



Cover: an undulating ventral fin allows the glass knifefish (*Eigenmannia virescens*) to swim backwards and forwards. Fish rely on this ability to maintain their positions within moving refuges, which they do naturally and robustly. By moving artificial refuges in prescribed patterns, Roth et al. (pp. 1170–1180) show that *Eigenmannia* can learn complex dynamics of refuge trajectories to improve their tracking performance. As its common name suggests, the glass knifefish is semitransparent: this photo shows the bright red gill beneath the operculum. The brown pigmented dura that covers the cerebellum is also visible above the eye. Photo: W. Kirk and E. Roth.

▼ Inside JEB

Bats locate fluttering insects with echolocation i; Discontinuous breathing protects from oxygen damage i; Darters sit tight in boundary layer ii; How squirrels modulate masticatory myosin to shatter shells iii

Outside JEB

Left-handed snails out-twist right-handed snakes iv; Nanoscale physiology on millimeter scale animals v; Bacterial drivers of new species v; Memory problems? Blame your gut and stress level vi

Review

Agutter, P. S. and Tuszynski, J. A. Analytic theories of allometric scaling. 1055-1062

Methods & Techniques

Talbot, J. and Schötz, E.-M. Quantitative characterization of planarian wild-type behavior as a platform for screening locomotion phenotypes. 1063-1067

Research Articles

Galli, G. L. J., Lipnick, M. S., Shiels, H. A. and Block, B. A. Temperature effects on Ca²⁺ cycling in scombrid cardiomyocytes: a phylogenetic comparison. 1068-1076

► **Bicer, S., Patel, R. J., Williams, J. B. and Reiser, P. J.** Patterns of tropomyosin and troponin-T isoform expression in jaw-closing muscles of mammals and reptiles that express masticatory myosin. 1077-1085

► **Contreras, H. L. and Bradley, T. J.** The effect of ambient humidity and metabolic rate on the gas-exchange pattern of the semi-aquatic insect *Aquarius remigis*. 1086-1091

Kane, E. A. and Higham, T. E. The integration of locomotion and prey capture in divergent cottid fishes: functional disparity despite morphological similarity. 1092-1099

Jefimow, M., Głabska, M. and Wojciechowski, M. S. Social thermoregulation and torpor in the Siberian hamster. 1100-1108

Oliphant, A., Thatje, S., Brown, A., Morini, M., Ravaux, J. and Shillito, B. Pressure tolerance of the shallow-water caridean shrimp *Palaemonetes varians* across its thermal tolerance window. 1109-1117

Patrick, S. M., White, E. and Shiels, H. A. Rainbow trout myocardium does not exhibit a slow inotropic response to stretch. 1118-1122

Schaller, N. U., D'Août, K., Villa, R., Herkner, B. and Aerts, P. Toe function and dynamic pressure distribution in ostrich locomotion. 1123-1130

► **Lazure, L. and Fenton, M. B.** High duty cycle echolocation and prey detection by bats. 1131-1137

Mulsow, J., Reichmuth, C., Gulland, F., Rosen, D. A. S. and Finneran, J. J. Aerial audiograms of several California sea lions (*Zalophus californianus*) and Steller sea lions (*Eumetopias jubatus*) measured using single and multiple simultaneous auditory steady-state response methods. 1138-1147

Costantini, D., Monaghan, P. and Metcalfe, N. B. Biochemical integration of blood redox state in captive zebra finches (*Taeniopygia guttata*). 1148-1152

Rivera, G., Rivera, A. R. V. and Blob, R. W. Hydrodynamic stability of the painted turtle (*Chrysemys picta*): effects of four-limbed rowing versus forelimb flapping in rigid-bodied tetrapods. 1153-1162

Kim, B. H., Kim, H. K. and Lee, S. J. Experimental analysis of the blood-sucking mechanism of female mosquitoes. 1163-1169

Roth, E., Zhuang, K., Stamper, S. A., Fortune, E. S. and Cowan, N. J. Stimulus predictability mediates a switch in locomotor smooth pursuit performance for *Eigenmannia virescens*. 1170-1180

► **Carlson, R. L. and Lauder, G. V.** Escaping the flow: boundary layer use by the darter *Etheostoma tetrazonum* (Percidae) during benthic station holding. 1181-1193

Lin, H. T., Slate, D. J., Paetsch, C. R., Dorfmann, A. L. and Trimmer, B. A. Scaling of caterpillar body properties and its biomechanical implications for the use of a hydrostatic skeleton. 1194-1204

Marshall, K. E. and Sinclair, B. J. The sub-lethal effects of repeated freezing in the woolly bear caterpillar *Pyrrharctia isabella*. 1205-1212

Correspondence

Holbrook, R. I. Comment on 'Biparental mucus feeding: a unique example of parental care in an Amazonian cichlid'. 1213-1214

Buckley, J., Val, A. L. and Sloman, K. A. Response to "Comment on 'Biparental mucus feeding: a unique example of parental care in an Amazonian cichlid'". 1214

► Article featured 'Inside JEB'