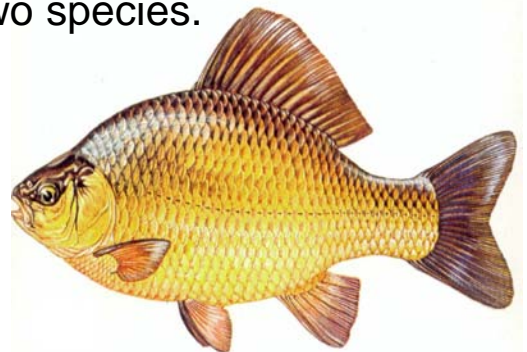




# Beating without oxygen: Cardiovascular status and its control in the champions of prolonged anoxia survival

Dr Jonathan Stecyk  
University of Oslo, Norway

Most vertebrates die within minutes when deprived of molecular oxygen (anoxia) because the heart and brain requires a continuous supply of oxygen. However, a few specialized vertebrates exhibit the remarkable ability to survive anoxia for hours, days and even months. The freshwater turtle (*Trachemys scripta*) and crucian carp (*Carassius carassius*) are undoubtedly the most impressive examples of such vertebrates. Both these species overwinter in ice-covered ponds where inhibited photosynthesis and oxygen diffusion from the air leads to progressively hypoxic (low oxygen), and ultimately anoxic conditions. Yet, under these conditions, their heart continues to function. This presentation will describe how the freshwater turtle and crucian carp exhibit distinctly different cardiac responses and cardiovascular control mechanisms during anoxia and I will discuss how these differences reflect the contrasting anoxia-survival strategies utilized by the two species.



Friday Sept 9<sup>th</sup> at 10.15 at Zoophysiology