

Comparative histomorphometry of dorsal, ventral and lateral skin in macroscopy, microscopy and free scale fish

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Abstract

To perform this study, three species of fish, macroscopic scaled fish as *Otolithes ruber*, microscopic scaled fish as *Huso huso* and free scaled fish as *Pangasius hypophthalmus* were prepared and sampling of different parts of the dorsal, ventral and lateral surface was carried out. Routine procedures of tissues preparation were followed and paraffin blocks were cut at 4-6 micron, stained with H&E and studied under a light microscope. Results by (H&E) staining showed that epidermis formed non keratinized stratified squamous epithelium with mucous goblets like cells, taste bud and club cells. Mucous cells were along with the superficial cells layers and their distributions varied. In histomorphometry studies, the highest number of mucous cells were seen in dorsal regions, and the lowest were seen in the ventral region. The goblet cells were mostly secreted in the middle layers and they were drawn to the surface layer of skin. The club cells, with a large nucleus, mostly founded in deep and intermediate layers. These cells were not seen in the lateral surfaces of all three species. Taste buds was seen on ventral surface and in catfish the number of them was high. According to histometric results, except for goblet cells, in all other studied cases, there were significant differences in all three species in dorsal, ventral and lateral surface.

Keywords: Skin, *Otolithes ruber*, *Huso huso*, *Pangasius hypophthalmus*, Histomorphometry

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