

S-7 **Species diversity and egg membrane of the spinal loaches
(Cypriniformes: Cobitidae) from Korea**

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The two genera *Cobitis* and *Iksookimia* of the family Cobitidae are represented by 10 species in Korea: *Cobitis sinensis*, *C. lutheri*, *C. striata*, *C. melanoleuca*, *Iksookimia koreensis*, *I. pumila*, *I. choui*, *I. longicarpus*, *I. yongdokensis*, and *I. hugowolfeldi*. The genus *Iksookimia* was erected from the genus *Cobitis* by Nalbant in 1993 based on the absence of four Gambetta's zone on the body sides and the elongate second pectoral fin ray in the males. The all loaches of *Iksookimia* are endemic to Korea. And the most species of the two genera are well identified by the lateral color patterns and their lamina circularis in the males and they have the species disjunct ranges in two genera respectively. The cobitid species showed considerable habitat selection such as *Cobitis* occurred mostly on sand bottoms and most *Iksookimia* inhabited on the pebble bottoms. 10 cobitid species were investigated by the light and electron microscope to clarify the structure on the zona radiata of oocytes. In the late vitellogenic stage the egg envelopes could be classified into four forms as follow: 1) granular form of *Cobitis sinensis*, *C. lutheri*, *C. striata*, and *I. yongdokensis* 2) villi form of *C. melanoleuca*, *Iksookimia koreensis*, *I. pumila* and *I. hugowolfeldi*, 3) papillae form of *I. longicarpus*, and 4) grapevine form of *I. choui*. And some species having the same egg form differed each other in their structure. It is very interesting that the fine structures of them are specific and are relate to their spawning environments like substrates or water currents.