COMPARISON OF FISH SKIN COLOR

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The color hue and the saturation of the fish skin are important factors in fish breeding. Values of these parameters depend on the environment and the fodder. Once we have our samples, treated under different conditions, the comparison can be done automatically from the snapshots of the fish. We are using Image processing methods to find and select the object position and area in the picture. For reducing color space the conversion from RGB to chromatic colors was done:

$$r = \frac{R}{(R+G+B)} \quad g = \frac{G}{(R+G+B)}$$

The blue color is redundant, because r + g + b = 1. Then the skin thresholds of fish specie have to be set from the best chromatic histogram. After all, across all pixels of the selected area but in the original image, and all same-specie-sample pictures, the average color is calculated. Another conversion, to the HSV space is computed. Relative deviation between saturation of samples under standard and improved conditions results the prominent information. All algorithms have been created in MATLAB environment.
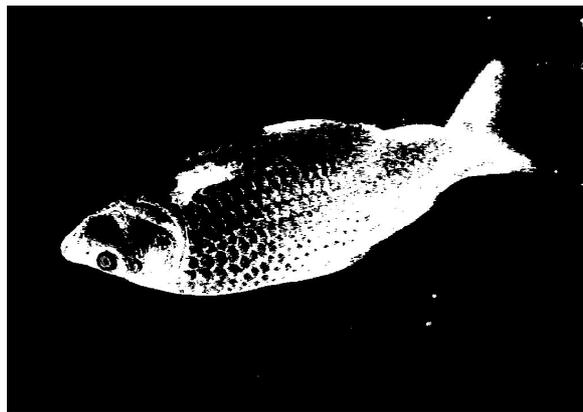

Figure 1: Thresholded area of fish body using chromatic colors

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