

COMPARATIVE SURFACE ARCHITECTURE OF THE GENERAL BODY EPIDERMIS OF SOME HILL-STREAM FISHES OF KUMAUN HIMALAYA

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ABSTRACT

Surface architecture of the epidermis covering the general body of hill-stream fishes, *Garra gotyla* (Hamilton) (Cyprinidae), *Pseudocheneis sulcatus* (McClelland) (Sisoridae) and *Glyptothorax pectinopterus* (McClelland) (Sisoridae) was examined by scanning electron microscopy, in an attempt to understand the structural and functional modifications in epithelia, in relation to life in torrential streams. Mucous pores (opening of mucous cells) were frequently present in *G.gotyla* and epithelial cells were visualized to have developed a dense network of irregularly interwoven microridges which could be interpreted as a means to retain maximum possible mucus at the surface of the epithelial cells in *G.gotyla* in order to protect against physical abrasions. The epithelial cells of *P.sulcatus* were characterized by the presence of well developed microridges. These microridges have been correlated to provide reserve surface area for stretching, when manoeuvring of fish. In *G.pectinopterus* body surface is covered by numerous unculiferous plaques. These plaques are separated each other by epidermal furrow. These uncili evidently facilitate rasping or adhesion by increasing the roughness of the skin.

KEY WORD: GBE, Kumaun Himalaya, Hill-stream fish, SEM.

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