Seminars in Zoophysiology at Aarhus University

Stress coping styles in teleost fish – genetic factors and plastic responses to social experience

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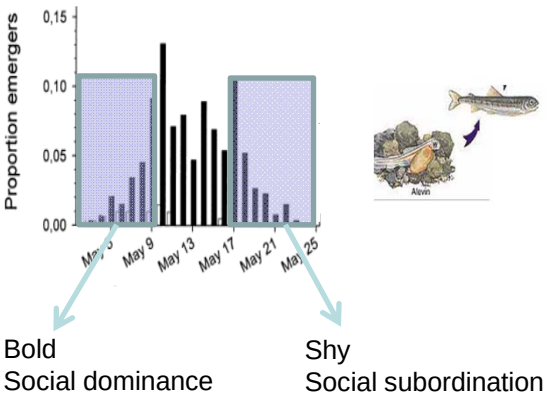
Intraspecific variability in behaviour has been described in numerous species. Moreover, behavioural traits form divergent clusters, or profiles, and if consistent over time and context, such behavioural profiles have been described as personality or divergent stress coping styles. Stress coping style is at least in part heritable. However, stress coping is also affected by environmental factors, especially factors related to the social environment. Social subordination usually results in a more reactive behavioural profile whereas experience of being socially dominant has the opposite effect. Coping style also appears to be related to life history traits. In Atlantic salmon (*Salmo salar*) fish leaving the nest early, before consuming the yolk, display more of a proactive coping style whereas those leaving the nest late appear more reactive. Proactive and reactive stress coping styles is related to differences in brain serotonergic neurotransmission and the expression of genes associated with the brain serotonergic and dopaminergic systems.



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coffee room at Zoophysiology, building 1131