

Ploidy Diversity and Reproductive Mode of Unisexual Cobitid Fishes, *Cobitis sinensis*–*longicarpus* Complex (Pisces, Cobitidae)

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The almost female populations, *Cobitis sinensis*–*longicarpus* complex such as hybrid form between *Cobitis sinensis* and *Iksookimia* (= *Cobitis*) *longicarpus* were found in the several tributaries of the Nakdong River, Korea and they were composed of two karyotypic forms: 49 diploid and 73 triploid. In order to know their reproductive modes, the diploid or triploid females of *Cobitis sinensis*–*longicarpus* complex were artificially crossed with diploid male of *C. sinensis* and *I. longicarpus* respectively. In crossing with diploid female complex and diploid male related bisexual species (*C. sinensis* or *I. longicarpus*), the progenies were all triploid form in the karyotype and showed the color pattern on the body sides with the paternal character. And in the crossing with triploid female complex and diploid male related species respectively, all progenies were diploid karyotypes with the paternal characters in the pigmentation. Based on the results of artificial crossings of *C. sinensis*–*longicarpus* complex and the related bisexual species, we assumed that diploid female produced the triploid progenies incorporating from a diploid egg by mitosis without meiosis and a haploid sperm. And also we considered that the triploid female produced the diploid progenies resulting from a haploid ovum by the secondary meiosis after eliminating an uneven genome during the primary meiotic division and a haploid sperm. Thus we believe that females of *C. sinensis*–*longicarpus* complex produced the progenies with a changed ploidy from diploid to triploid and vice versa by hybridizing with a related bisexual species, *C. sinensis* or *I. longicarpus*.