Ultrastructure of the Fertilized Egg Envelope from *Moenkhausia sanctaefilomenae*, Characidae, Teleost

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In case of *Hemigrammus ocellifer*, *Gymnocorymbus ternetzi*, *Hemigrammus caudovittatus* and *Hyphessobrycon serpae* belonging to Characidae, the morphology of micropyle in fertilized egg envelope are the same(Kim *et al.*, 1996; Kim *et al.*, 2005). But it is yet unknown that such a same morphology of micropyle is a common trait of Characidae. The ultrastructure of the fertilized egg envelope from *Moenkhausia sanctaefilomenae* belonging to Characidae was studied by means of light microscope, scanning and transmission electron microscopes to get systematic fundamental data for classification of species and to confirm whether micropyle is a common trait of Characidae or not.

The fertilized egg was of colorless, transparent, spherical, light adhesive and demersal type. There were not oil droplets in vitelline membrane and attached structures in the out side of fertilize egg envelope. The egg envelope has a single micropyle resembling the pathway of sperm in the area of the animal pole. The micropyle was surrounded by 13 to 15 protruded lines of the egg envelope in a radiated form. The outer surface of fertilized egg envelope was covered by adhesive structures and irregularly arranged by pore canals. The fertilized egg envelope consisted of three distinct layers, an outer adhesive layer, a middle layer with pore canals, and an inner layer consisting of 3 lamellated layers.

These ultrastructural characters of fertilized egg envelope from *Moenkhausia sanctaefilomenae* can be utilized in taxonomy of teleost, and as fundamental data for study on early development of fertilized egg. It seems that the morphology of micropyle is a common trait of Characidae.

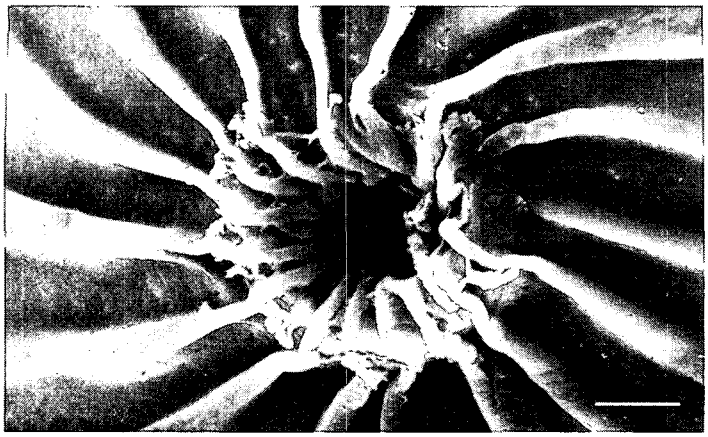

Fig. 1. A scanning electron micrograph of the micropyle in the fertilized egg envelope (scale bar = 10㎛). Note the micropyle surrounded by protruded lines of the egg envelope in a radiated form.

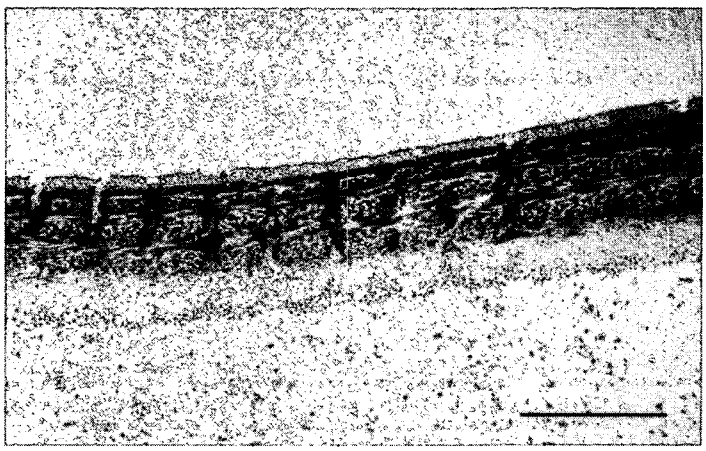

Fig. 2. The cross section of the fertilized egg envelope (scale bar = 1㎛). The egg envelope consisted of three layers, an outer adhesive layer, a middle layer with pore canals, and an inner layer consisting of 3 lamellated layers.