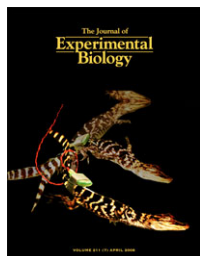


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Cover: The remarkable agility of this diving juvenile alligator, which sports a green inclinometer measuring pitch and roll, is due in part to her ability to control posture by manipulating her center of buoyancy using several muscles previously thought to function exclusively for ventilation (see study by T. J. Uriona and C. G. Farmer, pp. 1141–1147). These muscles are active during pitching and rolling maneuvers independent of ventilation, and shift the location of lung gases and therefore the center of buoyancy. The musculoskeletal complex employed may have primitively served aquatic locomotion rather than respiration, and thus may have evolved when Crocodylomorpha assumed a semi-aquatic lifestyle.

▼ Inside JEB

Tackling space flight bone loss i; Foraging style influenced how lizards get about ii

Outside JEB

Cool, captured flies iii; Chatting with near-field sound iv; What a gas! iv; Molecular shields protect proteins from dehydration damage v; To catch a thief vi

Research Articles

Burrows, M. Jumping in a wingless stick insect, *Timema chumash* (Phasmatodea, Timematodea, Timematidae). 1021-1028

► **McElroy, E. J., Hickey, K. L. and Reilly, S. M.** The correlated evolution of biomechanics, gait and foraging mode in lizards. 1029-1040

Roy, R. R., Pierotti, D. J., Garfinkel, A., Zhong, H., Baldwin, K. M. and Edgerton, V. R. Persistence of motor unit and muscle fiber types in the presence of inactivity. 1041-1049

Middlebrook, R., Hoegh-Guldberg, O. and Leggat, W. The effect of thermal history on the susceptibility of reef-building corals to thermal stress. 1050-1056

Weber, R. E., Behrens, J. W., Malte, H. and Fago, A. Thermodynamics of oxygenation-linked proton and lactate binding govern the temperature sensitivity of O₂ binding in crustacean (*Carcinus maenas*) hemocyanin. 1057-1062

Matey, V., Richards, J. G., Wang, Y., Wood, C. M., Rogers, J., Davies, R., Murray, B. W., Chen, X.-Q., Du, J. and Brauner, C. J. The effect of hypoxia on gill morphology and ionoregulatory status in the Lake Qinghai scaleless carp, *Gymnocypris przewalskii*. 1063-1074

Polakof, S. and Soengas, J. L. Involvement of lactate in glucose metabolism and glucosensing function in selected tissues of rainbow trout. 1075-1086

► **De Witt, J. K., Hagan, R. D. and Cromwell, R. L.** The effect of increasing inertia upon vertical ground reaction forces and temporal kinematics during locomotion. 1087-1092

Battam, H., Chappell, M. A. and Buttemer, W. A. The effect of food temperature on postprandial metabolism in albatrosses. 1093-1101

Zuo, J., Vergara, S., Kohno, S. and Holliday, L. S. Biochemical and functional characterization of the actin-binding activity of the B subunit of yeast vacuolar H⁺-ATPase. 1102-1108

Guerrieri, F. J. and d'Ettorre, P. The mandible opening response: quantifying aggression elicited by chemical cues in ants. 1109-1113

Philip, B. N., Yi, S.-X., Elnitsky, M. A. and Lee, R. E., Jr Aquaporins play a role in desiccation and freeze tolerance in larvae of the goldenrod gall fly, *Eurosta solidaginis*. 1114-1119

Berg, A. M. and Biewener, A. A. Kinematics and power requirements of ascending and descending flight in the pigeon (*Columba livia*). 1120-1130

Cox, C. L. and Secor, S. M. Matched regulation of gastrointestinal performance in the Burmese python, *Python molurus*. 1131-1140

Uriona, T. J. and Farmer, C. G. Recruitment of the diaphragmaticus, ischiopubis and other respiratory muscles to control pitch and roll in the American alligator (*Alligator mississippiensis*). 1141-1147

Moreno, C. A., Main, R. P. and Biewener, A. A. Variability in forelimb bone strains during non-steady locomotor activities in goats. 1148-1162

Dumont, E., Ralli re, C. and Rescan, P.-Y. Identification of novel genes including *Dermo-1*, a marker of dermal differentiation, expressed in trout somitic external cells. 1163-1168

► Article featured 'Inside JEB'