



Cover: A north Atlantic killer whale (*Orcinus orca*) breaking the surface to breathe, replenishing its oxygen stores. Because cetaceans spend most of their lifetime underwater, respiration rate has been used as an indicator of metabolic rate, discounting potential respiration-by-respiration variation in oxygen uptake. Roos et al. (pp. 2066–2077) investigated the significance of respiration timing, in addition to rate, in estimating free-ranging cetaceans' energetics. They found that accounting for respiration timing, and therefore respiration-by-respiration variation in oxygen uptake, is crucial and will lead to more consistent predictions of cetacean metabolic rate than using respiration rate alone. Photo credit: Marjoleine M. H. Roos.

INSIDE JEB

- 1933** Swordfish lubricate heads for speedy swim; High-altitude bar-headed geese outperform Vancouver cousins; Respiration timing is key for estimating cetacean energetics; Spring-loaded flea beetles go ping

OUTSIDE JEB

- 1936** Light-exposed moths can't find the flame; Monkeys alter tool use for different tasks; Bold fish, shy fish: it's all in the metabolism; The bridge from naughty to nice

OBITUARY

- 1939** Professor Robert McNeill Alexander CBE FRS (1934–2016)
Ker, R. F.

REVIEW

- 1941** The temperature dependence of electrical excitability in fish hearts
Vornanen, M.

SHORT COMMUNICATIONS

- 1953** Lubricating the swordfish head
Videler, J. J., Haydar, D., Snoek, R., Hoving, H.-J. T. and Szabo, B. G.

- 1957** Tide-related biological rhythm in the oxygen consumption rate of ghost shrimp (*Neotrypaea uncinata*)
Leiva, F. P., Niklitschek, E. J., Paschke, K., Gebauer, P. and Urbina, M. A.

- 1961** Incubation temperature causes skewed sex ratios in a precocial bird
DuRant, S. E., Hopkins, W. A., Carter, A. W., Kirkpatrick, L. T., Navara, K. J. and Hawley, D. M.

- 1965** Plasticity of immunity in response to eating
Luoma, R. L., Butler, M. W. and Stahlschmidt, Z. R.

RESEARCH ARTICLES

- 1969** Eating increases oxidative damage in a reptile
Butler, M. W., Lutz, T. J., Fokidis, H. B. and Stahlschmidt, Z. R.

- 1974** Altitude matters: differences in cardiovascular and respiratory responses to hypoxia in bar-headed geese reared at high and low altitudes
Lague, S. L., Chua, B., Farrell, A. P., Wang, Y. and Milsom, W. K.

- 1985** Impact of nest sanitation on the immune system of parents and nestlings in a passerine bird
Evans, J. K., Griffith, S. C., Klasing, K. C. and Buchanan, K. L.

- 1994** Embryonic common snapping turtles (*Chelydra serpentina*) preferentially regulate intracellular tissue pH during acid–base challenges
Shartau, R. B., Crossley, D. A., II, Kohl, Z. F. and Brauner, C. J.

- 2003** Control of lung ventilation following overwintering conditions in bullfrogs, *Lithobates catesbeianus*
Santin, J. M. and Hartzler, L. K.

- 2015** Jumping mechanisms and performance in beetles. I. Flea beetles (Coleoptera: Chrysomelidae: Alticinae)
Nadein, K. and Betz, O.

- 2028** Physiological responses to hypersalinity correspond to nursery ground usage in two inshore shark species (*Mustelus antarcticus* and *Galeorhinus galeus*)
Tunnah, L., MacKellar, S. R. C., Barnett, D. A., MacCormack, T. J., Stehfest, K. M., Morash, A. J., Semmens, J. M. and Currie, S.

- 2039** A role for acoustic distortion in novel rapid frequency modulation behaviour in free-flying male mosquitoes
Simões, P. M. V., Ingham, R. A., Gibson, G. and Russell, I. J.

- 2048** A biorobotic model of the suction-feeding system in largemouth bass: the roles of motor program speed and hyoid kinematics
Kenaley, C. P. and Lauder, G. V.

- 2060** The ability to survive intracellular freezing in nematodes is related to the pattern and distribution of ice formed
Raymond, M. R. and Wharton, D. A.

- 2066** The significance of respiration timing in the energetics estimates of free-ranging killer whales (*Orcinus orca*)
Roos, M. M. H., Wu, G.-M. and Miller, P. J. O.

CORRESPONDENCE

- 2078** Why vascular siphons with sub-atmospheric pressures are physiologically impossible in sauropod dinosaurs
Seymour, R. S. and Lillywhite, H. B.

- 2079** Can giraffes be supersized? Response to 'Why vascular siphons with sub-atmospheric pressures are physiologically impossible in sauropod dinosaurs'
Hughes, S., Barry, J., Russell, J., Bell, R. and Gurung, S.

CORRECTION

- 2081** A nicotinic acetylcholine receptor agonist affects honey bee sucrose responsiveness and decreases waggle dancing
Eiri, D. M. and Nieh, J. C.