

Colour Change and melenophores response in ateleast: Balantiochilous melenopterus (Bleeker) with Certain Chemicals and Drugs

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Abstract : Fishes can change their body colour according to their surroundings by. They do so by either aggregation or dispersion of melanosomes within the skin. These movements can regulate by means of sympathetic nerves with the help of cytoskeleton. Employing the melanophores on isolated scales of the fingerling of teleost fish, it is attempted to characterise the concerned nerves and the receptors located on melenocytes along with implication of microtubules a part of cytoskeleton in the pigmentary translocation in the fish. The scales from dorso-lateral trunk of the fish represented the sympathetic-neuromelanophore preparations which were stimulated by chemical means, such as adrenergic agonist, antagonist and the microtubule-disrupting drugs such as yuhombine, dopamine, colchicine etc. Adrenaline is an adrenergic agonist which is strongly induced the dorse-dependent concentration of pigment in innervated melanophores while Yohimbine is an adrenergic antagonist which is known to block effectively the $\alpha 2$ -adrenoceptors inhibited the action of adrenaline. Colchicine effectively interferes with melanosome aggregating action of adrenaline. From these results it is concluded that the chromatic fibres of adrenergic nature innervate the melanophores and these cells do possess $\alpha 2$ -adrenoceptors which mediate the melanosome aggregation and the movements of pigment granules through microtubules means of transport within the cell. These movements of pigment are linked to paling or darkening achieved of teleost fish respectively when they approach to their background.

Keywords : melenophores, agonists, antagonist, colour change

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