



**Cover:** A spearing mantis shrimp (Stomatopoda: *Lysiosquilla maculata*) extends its rapidly rotating raptorial appendages to capture evasive prey, such as this yellow-tail damselfly nymph. Mantis shrimp use a spectacular diversity of raptorial appendage morphologies and kinematics to capture and crush prey. McHenry et al. (pp. 3399-3411) analyzed the hydrodynamics of raptorial striking across mantis shrimp using both blade element and computational fluid dynamic analyses. Across the clade, the hydrodynamics are minimally affected by shape and instead are strongly impacted by size, kinematics and, to a lesser extent, the orientation of the stabbing dactyl. Photo credit: Roy Caldwell.

#### INSIDE JEB

- 3309** How thorny devils tap damp sand to slake thirst; Cooperative ants are more than the sum of their parts; Drag has not shaped mantis shrimp weapons; Chestnut-crowned babblers huddle for comfort

#### OUTSIDE JEB

- 3312** Fireflies' contrast-enhanced colored lights; What's on the vibrissa abscissa?; Bumblebees have a sweet tooth; Salmon versus dilbit: it's a matter of the heart

#### SHORT COMMUNICATION

- 3315** Hydrodynamic properties of fin whale flippers predict maximum rolling performance  
**Segre, P. S., Cade, D. E., Fish, F. E., Potvin, J., Allen, A. N., Calambokidis, J., Friedlaender, A. S. and Goldbogen, J. A.**

#### RESEARCH ARTICLES

- 3321** Energetics of communal roosting in chestnut-crowned babblers: implications for group dynamics and breeding phenology  
**Chappell, M. A., Buttemer, W. A. and Russell, A. F.**
- 3329** Vision on the high seas: spatial resolution and optical sensitivity in two procellariiform seabirds with different foraging strategies  
**Mitkus, M., Nevitt, G. A., Danielsen, J. and Kelber, A.**
- 3339** Object approach computation by a giant neuron and its relationship with the speed of escape in the crab *Neohelice oliva*, D. and Tomsic, D.
- 3353** Actions of sex steroids on kisspeptin expression and other reproduction-related genes in the brain of the teleost fish European sea bass  
**Alvarado, M. V., Servili, A., Molés, G., Gueguen, M. M., Carrillo, M., Kah, O. and Felip, A.**
- 3366** Collective strategy for obstacle navigation during cooperative transport by ants  
**McCreery, H. F., Dix, Z. A., Breed, M. D. and Nagpal, R.**
- 3376** Oxygen dependence of upper thermal limits in fishes  
**Ern, R., Norin, T., Gamperl, A. K. and Esbaugh, A. J.**
- 3384** Wing flexibility improves bumblebee flight stability  
**Mistick, E. A., Mountcastle, A. M. and Combes, S. A.**
- 3391** Annual life-stage regulation of lipid metabolism and storage and association with PPARs in a migrant species: the gray catbird (*Dumetella carolinensis*)  
**Corder, K. R., DeMoranville, K. J., Russell, D. E., Huss, J. M. and Schaeffer, P. J.**
- 3399** The comparative hydrodynamics of rapid rotation by predatory appendages  
**McHenry, M. J., Anderson, P. S. L., Van Wassenbergh, S., Matthews, D. G., Summers, A. P. and Patek, S. N.**
- 3412** The opening–closing rhythms of the subelytral cavity associated with gas exchange patterns in diapausing Colorado potato beetle, *Leptinotarsa decemlineata*  
**Kuusik, A., Jögar, K., Metspalu, L., Ploomi, A., Merivee, E., Must, A., Williams, I. H., Hiiesaar, K., Sibul, I. and Mänd, M.**
- 3420** Crouching to fit in: the energetic cost of locomotion in tunnels  
**Horner, A. M., Hanna, J. B. and Biknevicius, A. R.**
- 3428** Intracellular regulation of the insect chemoreceptor complex impacts odour localization in flying insects  
**Getahun, M. N., Thoma, M., Lavista-Llanos, S., Keeseey, I., Fandino, R. A., Knaden, M., Wicher, D., Olsson, S. B. and Hansson, B. S.**
- 3439** A social mechanism facilitates ant colony emigrations over different distances  
**O'Shea-Wheller, T. A., Wilson-Aggarwal, D. K., Edgley, D. E., Sendova-Franks, A. B. and Franks, N. R.**
- 3447** Coming up for air: thermal dependence of dive behaviours and metabolism in sea snakes  
**Udyawer, V., Simpfendorfer, C. A., Heupel, M. R. and Clark, T. D.**
- 3455** Nitric oxide inhibition of NaCl secretion in the opercular epithelium of seawater-acclimated killifish, *Fundulus heteroclitus*  
**Gerber, L., Jensen, F. B., Madsen, S. S. and Marshall, W. S.**
- 3465** The answer is blowing in the wind: free-flying honeybees can integrate visual and mechano-sensory inputs for making complex foraging decisions  
**Ravi, S., Garcia, J. E., Wang, C. and Dyer, A. G.**
- 3473** Cutaneous water collection by a moisture-harvesting lizard, the thorny devil (*Moloch horridus*)  
**Comanns, P., Withers, P. C., Esser, F. J. and Baumgartner, W.**
- 3480** Assessing hydrodynamic space use of brown trout, *Salmo trutta*, in a complex flow environment: a return to first principles  
**Kerr, J. R., Manes, C. and Kemp, P. S.**