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***Oryzias javanicus* (Tek's stock)**

As all eggs were ripe days before the 07 Sep. 59 (in microscope it was not difficult to see that yolk had been absorbed by the embryo) and as only a few eggs did hatch by themselves I prepared water with dry food and after 12 hours this water was little turbid but no smell came from it. I changed the water in the glass where eggs of "javanicus" were with this water and after less than one hour about 50% of the fry came out. After 12 hours all eggs (but a few with dead fry) were out and normal swimming. As no egg from "minute" Oryzias had hatched at that time and as fry no doubt has been ready for many days, I also changed the water in their glass with "dry food water". Half of the eggs hatched within 1/4 hour, the rest after less than 12 hours. Fry were same size as "javanicus", but thinner. They can by no means be distinguished from "javanicus" not even by behavior. But egg is of quite another type. In the general appearance and in the way of swimming the fry of *Oryzias javanicus* (but not the fry from "latipes") reminds very much of fry from Micropanchax ("loati", "macrophthalmus", "myersi", "pumilus", and "pelagicus"), in particular, the waving movements of the long and slender tail and the heavy pigmentation on the topside. Also fry from Procatopus (much bigger than in the species I keep) are close to these two groups of "lampeyes").

Water Chemistry

The data of water chemistry might be given in several "national" ways and this makes matters more difficult when you are reading foreign articles on those things. Here is some information that will make conversion easier for you.

Hardness

German degrees (also used in Denmark and many other countries): One German degree of hardness is equal to 10 milligrams/liter of calcium oxide (CaO), that is 7.14 mg/l of pure Calcium (Ca) or 0.357 milliequivalents/liter (meq/l) of pure Ca. French degrees (also used in Belgium): One French degree is 10 mg/l of CaCO3. After Pierre Beck (Traite complet de la vie des animaux en aquarium) 1950 "un degree hydrotimetrique" is 10 mg/l of CaCO3 plus H2CO3. USA degrees are related to French degrees and one USA degree is one mg/l (or ppm) of CaCO3. Clark's degrees are used in Britain. One Clark degree is one grain of CaCO3 per gallon. That is 10 mg CaCO3 in 0.7 liters of water.

In the USA and other countries hardness also may be expressed as "parts per million" or "parts per hundred thousand" of $CaCO_3$ in water. 1 German degree = 1.784 French degrees = 1.25 Clark degrees = 17.9 USA degrees 1 French degree = 0.5603 German degrees = 0.7 Clark degrees = 10 USA degrees 1 Clark degree = 0.8 German degrees = 1.4286 French degrees = 14.3 USA degrees 1 USA degree = 1 ppm $CaCO_3$ = 10 p./100 000 = 0.1 French degree = 1 mg/l $CaCO_3$ 1 gr./US gal = 17.1 ppm or mg/l = 0.96 German degrees = 1.71 French degrees 1 gr./Brit. gal = 14.3 ppm or mg/l = 0.80 German degrees = 1.43 French degrees

Alkalinity (or temporary hardness)

The alkalinity expresses the contents of carbonic/hydrocarbonic components in the water (including hydroxide if also OH^- is present). In the common aquarium-keeping you measure the contents of the HCO_3 ion (hydro- or hydrogen-carbonate) when the pH is below 8.2.

1 degree of alkalinity = 1 ccm/l (water sample) of 1-normal HCl, equal to 1 ccm/l of 0.1 normal HCl in 100 ccm water sample. 1 SBV-Wert = 1 degree of alkalinity.

Sometimes the alkalinity will be expressed as "normality" or "equivalents per liter" of HCO_3 (CO_3, OH^-). From the definition of alkalinity you will find that 1 Alc or SBV =0.001 N = 0.001 normal as one liter of 1.0 normal HCl contains 1 equivalent of HCl or 1000 milliequivalents of HCl. One ccm of such acid then contains 1 milliequivalent (meq). A water sample (Lake Naivaska, Kenya) had about 0.003 Normal of alkalinity, that is equal to 3 Alc or SBV.

Aquarists often want to express the alkalinity as Degrees of Temporary Hardness (which not always will be correct). One degree of Temporary Hardness is 0.356 degrees of alkalinity and one degree of alkalinity is 2.8 degrees of Temporary Hardness.