

# THE LATERAL-LINE CANAL SYSTEM CONFIGURATION IN SOME CYPRINIDS

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The cephalic lateral-line patterns have been investigated in more than 800 specimens of 29 European cyprinid fish species. It was found that.

In the fish species investigated there are 27 different cephalic lateral-line patterns.

All of the types found may well be derived from two main types, viz. the T and X types (see fig. 1). The X type appears to be characteristic of species of the subfamily Leuciscinae, the T type for those belonging to subfamilies Cyprininae, Gobioninae and Acheilognathinae.



FIGURE 1

In cyprinids the A type of cephalic lateral line pattern, from which both the T type and the X type can be derived is considered to be ancestral. The A type is found in primitive characids and was found only in one specimen of *Abramis ballerus* (subfamily Leuciscinae).

The reduction of the fishes' cephalic canal system may well be considered to be an evolutionary trend.

The cephalic lateral-line patterns may therefore be used as an auxiliary criterion in classifying the Cyprinidae, especially for the unambiguous separation of the subfamily Leuciscinae.

The abundance of canaliculi (open branches of the canals) as well as of the canal neuromasts is undoubtedly correlated with the development of other sense organs, such as eyes.

The species inhabiting upper water layers possess more canaliculi and, therefore, more sense organs in the cephalic lateral line system (neuromasts) on lower part of head, i.e. in the direction the most probable danger.