

DISTRIBUTION OF PIGMENT CELLS IN THE HEART OF THE RABBITFISH, *CHIMAERA MONSTROSA* (CONDRICTHYES: HOLOCEPHALI)

Distribution of Pigment Cells in the Heart of the Rabbitfish, *Chimaera monstrosa* (Chondrichthyes: Holocephali)

Melanophores, Heart, Chondrichthyes, Holocephali

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The study of extracutaneous cells producing and storing melanin is of interest because it may provide valuable information about the presence of neural crest elements in internal organs and tissues. The aim here is to report for the first time the presence and distribution of melanophores in the heart of a chondrichthyan species, namely, the rabbitfish, *Chimaera monstrosa*. Pigment cells were found in all of 20 hearts examined. They occurred mainly in the cardiac outflow tract, which consists of two anatomical components, the proximal, myocardial conus arteriosus and the distal, non-myocardial bulbus arteriosus. A few groups of dark pigmented cells were found in the apex of the ventricle of one specimen and in the atrium of two specimens. In all instances, the melanophores were located in the subepicardial space, where they could be well recognized in both unstained and stained histological sections. The distribution and intensity of the pigmentation in the cardiac outflow tract varied markedly between individuals. In all cases, however, the pigmented area was larger on the dorsal than on the ventral surface. Dorsally, the size of the pigmented area ranged from a fringe that included the bulbus and the distal part of the conus to the whole surface of the outflow tract. Ventrally, the pigmented area did not cover the entire conus arteriosus. The intensity of the pigmentation also varied widely; in general, it was highest at the distal portion of the conus. There was no relationship between the distribution and intensity of the pigmentation and the sex and age of the animals. The functional role of the pigmented cells is unknown. If the melanophores found in the present specimens are indeed of neural crest origin, it would suggest a notable contribution of the neural crest cells to the cardiac outflow tract in holocephalans.

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