

Example: Individuals containing many green factors are judged to have a similar genetic structure.

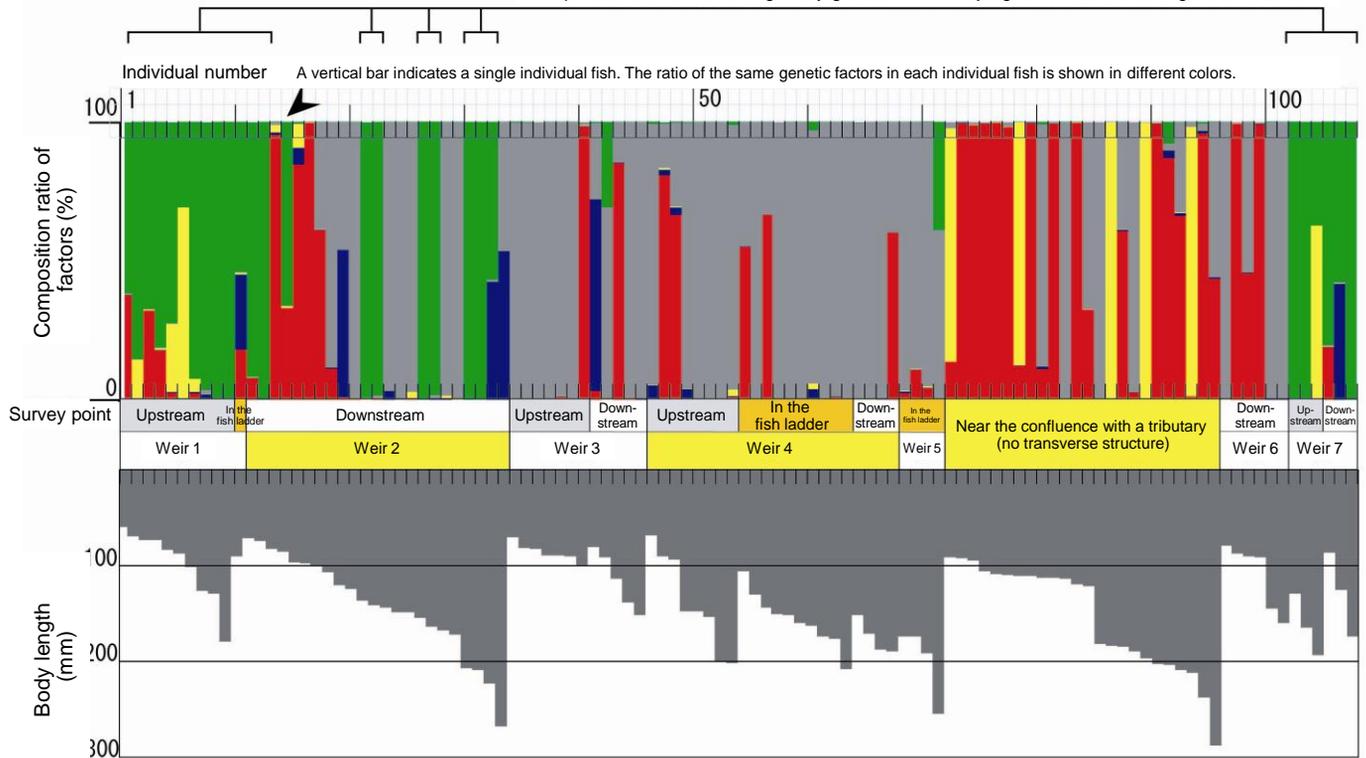


Fig. 3: Relationship between the genetic information of iwana trout and the weir.

The figure shows, from top to bottom, the composition ratio of the genetic factors, the information of the survey points, and the body length of the fish. A vertical bar in the composition ratio of factors indicates a single individual, and the colored bars indicate that they share similar genetic factors. All survey points are located along the same section of river, and what is shown on the left side is the most upstream point. Take Weir 5 for example. There are many individuals containing yellow factors downstream of this weir, but almost no such factors are seen between Weirs 2 and 5. Likewise, almost no green factors are seen between Weirs 3 and 6. If fish were allowed to freely swim through the weirs, there should be no color distribution boundary. The distribution of the individual fish's body length is largely divided into three groups, and it is indicated that groups demarcated by color boundaries contain two or more generations. This information consequently allows us to assume the existence of some factor (or factors) preventing the fish from freely moving up and downstream in the river around the areas Weir 5 and 6.