

REFERENCES

- Adams, J.C. (1977). Technical considerations on the use of horseradish peroxidase as a neuronal marker. *Neuroscience*, 2(1), 141-145.
- Adli, D.S.H, Rosenthal, B.M., Yuen, G.L., Ho, R.H. and Cruce, W.L.R. (1998). Immunohistochemical localization of substance P, somatostatin, enkephalin and serotonin in the spinal cord of the northern leopard frog, *Rana pipiens*. *Journal of Comparative Neurology*, 275, 106-116.
- Mohsin, A.K.M. and Ambak, M.A. (1990). *Freshwater fishes of Peninsular Malaysia*. Selangor: Universiti Pertanian Malaysia.
- Anderson, M.J., Fong, H.L. and Waxman, S.G. (1985). Retrograde labeling of regenerated electromotor neurons with HRP in a teleost fish, *Sternarchus albifrons*: relation to cell death. *Cell and Tissue Research*, 241, 237-240.
- Bancroft, J.D. and Gamble, M. (2002). *Theory and practice of histological techniques* (5th ed.). New York: Churchill Livingstone.
- Bernhardt, R.R., Chitnis, A.B., Lindamer, L. and Kuwada J.Y. (1990). Identification of spinal neurons in the embryonic and larval zebrafish. *The Journal of Comparative Neurology*, 302(3):603-616.
- Bond, C.E. (1979). *Biology of fishes*. Philadelphia: Saunders College Publishing.
- Breder, C.M. (1926). The locomotion of fish. *Zoologica (New York)*, 4, 159-256.
- Chiken, S., Hatanaka, N., and Tokuno, H. (2001). Distribution of median, ulnar and radial motoneurons in the monkey spinal cord: a retrograde triple-labeling study. *Neuroscience Letters*, 307(3), 143-146.

- Chusid, J.G. and McDonald, J.J. (1964). *Correlative neuroanatomy and functional neurology*. Canada: Lange Medical Publications.
- Clarke, E. and O'Malley, C.D. (1996). *The human brain and spinal cord: a historical study illustrated by writings from antiquity to the twentieth century*. Norman Publishing.
- Coghill, G.E. (1913). The primary ventral roots and somatic motor column of *Amblystoma*. *Journal of Comparative Neurology*, 23, 121-143.
- Crowe, M.J., Bresnahan, J.C., Shuman, S.L. Masters, J.N. and Beattie, M.S. (1997). Apoptosis and delayed degeneration after spinal cord injury in rats and monkeys. *Nature Medicine*, 3, 73-76.
- Valenciennes, A. and Cuvier, G. (1840). Histoire naturelle des poissons. Tome quinzième. Suite du livre dix-septième. Siluroïdes. Histoire naturelle des poissons v. 15: i-xxxii + 1-540, Pls. 421-455.
- Darling, D. (1999). Encyclopedia of Science. Retrieved 15 October 2008, from http://www.daviddarling.info/encyclopedia/S/spinal_nerve.html
- Denizot, J.P., Libouban, S. and Szabo, T. (1983). Anatomical study and HRP identification of electromotoneurons and motoneurons in the spinal cord of *Gymnarchus niloticus*. *Experimental Brain Research*, 53, 99-108.
- Drucker, E.G. and Jensen, J.S. (1996). Pectoral fin locomotion in the striped surfperch. I. Kinematic effects of swimming speed and body size. *Journal of Experimental Biology*, 199, 2235-2242.
- Edwards, A., Imwold, D., and Parker, I. (2002). *The human body atlas*. Kent: Grange Books.

- Fetcho, J.R. (1986). The organisation of the motoneurons innervating the axial musculature of vertebrates. I. Goldfish (*Carassius auratus*) and mudpuppies (*Necturus maculosus*). *The Journal of Comparative Neurology*, 249, 521-550.
- Fetcho, J.R. (1986a). The organisation of the motoneurons innervating the axial musculature of vertebrates. II. Florida water snakes (*Nerodia fasciata pictiventris*). *The Journal of Comparative Neurology*, 249, 551-563.
- Fetcho, J.R. (1987). A review of the organisation and evolution of motoneurons innervating the axial musculature of vertebrates. *Brain Research Reviews*, 12, 243-280.
- FitzGerald, M.J.T. (1985). *Neuroanatomy basic & applied*. England: Bailliere Tindall.
- Frixione, E. (2009). Cajal's second great battle for the neuron doctrine: the nature and function of neurofibrils. *Brain Research Review*, 59(2), 393-409.
- Funakoshi, K., Toshio, A. and Kishida, R. (2004). The spinal sympathetic preganglionic cell column in the puffer fish, *Takifugu niphobles*. *Cell and Tissue Research*, 284(1), 111-116.
- Gibb, A, Jayne, B.C., and Lauder, G.V. (1994). Kinematics of pectoral fin locomotion in the bluegill sunfish *Lepomis macrochirus*. *Journal of Experimental Biology*, 189, 133-161.
- Goodson, J.L. (2005). The vertebrate social behavior network: evolutionary themes and variations. *Hormones and Behavior*, 48, 11-22.
- Gordon, D.C., Loeb, G.E. and Richmond, F.J.R. (1991). Distribution of motoneurons supplying cat sartorius and tensor fasciae latae, demonstrated by retrograde multiple-labelling methods. *The Journal of Comparative Neurology*, 304, 357-372.
- Greenwood, P.H. (1931). *A history of fishes*. New York: Hill and Wang.

- Ham, A.W. (1965). *Histology* (5th ed.). London: Pitman Medical Publishing Co., LTD.
- Hamal, K. (2010). Brain flow chart. *Science and Technology*. Retrieved 15 October 2008, from <http://technologysifi.blogspot.com/2010/03/brain-flow-chart.html>
- Harder, W. (1975). *Anatomy of Fishes*. Germany: Hans Richarz Publications.
- Harris, J.E. (1938). The role of the fins in the equilibrium of the swimming fish: II. The role of the pelvic fins. *Journal of Experimental Biology*, 15, 32-47.
- Herrick, C.J. and Coghill, G.E. (1915). The development of reflex mechanisms in *Amblystoma*. *Journal of Comparative Neurology*, 25, 65-85.
- Jacob, J.M. (1998). Lumbar motor neuron size and number is affected by age in male F344 rats. *Mechanism of Ageing and Development*, 109(1-2), 205-216.
- Jameie, B., Matsumoto, H. and Kitamura, S. (2005). An HRP study of localization and topographical mapping of the motoneurons supplying the rat serratus anterior muscle. *Iranian Journal of Science and Technology, Transaction A*, 29(A1), 9-17.
- Jenny, A.B. and Inukai, J. (1983). Principles of motor organisation of the monkey cervical spinal cord. *The Journal of Neuroscience*, 3(3), 567-575.
- Kandel, E.R., and Schwartz, J.H. (1985). *Principles of neural science* (2nd ed.). New York: Elsevier Publishing Co., Inc.
- Kitamura, S., Sakai, A. and Nishiguchi, T. and (1980). A cytoarchitectonic study of the classification of the ventral horn cell groups in the rat cervical spinal cord. *Journal of Osaka University Dental School*, 25, 186-202.
- Kotrschal, K., Whitear, M. and Finger, T.E. (2004). Spinal and facial innervation of the skin in the gadid Ffsh *Ciliata mustela* (Teleostei). *The Journal of Comparative Neurology*, 331, 407-417.

- Kwon, B.K., Oxland, T.R., and Tetzlaff, W. (2002). Animal models used in spinal cord regeneration research. *Spine*, 27(4), 1504-1510.
- Kristensson, K. and Olsson, Y. (1973). Diffusion pathways and retrograde axonal transport of protein tracers in peripheral nerves. *Progress in Neurobiology*, 1, 85-109.
- Ladich, F. and Bass, A.H. (1998). Sonic/vocal motor pathways in catfishes: Comparisons with other teleosts. *Brain, Behavior and Evolution*, 51, 315-330.
- Lagler, K.F., Bardach, J.E., Robert, M. and Passino, D.R.M. (1977). *Ichthyology*. New York: John Wiley & Sons.
- Lamb, A. (1976). The projection patterns of the ventral horn to the hind limb during development. *Developmental Biology*, 54, 82-99.
- Landmesser, L. (1978). The distribution of motoneurons supplying chick hind limb muscles. *Journal of Physiology*, 284, 371-389.
- Lange, W. and Leonhardt, H. (1978). Paired vessels in the spinal cord of rhesus monkey and cat. *Anatomy and Embryology*, 152(3), 325-239.
- Lauder, G.V. (1989). Caudal fin locomotion in ray-finned fishes: Historical and functional analyses. *American Zoologist*, 29, 85-102.
- Lauder, G.V. and Drucker, E.G. (2004). Morphology and experimental hydrodynamics of fish fin control surfaces. *IEEE Journal of Oceanic Engineering*, 29(3), 556-571.
- Lawson, R. (2007). Anatomy and physiology of animals motor neuron. *Wikimedia Laboratories*. Retrieved 22 January 2009, from http://en.labs.wikimedia.org/wiki/File:Anatomy_and_physiology_of_animals_Motor_neuron.jpg

- Liao, L. and Lauder, G.V. (2000). Function of the heterocercal tail in white sturgeon: Flow visualization during steady swimming and vertical maneuvering. *Journal of Experimental Biology*, 42, 813-826.
- Liu, D.W. and Westerfield, M. (1988). Function of identified motoneurons and coordination of primary and secondary motor systems during zebra fish swimming. *Journal of Physiology*, 403, 73-80.
- Marketoss, G. and Skiadas, P.K. (1999). Galen: A pioneer of spine research. *Spine*, 24 (22), 2358-2362.
- Moyle, P.B. and Cech, J.J. (1988). *Fishes – an introduction to Ichthyology*. United States of America: Prentice-Hall.
- Muhamad, M.A. (1995). *Neurofisiologi asas*. Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Myers, P.Z. (1985). Spinal motoneurons of the larval zebrafish. *Journal of Comparative Neurology*, 236, 555-561.
- Nauen, J.C. and Lauder, G.V. (2002). Hydrodynamics of caudal fin locomotion by chub mackerel, *Scomber japonicas* (Scombridae). *Journal of Experimental Biology*, 205, 1709-1724.
- Nieuwenhuys, R., Donkelaar, H.J., and Nicholson, C. (1998). *The central nervous system of vertebrates*, 2. Berlin: Springer.
- Nishikawa, K.C., Roth, G. and Dicke U. (1991). Motor neurons and motor columns of the anterior spinal cord of salamanders: Posthatching development and phylogenetic distribution. *Brain, Behavior and Evolution* 1999, 37, 368-382.
- Onuki, A., Ohmori, Y. and Somiya, H. (2005). Spinal nerve innervation to the sonic muscle and sonic motor nucleus in red piranha, *Pygocentrus nattereri* (Characiformes, Ostariophysi). *Brain, Behavior and Evolution* 2006, 67, 111-122.

- Orsini, J.A. and Pollock, R.V.H. (1991). Evaluation of three techniques to demonstrate retrograde transport of horseradish peroxidase. *Journal of Investigative Surgery*, 4, 75-79.
- Ottoson, D. (1983). Physiology of the nervous system. New York: Oxford University Press.
- Parker, S. (2007). *The human body book*. Great Britain: Dorling Kindersley Limited.
- Pearce, J.M.S. (2008). The development of spinal cord anatomy. *European Neurology*, 59(6), 286-291.
- Portavella, M. and Vargas, J.P. (2005). Emotional and spatial Telencephalic Pallial Systems. *European Journal of Neuroscience*, 21(10), 2800-2806.
- Reimchen, T.E. and Temple, N.F. (2004). Hydrodynamic and phylogenetic aspects of the adipose fin in fishes. *Canadian Journal of Zoology*, 82(6), 910-916.
- Roberts, A., and Clarke, J.D.W. (1982). The neuroanatomy of an amphibian embryo spinal cord. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 296, 195-212.
- Rockefeller University (2009, April 13). Scientists show how a neuron gets its shape. *ScienceDaily*. Retrieved June 4, 2011, from <http://www.sciencedaily.com/releases/2009/04/090403114829.htm>
- Romanes, C. (1951). The motor cell columns of the lumbosacral spinal cord of the cat. *Journal of Comparative Neurology*, 94, 313-364.
- Rose, J. D. (2002). The neurobehavioral nature of fishes and the question of awareness and pain. *Reviews in Fisheries Science*, 10(1), 1-38.

- Roth, G., Nishikawa, W., Dicke, U., and Wake, D.B. (1988). Topography and Cytoarchitecture of the Motor Nuclei in the Brainstem of Salamanders. *The Journal of Comparative Neurology*, 278, 181-194.
- Roth, G. and Wake, D.B. (1985). The structure of the brainstem and cervical spinal cord in lungless Salamanders (family Plethodontidae) and its relation to feeding. *Journal of Comparative Neurology*, 241, 99-110.
- Schmalhausen, I. 1916. On the functions of the fins of the fish. *Revue Zoologique Russe (Moscow)*, 1, 185-214.
- Schneider, H. and Sulner, B. (2006). Innervation of dorsal and caudal fin muscles in adult zebrafish *Danio rerio*. *The Journal of Comparative Neurology*, 497, 702-716.
- Shupliakov, O., Wallen, P., and Grillner, S. (1992). Two types of motoneurons supplying dorsal fin muscles in lamprey and their activity during fictive locomotion. *The Journal of Comparative Neurology*, 321, 112-123.
- Standen, E.M. and Lauder, G.V. (2005). Dorsal and anal fin function in bluegill sunfish *Lepomis macrochirus*: Three-dimensional kinematics during propulsion and maneuvering. *Journal of Experimental Biology*, 208, 2753-2763.
- Stephens, N. and Holder, N. (1985). A horseradish peroxidase study of motoneuron pools of the forelimb and hindlimb musculature of the axolotl. *Proceedings of the Royal Society B: Biological Sciences*, 224, 325-339.
- Talwar, P.K. and Jhingran, A.G. (1991). *Inland fishes of India and adjacent countries*, 2. Rotterdam: A.A. Balkema.
- Tandheelkd, N.T. (1988). The scientific production of Gerard Blasius (1626-1682). *Pubmed*, 96(7), 271-276.
- Tortora, G.J. (1986). *Principles of human anatomy* (4th ed.). New York: Harper & Row.

- Trowell, O.A. (1943). Some morphological features of the spinal cord in the rabbit, with special reference to the production of artifacts. *Quarterly Journal of Experimental Physiology and Cognate Medical Sciences*, 32(3), 213-232.
- Trujillo-Cenoz, O. and Bertolotto, C. (1988). Some aspects of the structural organisation of the spinal cord of *Gymnotus carapo* (Teleostei, Gymnotiformes) II. The motoneurons. *Journal of Ultrastructure and Molecular Structure Research*, 101, 224-235.
- Vanderhorst, V.G.J.M. and Holstege, G. (1997). Organisation of lumbosacral motoneuronal cell groups innervating hindlimb, pelvic floor, and axial muscles in the cat. *The Journal of Comparative Neurology*, 382, 46-76.
- Van der Want, J.J.L., Klooster, J., Cardozo, B.N., de Weerd, H. and Liem, R.S.B. (1997). Tract-tracing in the nervous system of vertebrates using horseradish peroxidase and its conjugates: Tracers, chromogens and stabilization for light and electron microscopy. *Brain Research Protocols*, 1, 269-279.
- Van Raamsdonk, W., Mos, W., Smit-onel, M.J., van der Laarse, and Fehres, R. (1983). The development of the spinal motor column in relation to the myotomal muscle fibers in the zebrafish (*Brachydanio rerio*). I. Posthatching development. *Anatomy and Embryology*, 167, 125-139.
- Wake, D.B., Mosjola, K.C., Dicke, U., and Roth, G. (1988). Organisation of the motor nuclei in the cervical spinal cord of salamanders. *The Journal of Comparative Neurology*, 278, 195-208.
- Walker, J.A. and Westneat, M. (2002). Performance limits of labriform propulsion and correlates with fin shape and motion. *The Journal of Experimental Biology*, 205, 177-187.
- Wallen, P., Grillner, S., Feldman, J.L. and Bergelt, S. (1985). Dorsal and ventral myotome motoneurons and their input during fictive locomotion in lamprey. *The Journal of Neuroscience*, 5(3), 543-551.

- Waxman, S.G., Kocsis, J.D., and Stys, P.K. (1995). *The axon: Structure, function and pathophysiology*. United States: Oxford University Press US.
- Webb, P.W. (1973). Kinematics of pectoral fin propulsion in *Cymatogaster aggregate*. *Journal of Experimental Biology*, 59: 697-710.
- Wilga, C.D. and Lauder, G.V. (1999). Locomotion in sturgeon function of the pectoral fins. *Journal of Experimental Biology*, 202, 2413-2432.
- Winer, J.A. (1977). A review of the status of the horseradish peroxidase method in neuroanatomy. *Behavioral Reviews*, 1, 45-54.
- Winterbottom, R. (1974). A descriptive synonym of the striated muscles of the Teleostei. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 125, 225-317.
- Witherspoon, J.D. (1984). *Human physiology*. New York: Harper & Row, Publishers.
- Wong, H.Y. (2005). *Kajian sistem saraf pusat ikan patin, Pangasius pangasius*. Tesis Ijazah Sarjana Muda Sains, Institut Sains Biologi, Fakulti Sains, Universiti Malaya, Kuala Lumpur, Malaysia.
- Yoshida, M., Matsuura, K., and Uematsu, K. (1996). Developmental changes in the swimming behavior and underlying motoneuron activity in the larval angelfish, *Pterophyllum scalare*. *Zoological Science*, 13, 229-234.
- Yoshida, M., Fudoji, M., and Sakamoto, H. and Uematsu, K. (1999). Posthatching development of spinal motoneurons in the angelfish *Pterophyllum scalare*. *Brain, Behavior and Evolution*, 53, 180-186.
- Youngstorm, K. A. (1940). A primary and a secondary somatic motor innervation in *Amblystoma*. *The Journal of Comparative Neurology*, 73, 139-151.