

## **Distance estimation mechanisms in *Anura***

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For proper spatial orientation, animals utilize information about the physical parameters of the external objects. The aim of this work is to discuss what is known about constancy mechanisms of size and distance perception in frogs and toads. The stimuli were moving colored spheres with varying parameters which were color, size, velocity, and background texture. In the absence of structural background, prey-catching or escape responses of frogs and toads to the stimuli moving around on fixed distances were triggered depending on the perceived size of the object and perceived distance. Inappropriate reactions, i.e. escape of a prey-size object and trying to catch a very large one were evidently due to wrong estimation of the distance to the moving object. Functionally, such behavior corresponded to human visual illusions. In monocular vision conditions, pond frogs were provoked to demonstrate different approach behavior in response to an imitation of a moving off or oncoming prey when the distance to a "prey" was not changed. The key parameters that provoked the illusion were small changes of the object location on the monitor and the size of the object.