

Photoreceptor distribution in retina of the spadefoot toad (*Pelobates fuscus*)

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*Pelobates fuscus* is a fossorial species which is active mostly at night. Thus, it is often preyed on by some owl species. Vision may be an important aspect of selection. In this study our objective was to study the photoreceptor types of spadefoot toad and its distribution in the retina. The animals were collected from nature with the permission of the Danube-Drava National Park. We used light-, fluorescence- and electron microscopic methods in our experiments. We made 1  $\mu\text{m}$  thick sections of resin embedded material and stained it with toluidine blue. Based on the light microscopy, we identified two types of rods and one type of cone. Because of the unusual structure of the cone (i.e. lack of a clear oil droplet) we made immuno labeling with primary antibody against cone opsin (COS-1) to demonstrate presence of the cones. We determined the ratio of cones and rods in five location (dorsal, nasal, ventral, temporal, central) of the retina. We found that about 10 % of the photoreceptors were cones and there was only a small difference among location within the retina. We found most of the cones in the central part of the retina and least in the ventral part. Retinal distribution of the cones were examined in wholemout using immunocytochemistry and the results supported the light microscopy observations. Current results indicate the presence of a single cone type. To verify this finding, and also because of the unusual cone structure observed in 1  $\mu\text{m}$  thick section, we decided to study the cones in the electron microscope. We did not find oil droplet in the cones which are presents in all the anuran species studied formerly however there is a dense material in the place of the oil droplet in the inner segment. To our surprise we found 3 morphologically distinct rod types, one minor and two major rods.