

Revealing the mechanisms of rostral shift of pelvic fins among teleost fishes

真骨魚類の多様化戦略 —腹鰭の位置設定機構—

Mikiko Tanaka (Tokyo Institute of Technology)

田中幹子 (東京工業大学大学院生命理工学研究科)

In teleost fishes, the position of the pelvic fins has shifted rostrally during evolution; this positional shift seems to have diversified their locomotion and feeding behavior, thereby expanding the types of habitats. Thus, such a positional shift of the pelvic fins is one of the significant features of teleost fishes from evolutionary, embryological, and taxonomical viewpoints, but no studies to date have investigated the mechanism for the rostral shift of the pelvic fins from the cloacal region in teleosts. Examining the fate of the prospective pelvic fin cells of zebrafish and Nile tilapia embryos demonstrates that the prospective pelvic fin cells are initially located near the anus, as seen for the hindlimbs of tetrapods, but their position shifts with respect to the body trunk after its protrusion from the yolk surface. In this symposium, we highlight such recent findings and discuss the mechanisms of pelvic fin evolution among teleost fishes.

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