

## **Publications**

Hamish Campbell

Campbell, H.A., Dwyer, R.G., Gordos, M., Franklin, C.E. (2010) Diving through the thermal window: implications for a warming world. *Proceedings of the Royal Society B*. doi: 10.1098/rspb.2010.0902.

Campbell, H.A., Watts, M.E., Sullivan, S., Read, M.A., Choukroun, S., Irwin, S.R. and Franklin, C.E. (2010) Estuarine crocodiles ride surface currents to facilitate long-distance travel. *Journal of Animal Ecology* 79, 955-964.

Pratt, K. L., Campbell, H.A., Watts M.E., Franklin, C.E. (2010) Environmental and ecological factors influencing dive behaviour in the freshwater snake *Acrochordus arafurae*: a field-based telemetric study. *Marine and Freshwater Research* 61(5): 560-567.

Campbell, H.A., Sullivan, S., Read, M.A., Gordos, M.A. & Franklin, C.E. 2010 Ecological and physiological determinants of dive duration in the freshwater crocodile. *Functional Ecology*. 24, 103-111.

Micheli-Campbell, M.A., Campbell, H.A., Kalinin, A.L. & Rantin, F.T. (2009) The relationship between O<sub>2</sub> chemoreceptors, cardio-respiratory reflex and hypoxia tolerance in the neotropical fish *Hoplias lacerdae*. *Comparative Biochemistry and Physiology a-Molecular & Integrative Physiology* 154, 224-232.

Franklin, C.E., Read, M.A., Kraft, P.G., Liebsch, N., Irwin, S.R. & Campbell, H.A. (2009) Remote monitoring of crocodilians: implantation, attachment and release methods for transmitters and data-loggers. *Marine and Freshwater Research* 60, 284-292.

Campbell, H., Davison, W., Fraser, K.P.P., Peck, L.S. & Egginton, S. (2009) Heart rate and ventilation in Antarctic fishes are largely determined by ecotype. *Journal of Fish Biology* 74, 535-552.

Micheli, M & Campbell, H.A. (2008) Autonomic control of heart rate exhibits diurnal shifts in a crocodilian *Amphibia – Reptilia* 29; 567-571

Campbell, H.A., Micheli, M., & Abe, A. (2008) A seasonal dependant change in the distribution and physiological condition of *Caiman crocodilus yacare* in the Paraguayan River Basin. *Wildlife Research* 35, 150-157.

Campbell, H.A. Fraser, K.P.P, Bishop, C. M, Peck L.S, & Egginton, S. (2008) Hibernation in an Antarctic fish: On ice for winter. *Public library of Science ONE* 3(3): e1743. doi:10.1371/journal.pone.0001743.

D.J. McKenzie, Campbell, H.A., Taylor, E.W., Micheli, M, F.T. Rantin & Abe, A.S. (2007) The autonomic control and functional significance of the changes in heart rate associated with air breathing in the jeju, *Hoplerhynchus unitaeniatus*. *Journal of Experimental Biology*, 210, 4224-4232.

Campbell, H.A. Fraser, K.P.P, Peck L.S, Bishop, C.M & Egginton, S. (2007) Life in the fast lane: Free-ranging activity, heart rate and metabolism in an Antarctic fish tracked in temperate waters. *Journal of Experimental Marine Biology and Ecology*, 349, 142-151.

Campbell, H.A. & Egginton, S (2007) The vagus nerve mediates cardio-respiratory coupling that changes with metabolic demand in a temperate nototheniid fish. *Journal of Experimental Biology*, 210, 2472-2480.

Egginton, S., Campbell, H.A., Davison W. (2006) Cardiovascular Control in Antarctic fishes. *Deep Sea Research II*, 53 1115-1130.

Campbell, H.A. Leite C. Wang, T. Egginton, S. Taylor, E.W. and Abe, A (2006) Evidence for a respiratory component, similar to mammalian respiratory sinus arrhythmia, in the heart rate variability signal from the rattlesnake, *Crotalus durissus terrificus*. *Journal of Experimental Biology* 209, 2628-2636.

Campbell, H.A. Klepacki, J.Z. & Egginton, S. (2006) A new method in applying Power Spectral statistics to examine cardio-respiratory interactions in fish. *Journal of Theoretical Biology* 241 (2), 410-419.

Taylor, E.W., Campbell, H.A., Levings, J.J., Young, M.J., Butler, P.J., and Egginton, S. (2006). Coupling of respiratory rhythms in fish with activity in hypobranchial nerves and with instantaneous heart rate. *Physiol. Biochem. Zool.* 79, 1000-1009

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using an electronic datalogging device. *Journal of Fish Biology* 67, (4) 1150-1156.

Campbell, H.A., Handy, R.D. & Sims, D.W. (2005). Shifts in a fish's resource holding power during a paired interaction: *Physiological and Biochemical Zoology*, 78 (5): 706-714.

Campbell, H.A., Taylor, E.W. & Egginton, S. (2004). The use of power spectral analysis to determine cardiorespiratory control in the short-horned sculpin *Myoxocephalus scorpius*. *Journal of Experimental Biology* 207(11): 1969-1976.

Campbell, H.A., Handy, R.D. & Sims, D.W. (2002). Increased metabolic cost of swimming and consequent alterations to circadian activity in (*Oncorhynchus mykiss*) *Canadian Journal of Fisheries and Aquatic Sciences* 59(5): 768-777.

Campbell, H.A., Nimmo, M., Handy, R.D. (1999). Copper uptake kinetics across the gills of (*Oncorhynchus mykiss*) measured using an improved isolated perfused head technique. *Aquatic Toxicology* 46(3-4): 177-190.

Handy, R.D. Campbell, H.A. & Sims, D.W. (1999). Metabolic trade-off between locomotion and detoxification for maintenance of blood chemistry and growth parameters *Aquatic Toxicology* 47(1): 23-41.

#### **Book Chapters:**

Campbell H.A. & Egginton, S. (2009) Bio-telemetry of inshore fish in Polar regions. *In Advances in Telemetry, Research, Technology and Applications*. Nova Publishing, N.J, U.S.A. 176 - 185. ISBN 978-1-60692-509-6.

Taylor, E.W. Leite, C., Campbell, H.A. & Wang, T. (2007) Control of the heart in fish. *In: Fish Respiration and Environment*. Eds Fernandes, M.N., Rantin, F.T., Glass, M.L & Kapoor, B.G., Enfield, New Hampshire, USA: 75-205.

#### **Published Abstracts:**

Campbell, H.A. Campbell, M A de M. & Franklin, C. A cheap and simple method for determining the condition of a reptile population. *COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY A-MOLECULAR & INTEGRATIVE PHYSIOLOGY* Volume: 153A Issue: 2 Pages: S60-S60

D. McKenzie & H. A Campbell. (2008) Does Autonomic regulation of heart rate optimise oxygen uptake in teleost fishes? *Comparative Biochemistry and Physiology*, 150A, 3. s117.

Taylor EW, Campbell HA, Leite C (2007) Respiration in reptiles. *Comparative Biochemistry and Physiology*, 148 S110-111.

Egginton, S & Campbell, H.A., (2007) Seasonal acclimation in cardiac activity: mammals vs fish. *Comparative Biochemistry and Physiology A* 146: S169.

Taylor, E.W., Campbell, H.A., Egginton, S., Skovegaard, N. (2007) Vagal tone determines the relative temperature dependency of heart rate in vertebrates. *Comparative Biochemistry and Physiology A* 146: S168-169.

D.J. McKenzie, H.A. Campbell, E.W. Taylor, M.A. Micheli, F. T. Rankin (2007) An investigation of the autonomic control and functional significance of heart rate variability during air-breathing in the jeju *Hoplerythrinus unitaenitus*. *Comparative Biochemistry and Physiology A* 146: S151.

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Egginton, S., Campbell, H.A. (2007) Heart rate variability and acclimation to low temperature. *Journal of Physiology*. 584P: PC47

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Egginton, S., Axelsson, M., Campbell, H., Davison, W. (2006) Baroreceptor sensitivity of Antarctic fishes - cardiovascular control in extreme hypothermia. *Comparative Biochemistry and Physiology A* 143(4): S71.

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Campbell, H.A., Taylor, E.W., Egginton, S. (2005) Central cardio-respiratory control in fish: evidence for its

presence by signal processing techniques. *Comparative Biochemistry and Physiology A* 141: S115.

Campbell, H.A., Egginton, S. (2005) Estimating respiratory sinus arrhythmia at low heart rates. *Journal of Physiology*. 567P: PC50.

Campbell, H.A., Taylor E.W., Davison, W., Egginton, S. (2004) Investigating the control of heart rate variability in fishes using power spectral analysis. *Journal of Physiology*. 555P: C83.

Campbell, H.A., Egginton, S. The use of heart rate variability as an index of activity patterns in fish. *Comparative Biochemistry and Physiology A* 137: S48