nuclear Glyt, MyH6 and SNX33 genes, retrieves it together with *kirki*, *wattersi* and *balamaensis*, with scattered ranges, as a phylogenetically distinct lineage, sister to subgenus *Aphyobranchius* Wildekamp, 1977 and subgenus *Adiniops* Myers, 1924, to be possibly named in the future ; the species is listed as critically endangered. 2025. Zootaxa, https://mapress.com/zt/article/view/zootaxa.5601.1.4] {Jean Huber, 6-March-2025} <°))))>< <°))))>< <°))))><
- Loayza, E., A. Muñoz-Saravia, J. Pinto, C. Ibañez, M. Pouilly & G.P.J. Janssens. [Loayza et al. show feeding overlap with mainly amphipods for sympatric killifish of lago Titicaca, *Orestias agassii*, *lutea*, *mulleri* ; sympatry (or syntopy, according to authors) is often attributed to differences in ecological niches, to attenuate competition in use for limited resources ; then, the authors study if 3 sympatric species in lago Titicaca adjust their diets to avoid competition and optimize resource partitioning {depending on authors, there are at least ca. 35 distinct species in this Andean lake, or just a few} ; method consists in quantifying benthic macroinvertebrate availability and gut contents of fish during 2 contrasted seasons (wet/transition in April and dry in July) ; results show temporal but not spatial differences in composition of macroinvertebrate taxa (food for fish) ; all 3 *Orestias* species primarily feed on amphipods (*Hyalella* spp.), with *luteus* and *mulleri* showing a micro-carnivorous inclination, mainly consuming amphipods and molluscs in offshore zones ; conversely, *agassizii* exhibits a versatile omnivorous pattern ; however, higher diet overlap is observed among the 3 *Orestias* species during dry season (July), indicating temporal influences ; temporal variation in diet between habitats may respond to changes in diet item abundance, particularly amphipods (as an opportunism factor). 2025. E.B.F., https://link.springer.com/article/10.1007/s10641-025-01677-9] {Jean Huber, 16-February-2025} <°))))>< <°))))>< <°))))><
- Lopez-Solano, A., I. Doadrio, T.L. Nester & S. Perea. [The Doadrio team discloses full genome of *Aphanius iberus* {K-D maintained in *Apricaphanius*} vs. 4 American Cyprinodontiformes ; the author sequence for full genome of Spanish toothcarp (Aphaniidae), a renowned euryhaline but threatened-of-extinction fish species from near coast of eastern Mediterranean Spain ; genome size (1.15 Gb) is consistent with that of the most closely related species, already known by full genome (a few dozens of species), aiming at becoming a reference ; compared species with NCBI data are *Cyprinodon variegatus*, *Poecilia formosa*, *Poecilia reticulata* {alias the Guppy} and *Xiphophorus maculatus* ; a future comparison with cryptic congener *Aphanius baeticus* from southern Spain {note : the generic assignment of both species either *Aphanius* or *Apricaphanius* is not stabilized yet among Spanish researchers, senior ichthyologist and leader Ignacio Doadrio from Madrid Museum, using both names in recent publications}. 2025. B.M.C.G., https://bmcgenomics.biomedcentral.com/articles/10.1186/s12864-025-11327-0] {Jean Huber, 14-February-2025} <°))))>< <°))))>< <°))))><
- Esmaeili, H.R., S. Echreshavi & N. Hamidan. [Esmaeili et al. disclose dimorphic microscopy traits of scales and fin rays of *Aphaniops sirhani*, with contact organs in male ; sexual differences (dimorphism) between males and females are routine in many fish groups including killifish ; the authors study microscopic characteristics of scales and rays in *Aphaniops sirhani* that is endemic to Azraq wetland in northeastern Jordan ; results show that males have contact organs that exhibit sexual dimorphism in the form of spicule-like structures in Anal fin rays and ctenus-like {horny} structures in posterior margin of scales and

the authors promote the interest to study contact organ variations in size, number, and location in Aphaniidae family to improve taxonomy of those fishes. 2025. J.J.N.H., https://www.rscn.org.jo/uploaded_files/journal/6763eec1dc3b01734602433.pdf] {Jean Huber, 2-February-2025} <°))))>< <°))))>< <°))))><

- Beltran, R.G.L., O. Dominguez-Dominguez, G.P.P. Leon, A.F. Mar-Silva, S. Perea, R.R. Pérez, K.R. Piller, H.M. Mejia & I. Doadrio. [Beltran et al. disclose 1 un-named molecular species in widely distributed and highly dimorphic *Xenotoca variata* in Mexican plateau ; *Xenotoca variata* (true livebearer: Goodeidae) is one of the most widely distributed species across central Mexico, which is highly dimorphic and sexually selective species ; the authors study the phylogenetic and phylogeographic patterns of populations of *variata*, a member of a monotypic genus, using a mitochondrial locus (cytb) and 3 nuclear loci (S7, RHO, and RAG1) ; results show that 2 well-defined and highly supported clades with all analyses and genes studied, with an estimated divergence time of ca. 2.42 MYA, corroborating the existence of an independent evolutionary unit in Cuitzeo Lake and its recognition as a putative new species {note : there has been a second species described, currently in the genus, but this is not from Cuitzeo Lake, actually with the same type locality as *variata* and it remains its junior synonym} ; this case is another example of practical rule emphasizing that geological and climatic events frequently represent primary explanations to describe evolutionary processes among species. 2025. J.S.E., https://onlinelibrary.wiley.com/doi/10.1111/jse.13147] {Jean Huber, 2-February-2025} <°))))>< <°))))>< <°))))><
- Velazquez, E.V. [Velazquez details osteological characters of the 4 *Tlaloc* sp. (*labialis*, *candalarius*, *portillorum*, *hildebrandi*) from Central America ; the family Profundulidae is a lineage of freshwater fish, with a limited geographical distribution in northern Central America, now composed of two genera *Profundulus* and *Tlaloc* {previously the latter was a synonym of the former} ; the author, as part of its student work, describe anatomy of the caudal bones and backbone of all 4 valid species of *Tlaloc* by using 44 cleared and stained specimens ; all species show a very similar pattern in morphology, but, some characteristics are disclosed : the triangular shaped hypural plate is a characteristic only present in *labialis*, while in the rest of congeners, the hypural plate is fan-shaped ; total number of vertebrae, including the vertebral centrum, ranges from 33 to 38, of which 15-17 ware abdominal vertebrae and 17-21 caudal vertebrae ; *portillorum* has the lowest number of total vertebrae (33) and *labialis* has the highest number of total vertebrae (37-38) 2025. R.B.T., https://revistas.ucr.ac.cr/index.php/rbt/article/view/59855] {Jean Huber, 23-January-2025} <°))))>< <°))))>< <°))))><
- Castillo, C., H.K. Brown, A.P. Knudsen, E. Olivera-Angon, R. Brewster & G.R. Kolluru. [Castillo et al. experiment on modelized pattern on behavior of *Girardinus metallicus* with no preference by female and by predator ; sexual polychromatism describes discrete variation among individuals of one sex, often involving conspicuously colored, displaying male morphs and inconspicuous, sneaking male morphs, a color character that might be maintained over evolutionary time if the displaying morph is favored by sexual selection and the sneaking morph experiences reduces predation ; the authors tests that hypothesis by using 3D printed models and live males in sexually polymorphic livebearer, *Girardinus metallicus* ; results show that females do not prefer the displaying black morph while, anyhow, black morphs exhibit more male-male aggression, and dominant black morph males achieve higher mating success than all plain morph males, suggesting a sexual selection advantage ; on the other hand, predatory blue tilapia in the wild do not show a preference for either morph, suggesting no plain morph {less showy} advantage in this regard, and that would argue to maintain the 2 morphs, even if, in the wild, black morphs are rare relative to plain morphs. 2025. Eth., https://onlinelibrary.wiley.com/doi/abs/10.1111/eth.13548] {Jean Huber, 23-January-2025} <°))))>< <°))))>< <°))))><
- Watters, B.R. & B. Nagy. [Watters and Nagy review subgenus *Aphyobranchius* (of genus *Nothobranchius*), with only 5 components, *willerti* being closer to *Adiniops* ; the authors reshuffle the constituents of

subgenus *Aphyobranchius* based on new data and moleculars of *fuscotaeniatus* and *lourensi*, the latter unknown before ; the subgenus is rediagnosed and mapped with 2 distinct groups, confirmed *geminus*, *janpapi* (with an unidentified component, more southern, tagged as cf. *janpapi*) and *luekei*, plus newly appointed *fuscotaeniatus* and *lourensi* in another species group ; all known *Aphyobranchius* species occur in the central eastern and southern coastal plains region of Tanzania, associated mainly with the Ruvu, Rufiji, Kilombero, Mbezi and Luhule-Luhute river systems, with isolated occurrences in the lowermost reaches of the Wami and Matandu rivers ; *Nothobranchius willerti*, previously regarded as a member of *Aphyobranchius* by Wildekamp, is excluded from that subgenus by the authors, based on a reassessment of key morphological characters, habitat preference, breeding behavior and, most importantly, molecular data that indicates a clear affiliation with other species of the subgenus *Adiniops* {note: an additional diagnostic character between the 2 groups is D/A ratio}. 2025. Zootaxa, https://mapress.com/zt/article/view/zootaxa.5570.3.1] {Jean Huber, 20-January-2025} <°))))>< <°))))>< <°))))><

- Altavilla, L., F. Cavraro, C. Facca, F. Liaci & S. Malavasi. [Altavilla et al. experiment on breeding behavior of *Aphanius fasciatus* at various salinity between 5 and 45 pss, as opportunistic ; along climate changes, anticipated rise in sea levels and extreme rainfall events could trigger coastal habitat salinization or freshwater dilution, posing potential threats to resident fish species ; the authors address the issue by testing in *Aphanius fasciatus* on its reaction in terms of behavior (reproductive performance and courtship) across a wide salinity range, i.e. from very low brackish water to hypersaline water ; results show no impact and no significant difference on sexual behavior for this {opportunistic} species, found in very distinct ecotypes along Mediterranean coast (except Espana [Spain]) and even more inland. 2025. E.C.S.S., https://www.sciencedirect.com/science/article/pii/S0272771425000034] {Jean Huber, 19-January-2025} <°))))>< <°))))>< <°))))><
- Huber, J.H. [Huber describes *Fluviphylax rubens*, a miniature lampeye from Colombia with exceptionally few Dorsal rays and reddish fins in male ; the new species, first collected and brought live from Rio Negro basin, southern Colombia, by Portuguese scientist Vasco Gomes, is morphologically and pattern-wise distinct from all congeners ; it is diagnosed by the color pattern of male unpaired fins, red pink, hence the name, and by the very low number of dorsal-fin rays, lowest among known congeners ; the phylogenetic position of the new species is unclear and there are still many congeners, un-named or related to *rubens* in Colombian museums from the same eco-region. This is the 8th named congener (in total, *gouldingi*, *obscurus*, *palikur*, *pygmaeus*, *rubens*, *simplex*, *wallacei*, *zonatus*). 2025. Cybium, https://sfi-cybium.fr/fr/short-description-fluviphylax-*rubens*-n-sp-new-so-called-lampeye-cyprinodontiformes-colombia] {Jean Huber, 5-January-2025} <°))))>< <°))))>< <°))))><

Herbert-Mainero, A., D. Vasilyan & B. Reichenbacher. [The Reichenbacher team reviews fossils related to *Valencia* with description of 2 genera, one dedicated to Brasilian Wilson Costa ; today, extent killifishes from Eurasia are represented by 2 families that each have their own taxonomic diversity, namely the diverse Aphaniidae (8 genera, > 40 species) and the less diverse Valenciidae (1 genus, 3 species, disjunct in Spain and Albanian-Greek peninsula) ; the fossil record of both families is quite extensive in the area of Western and Central Europe, eastward from Spain and France, but it is poor elsewhere ; hence the important discovery at Gracanica in the Bugojno Basin, Bosnia-Herzegovina country, by the authors from Middle Miocene of south-eastern Europe, is studied using both comparative morphology (including meristics, osteology and otoliths) and phylogenetic analysis (with an expanded morphological matrix of a previous work) and reveals a rich killifish assemblage consisting exclusively of members of 2 new genera of the Valenciidae, †*Miovalencia* gen. nov. and †*Wilsonilebias* gen. nov., each represented by 2 species (three new and one genus reassignment) ; the name †*Wilsonilebias* [† is a tag to signify fossil] is dedicated to Wilson J.E.M. Costa, Brasilian ichthyologist at Rio de Janeiro museum and university who described as new, not less than 287 killifish taxa as species or genus, mainly from South America (plus a few

Nothobranchius taxa, too). 2024. J.S.P., https://www.tandfonline.com/doi/full/10.1080/14772019.2024.2412539#d1e674] {Jean Huber, 26-December-2024} <°))))>< <°))))>< <°))))><

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