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Caudal Fin Skeletal Development: A Comparison Between *Moenkhausia Sanctaefilomenae* and *Danio Rerio*

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Poster Presentation P9

**CAUDAL FIN SKELETAL DEVELOPMENT: A COMPARISON BETWEEN
MOENKHAUSIA SANCTAEFILOMENAE AND *DANIO RERIO***

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Our research is focused on elucidating the developmental mechanisms that underlie morphological diversity among closely related organisms. In this study, embryological and histological techniques were used to analyze developmental variation in the caudal fin between two species of fishes, *Moenkhausia sanctaefilomenae* and *Danio rerio*. To visualize the patterning of cartilage and bone growth in the caudal fin, whole mount Alizarin red and Alcian blue staining was used to bind calcium and cartilage extracellular matrix, respectively. Thus, the dynamic processes of cartilage growth and endochondral ossification could be visualized at various larval developmental time-points. When comparing the *M. sanctaefilomenae* and *D. rerio*, time-points that are correlated with significant changes in the developing caudal fin could be established and used for frames of reference. In general, *M. sanctaefilomenae* displayed more rapid skeletal development in the caudal fin than did *D. rerio*. The next step of our research will include the analysis of genes known to be responsible for skeletal development in order to account for the differences observed between these two species.