

〈シンポジウム〉

第48回日本香粧品学会(2023)・シンポジウム「皮膚色アップデート; 目から鱗のお話」

性的嗜好の研究モデルとしてのメダカ

深町昌司*

Medaka as a Research Model for Sexual Preference

Shoji FUKAMACHI*

Abstract

Humans mate with sexually preferable partners. The same goes for other animals, including medaka (*Oryzias latipes*), a freshwater teleost native to the Far East. This model vertebrate has been a useful platform for studying, for example, genetics and developmental biology, and its results have often provided important clues for understanding humans. Recent researches focusing on its mating behavior have revealed that medaka choose reproductive partners based on visual cues. Two body-color variants, *color interfere* (*ci*) and Actb-SL α :GFP (soma), strongly prefer mates of the same strain (i.e., they mate assortatively) under white light, but the preferences are not reproduced under monochromatic light. In addition, the *ci* and soma medaka with mutations on a part of the *cone-opsin* genes decrease the sexual preference, likely because of the colorblindness. These results indicate that they sexually prefer colors rather than shapes, scents, or movements. The sexual preference seems to be established during growth and is influenced by the body colors of neighboring fish and one's own coloration. Once established, the sexual preference is firmly maintained for months, even if the fish repeatedly experience matings with unpreferable partners. These characteristics of sexual preference would share common aspects between medaka and humans, which may aid in understanding and addressing undesirable sexual preferences such as pedophilia, molestation, and voyeurism.

Key words: medaka, mate choice, sexual preference, body color, somatolactin alpha.