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and renal succinoxidase activity ($90 \mu\text{l O}_2/100 \text{ mg DNA/min}$) are 9 to 10 times greater than in the latter. Comparative data from various species show that there is a significant correlation ($P < .01$) between TmPAH and renal succinoxidase activity in the goosfish, frog, dog, cat and rat.

The Morphogenesis of Regenerating Scales In *Fundulus Heteroclitus*

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The cycloid scales of teleost fishes are capable of regenerating *in situ* soon after their removal. Since they are acellular structures, their replacement is accomplished by the calcification of the intercellular matrix in the vicinity of the dermal scleroblasts left behind after the scale has been plucked. Although scales can be successfully transplanted in the integumentary "pockets" from which they were removed, where they will resume growth, their implantation in other regions of the body is followed by resorption. Scales transplanted to fins or to intraocular sites were invariably eroded, presumably due to the paucity of scale-forming cells.

In other experiments, the ability to repair defects inflicted on scales was investigated. Various regions of scales were removed and the remaining parts were placed into the scale pocket to determine, after a suitable length of time, if the missing parts would be regenerated. If the anterior (proximal) region of a scale was removed by transverse bisection or by cutting a notch in the scale, regeneration of the removed parts occurred. Similarly, longitudinal bisection of the scale resulted in the replacement of the absent part adjacent to the residual half of the scale. Conversely, when posterior (distal) parts of the scale were removed, regeneration seldom occurred. It is concluded that the restoration of lost parts of scales, like that of entirely removed scales, depends upon the presence of scleroblasts capable of mediating calcification. The failure of scale regeneration in the more posterior regions, where the skin adheres to the removed scale, is apparently attributed to the absence of residual scleroblasts in such areas.

Site of Urine Acidification in the Dogfish

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The ventral surface of the kidneys of unanesthetized dogfish (*Squalus acanthias*) was visualized microscopically and micropuncture of individual tubules performed. An aqueous solution of phenol red was injected with a micropipette into renal tubules to determine the site of the acidification of