

Autonomic Neurons in the Digestive Tract of some Fish and Amphibia.

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In birds and mammals, the autonomic neurons and their extension give a plexiform sottomucosal and myenteric network with large and intramural ganglia located in the knots of the strands (Gabella, *Neurosci.*, 22, 1987; Balaskas *et al.*, *Anat. Embryol.*, 192, 1995). The aim of this work was to describe and compare the enteric nervous system of different fish species and amphibia as there are few studies concerning these aspects. The gut of some fish species (*Onchorynchus mykiss*, *Cyprinus carpio*, etc.) and amphibia (*Rana esculenta*) were isolated, immersed in detergent solution and then incubated in a NADH-diaphorase enzymatic solution (Gabella, *Experi.*, 25, 1969). Wall laminae *in toto* were observed: in the fish, the perikarya were in the outer longitudinal muscular layer, close to the serosal surface. In some species the neurons ran straight along the longitudinal axis of the intestine, in others the distribution was not so regular. The neuronal population was variable and it was not possible to find ganglia and plexiform networks. The enteric neuron density decreased gradually along the length of the gut in only some of the fish species. In the species which presented a well-developed stomach there were higher neuronal concentrations than intestinal tracts. In the *Rana esculenta*, it observed almost a transition from the well delineated plexiform aspect with ganglia to the less well defined in the fish. Furthermore, in the terminal sections of the intestine, there were new forms of neurones and a sudden increase in their density.