



Cover: The impact of UVB radiation on the glycoprotein glue of orb-weaving spider capture thread. Stellwagen et al. (pp. 2675–2684) exposed the capture threads of four species of orb-weaving spiders to UVB radiation to determine how this affected the glycoprotein glue cores within their aqueous droplets. Droplets from species found in sunny habitats and in partially shaded habitats, like *Leucauge venusta*, whose horizontal orb-web is shown here, are largely unaffected by UVB exposure. In contrast, the performance of droplets from a species found deep in forests and a nocturnal species was degraded by UVB exposure. Photo credit: Brent Opell.

INSIDE JEB

- 2661** UVB tailors spider glue strength; Muscle powers caddis fly take-offs; Bumblebees don't push acceleration limits

OUTSIDE JEB

- 2663** The octopus: beauty in simplicity; Life converges on solutions to swim optimally; Protective shells make for more risky behaviour; Don't follow the leader, leader, leader

SHORT COMMUNICATION

- 2666** Small intestinal hydrolysis of plant glucosides: higher glucohydrolase activities in rodents than passerine birds
Lessner, K. M., Dearing, M. D., Izhaki, I., Samuni-Blank, M., Arad, Z. and Karasov, W. H.

METHODS & TECHNIQUES

- 2670** Analysing avian eggshell pigments with Raman spectroscopy
Thomas, D. B., Hauber, M. E., Hanley, D., Waterhouse, G. I. N., Fraser, S. and Gordon, K. C.

RESEARCH ARTICLES

- 2675** The impact of UVB radiation on the glycoprotein glue of orb-weaving spider capture thread
Stellwagen, S. D., Opell, B. D. and Clouse, M. E.

- 2685** Negative energy balance in a male songbird, the Abert's towhee, constrains the testicular endocrine response to luteinizing hormone stimulation
Davies, S., Gao, S., Valle, S., Bittner, S., Hutton, P., Meddle, S. L. and Deviche, P.

- 2694** Food restriction negatively affects multiple levels of the reproductive axis in male house finches, *Haemorhous mexicanus*
Valle, S., Carpentier, E., Vu, B., Tsutsui, K. and Deviche, P.

- 2705** Finite element modeling of occlusal variation in durophagous tooth systems
Crofts, S.

- 2712** Interaction of osmoregulatory and acid–base compensation in white sturgeon (*Acipenser transmontanus*) during exposure to aquatic hypercarbia and elevated salinity
Shaughnessy, C. A., Baker, D. W., Brauner, C. J., Morgan, J. D. and Bystriansky, J. S.

- 2720** Mating for male-derived prostaglandin: a functional explanation for the increased fecundity of mated female crickets?

Worthington, A. M., Jurenka, R. A. and Kelly, C. D.

- 2728** Bumblebee flight performance in cluttered environments: effects of obstacle orientation, body size and acceleration
Crall, J. D., Ravi, S., Mountcastle, A. M. and Combes, S. A.

- 2738** Changes in the chemical profile of cephalic salivary glands of *Scaptotrigona postica* (Hymenoptera, Meliponini) workers are phase related
Poiani, S. B., Morgan, E. D., Drijfhout, F. P. and da Cruz-Landim, C.

- 2745** Serotonin, but not dopamine, controls the stress response and anxiety-like behavior in the crayfish *Procambarus clarkii*
Fossat, P., Bacqué-Cazenave, J., De Duerwaerdère, P., Cattaert, D. and Delbecque, J.-P.

- 2753** The role of the pericardium in the valveless, tubular heart of the tunicate *Ciona savignyi*
Waldrop, L. D. and Miller, L. A.

- 2764** Jumping mechanisms in adult caddis flies (Insecta, Trichoptera)
Burrows, M. and Dorosenko, M.

- 2775** Effect of shear forces and ageing on the compliance of adhesive pads in adult cockroaches
Zhou, Y., Robinson, A., Viney, C. and Federle, W.

- 2782** Directional flow sensing by passively stable larvae
Fuchs, H. L., Christman, A. J., Gerbi, G. P., Hunter, E. J. and Diez, F. J.

- 2793** Drift dives and prolonged surfacing periods in Baikal seals: resting strategies in open waters?
Watanabe, Y. Y., Baranov, E. A. and Miyazaki, N.

- 2799** Effects of sublethal doses of glyphosate on honeybee navigation
Balbuena, M. S., Tison, L., Hahn, M.-L., Greggers, U., Menzel, R. and Farina, W. M.

- 2806** Mechanical properties of the cuticle of the tick *Amblyomma hebraeum* (Acari: Ixodidae)
Flynn, P. C. and Kaufman, W. R.