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Morphological distinctness despite large-scale phenotypic plasticity – analysis of wild and pond-bred juveniles of allopatric populations of *Tropheus moorii*

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Cichlids are an excellent model to study explosive speciation and adaptive radiation. Their evolutionary success has been attributed to their ability to undergo rapid morphological changes related to diet, and their particular breeding biology. Relatively minor changes in morphology allow for exploitation of novel food resources. The importance of phenotypic plasticity and genetically based differences for diversification was long recognized, but their relationship and relative magnitude remained unclear. We compared morphology of individuals of four wild populations of the Lake Tanganyika cichlid *Tropheus moorii* with their pond raised F1 offspring. The magnitude of morphological change via phenotypic plasticity between wild and pond-bred F1-fish exceeds pairwise population differences by a factor of 2.4 (mean Mahalanobis distances).

The genetic and environmental effects responsible for among population differentiation in the wild could still be recognized in the pond-bred F1-fish. All four pond populations showed the same trends in morphological change, mainly in mouth orientation, size and orientation of fins and thickness of the caudal peduncle. As between population differentiation was lower in the wild than differentiation between pond-raised versus wild fish, we suggest the narrow ecological niche and intense interspecific competition in rock habitats is responsible for consistent shape-similarity, even among long-term isolated populations.