

## 裂腹鱼亚科中的四倍体——六倍体相互关系

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摘要 研究了重唇鱼、裂腹鱼、昆明裂腹鱼和大理裂腹鱼的核型。基于相互间以及与近缘类群的二倍体、四倍体和六倍体鱼类间进行的染色体数、染色体臂数和核DNA含量的比较,第一种被判定为四倍体,第二、三、四种被判定为六倍体。还讨论了裂腹鱼亚科的起源以及该亚科中已研究过核型的鱼类的相互关系和进化分歧等问题。

关键词

分类号

## Tetraploid-hexaploid Relationship in Schizothoracinae

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### Abstract

Karyotypical analyses for *Diptychus* sp., *Schizothorax* sp., *S. grahami* and *S. daliensis* in Schizothoracinae, Cyprinidae, were undertaken based on chromosome preparations of kidney cells. The results were shown in Table 1 and Plates I and II. The tests of nuclear DNA contents of these fishes also were done through Feulgan-cyto-photomicrography. In view of the chromosome numbers, chromosome arm numbers and the nuclear DNA values of these fishes, and the distribution pattern of chromosome numbers and chromosome arm numbers of cyprinid fishes with various ploidies [5], *Diptychus* sp. was estimated to be tetraploid while *Schizothorax* sp., *S. grahami* and *S. daliensis* were hexaploids. Recently, two species in the same subfamily, i.e. *Schizothorax niger*, *Schizothoraxichthys progastus* have been studied karyotypically and supposed to be of tetraploid origin [11, 16]. To a certain extent, our studies seem to support these suppositions. Up to now there have been six species in Schizothoracinae studied, all of them polyploid, including those in the most primitive genus Schizothoracinae studied, all of them and other features of the karyotypes and nuclear DNA contents, a suggestion that Schizothoracinae is of tetraploid origin was presented, and the systemic relationship of these fishes was discussed in the paper. In the past, hexaploid fishes were found only in the genus *Carassius auralus* of Cyprinidae. On the basis of studies of these fishes and their tetraploid and octaploid relatives as well as other triploid fishes, some hypotheses were proposed concerning the problems in fish polyploid evolution, for example, how did polyploids originate? It is apparent that finding the tetraploid-hexaploid relationship in Schizothoracinae and further investigating this group of fishes should be significant in giving an insight into the polyploid evolution of fishes.

### Key words

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