

Courtesy of

ARK - Arizona Rivulin Keepers

The Scheel Letters, No. 5

Cynopocilus - Cynolebias - (Leptolebias) Killing of the Hydra (rain-forest-tanks)

In an interesting series of articles ("Experimentelle Pharmakologie des Suesswassers") in the German aquarium magazine, the DATZ0, Hueckstedt, G. in the Oct. 58 issue wrote about the killing of HYDRA by a sudden decrease of the pH of the aquarium water. Using citric acid or acid of wine, he decreased the pH value from a "near-neutral" value to 4.5, and that killed hydra within 2 hours. A value of pH=5.0 also was effective and killed the hydra within one day. He decreased the pH value from about 7.0 to about 6.0, after half an hour to 5.0 and after another 10-15 minutes to 4.5.

This method is very useful in peat-tanks with very soft water and slightly acid water. In such tanks one should never use the common "copper-method" because the copper easily will dissolve in such waters and kill both hydra and fish. I have tried Hueckstedt's method several times and always with good results. But in my opinion the killing of the hydra takes much more time, than in Hueckstedt's tanks. I decrease the pH by using either sulphuric acid or phosphorus acid. As indicator, I now use Bromo-cresol-green which changes from yellow to blue between pH values of 3.6 to 5.2 (British Drug House Indicators. CN2011). I take a certain water sample, normally 200 ml, add Bromo-cresol-green solution and titre with an (unknown) solution of acid until the color changes to pure yellow. Then I count out the amount to use for the tank (remember in all my tanks the water is slightly acid normally, therefore there is no danger of too great concentration of carbon dioxide when adding acid to the water). I then dilute that amount of acid very much with water from the aquarium and add this further diluted acid very slowly (one to two hours) and distribute it into the water by heavy aeration. Now the green and red hydra turn into a whitish color and after one day they are dead. But as Hueckstedt, I do not increase the pH after the treatment. All my various Aphyosemion, the Golden Tail Rivulus, the *Aplocheilus lineatus* do not take any notice of the changed pH value. Some poor *A. calabaricus* that were in a large tank which recently was treated with acid (phosphorous) using this method, now look much more sound, than they did before. My Cryptocorynes and water ferns do not suffer from the low pH value. Neither do my little red snail (I do not know the name; it is not the common red Ramshorn snail). This snail, to my great surprise, used to multiply heavily when I decreased pH by using phosphorous acid (why??). Daphnia survive also.

Two fishes did not stand the sudden decrease of pH: *Aplocheilichthys pumilus* (perhaps *A. katangae*?) and *Aplocheilichthys pelagicus* (perhaps *A. johnstoni*?). Two females of the latter died and only the removal of the other specimens of these two species saved their lives.

The sudden decrease of pH should not be used in alkaline water. If the alkalinity (SBV-Wert) of the water is above 2 ml 0.1 n HCl/100 ml, that will say more than 2 "units", the fishes possibly will be killed by the carbon dioxide, which is liberated by the stronger acid.

Just a few words about the various species that I keep now, and the possibilities of mailing eggs spawned by them:

Aphyosemion

- **The common "australe" (lyre-tail):** I only keep in order to use it in my crosses within the old-world killies. The stock is mixed up with the "hjeresseni" (the orange mutation) and not a pure stock. If you in your country have not had that "hjeresseni" but keep the "good old type", Mullner and I will be very glad to have a few eggs in order to build up a pure stock once more.
- **The common aquarium stock of "bivittatum":** I do not keep at present, but I know where to get them if somebody is very interested in this species.
- **The "calbaricus":** (small, slender, sea-green species) are fed in order soon to go into spawning. Last year the few eggs I mailed did not give live fry, so I am anxious to try this species once more.
- **The "calliurum":** are spawning very plentiful. Yesterday a half grown female gave away 100 eggs within a few hours. I only use the "ahli-type" in the spawning, but as one cannot see what females are, you may raise both "calliurum calliurum" and "calliurum ahli" from the eggs. The eggs often are "resting-fry-type". A very good aquarium species, also in alkaline water on sandy bottom.
- **"Coeruleum":** are fed rain worms and surely will give away many eggs. Within the few fry of 1958, which I raised only to keep the stock alive, I was surprised to find more males than females. Very often this species gives us a large surplus of females. From eggs that Jack sent me in 1958 I raised one male (eggs were frozen). He will be used in the spawning in order to freshen up the stock. Resting fry is the normal condition, when eggs are kept in water until ripeness. Use dry food or dry up the eggs.
- **"Cognatum":** the handsome red species is only kept in one or two pairs. These are not quite ready for spawning, but will be ready within these months. Did any of the few that hatched in Uruguay and Australia in 1958 live until maturity? Resting fry very rarely developed in my stock since 1954. But in the big German aquarium book "Aquarienfische in Wort und Bild" they write that resting fry often appear (alkaline water??).
- **"Filamentosum":** (often called "arnoldi" or "gardneri", the real name is not yet known), the smallest species within the aquarium-kept Aphyosemion is only present in very few pairs, but they are ready for spawning, if somebody would like to have eggs. Breeding is just like "coeruleum". This species is very fitted for experiments of "resting eggs" and "resting fry".
- **"Labarrei":** perhaps the most handsome of all our Aphyosemions. As I did not raise any for my own use in 1958, I found myself in the situation only to have one female this spring. After a good spawning, she found a "leakage" and jumped out and was found completely dry on the floor. Klementsens had a

large surplus of big females, so I had 5 yesterday and spawning can go on. I never had any "resting fry" in this species, which in many respects is not like the other *Aphyosemion* we keep.

- "**Schoutedeni**": Two females and two males are busy, but the females do not give many eggs and also quite a large percentage catch fungus. In weak "incidental" light the male is very handsome indeed. Slow-growing. Resting fry often occurs. This is the type-species of *Aphyosemion*. I had this stock from Mullner in 1958 as eggs.

- "**Sjoestedti**": My stock of only 2 big males and 3 big females, which spawned busy in 1958, is not as good as they should be. From the various batches of peat, which I mailed in 1958 no report of any hatching came in. I then put water on all the rest this spring and hatched one fry (a male). No resting eggs could be found in the peat. Now I spawn the two teams on very fine mud and sieve the mud and collect the eggs. Very many get fungus or decompose inside after 2-4 weeks. Methylene blue penetrates many eggs. Something is wrong and I do not know where to get a new stock if these will not work. But still there is a hope to keep this handsome species alive. Some eggs have been transparent for more than 4 weeks.

Nothobranchius: I only had the eggs during the winter 1958/59. Now I have pairs of "melanospilus" and "kuhntae". These two "species" are very close indeed, so I will cross them when the spawning for you has been finished. The "palmquisti" gave only about 15 fry, all are males, also the fry with Klementsens "male-female" (see "SEX-RATIO"...). I have to hatch more (if possible) from the various batches of dry eggs, which I still keep from the 1958 spawnings, but as this species in 1958 only developed very few "resting eggs" in the various broods, and the resting fry in eggs have been in this state for much too long a time, it certainly will not be very easy to build up a new stock of this teasing species. The "guentheri" is still in the egg-state, because many stocks of this species are kept by other aquarists.

Epiplatys: The "bifasciatus" (see next issue of "Killie-letters") are restricted at least for some months. The "sexfasciatus" have only males. One pair of the "chaperi" are being kept to use in crossings.

Pachypanchax: many pairs are kept from the eggs that Jack sent in 1958. The species is "homolonotus" from Madagascar.

Aplocheilus lineatus: I cannot find any females.

Procatous spec.: I still keep some, but most are males. I shall try to produce some eggs if somebody wants this species. Very slow-growing at the temperature I keep.

Aplocheilichthys: possibly I can find a few eggs of "pumilus" (handsome) and "pelagicus" later this spring. "Spilauchen" (see next issue) are restricted just as *E. bifasciatus*.

Pterolebias: The very elegant and handsome "peruensis" which I got from Jack as eggs in 1958 will be mailed as eggs in peat later. There are still some of the resting eggs that were spawned in Philadelphia before 31 Aug. 58 developing. Some have already been sent. This species as well as the "longipinnis" you will enjoy. My stock of "longipinnis" sent to me as eggs from Foersch in late 1958 have only one female, but she is working hard producing eggs for you. It will take some time before I can ship eggs.

Rivulus: Only "Golden Tail Rivulus" - a very good aquarium species indeed is kept in my own stock, but aquarists here also keep the "cylindraceus". The GTR is spawning very busy, yesterday one half grown female gave 65 eggs within few hours. I am mailing this species now. I had much more males than females from the eggs from USA. Also my own spawnings have mostly males.

Cynolebias: The stock of "bellotti" which Guevara sent me in Dec. 58 as eggs are spawning fine and you soon can order eggs. Some already have been mailed. "Nigripinnis " are still too small for spawning but I keep many "old" eggs, some of these have already been mailed as experiments. Many eggs of "whitei" should be ready, but as they have "resting fry", I have to wait for warmer weather. New stock is near maturity.

"Cynopocilus": I keep a stock of adults in "ladigesi" that easily can be put into spawning condition. Please order if you want this species. Very handsome if the males are kept in very light tanks, in dark tanks the males brown and lack the handsome green tint. But indeed it is a very small fish. The "melanotaenia" have produced many eggs which are waiting for warmer weather in order to be shipped.

Jordanella floridae from Lewis came in alive over the North Pole late 58. Eggs cannot be shipped as they are not tough enough.

These are the killies in my stock at this very moment. As it certainly is not an easy matter to keep all species as adults in spawning condition I hope you will excuse me, if the eggs of species that you need are not shipped at once. Anyhow I shall do my best.