



**Cover:** A mosquito (*Aedes aegypti*) lands on a horse's tail. Biologists had long assumed that mammals swish their tails to defend themselves against biting insects. But how does the tail do it? Matherne et al. (jeb178905) found that mammals swing their tails three times faster than a gravity-driven pendulum. This motion generates a breeze of  $1 \text{ m s}^{-1}$  to blow away mosquitoes. If an insect penetrates this air barrier, a mammal can use its tail like a whip to directly strike the insect before it has a chance to bite. Photo credit: Candler Hobbs.

### INSIDE JEB

Rh protein is key for crab waste disposal

**Knight, K.**

jeb191775

Rebel tenrecs disregard hibernation rule book

**Knight, K.**

jeb191767

Stress does not cause dormouse mums to skip a litter

**Knight, K.**

jeb191759

Tails guard against voracious insects with curtain of breeze

**Knight, K.**

jeb188888

### COMMENTARY

Requiem for a heavyweight – can anything more be learned from homing pigeons about the sensory and spatial-representational basis of avian navigation?

**Bingman, V. P.**

jeb163089

### METHODS AND TECHNIQUES

A new approach for measuring temperature inside turtle eggs

**Tezak, B. M., Sifuentes-Romero, I. and Wyneken, J.**

jeb188698

### RESEARCH ARTICLES

The choreography of learning walks in the Australian jack jumper ant *Myrmecia croslandi*

**Jayatilaka, P., Murray, T., Narendra, A. and Zeil, J.**

jeb185306

Sperm pre-fertilization thermal environment shapes offspring phenotype and performance

**Kekäläinen, J., Oskoei, P., Janhunen, M., Koskinen, H., Kortet, R. and Huuskonen, H.**

jeb181412

Identification of the role of Rh protein in ammonia excretion of the swimming crab *Portunus trituberculatus*

**Si, L., Pan, L., Wang, H. and Zhang, X.**

jeb184655

Dietary antioxidants, but not courtship effort, affect oxidative balance in the testes and muscles of crickets

**Simmons, L. W., Lovegrove, M. and Lymbery, S. J.**

jeb184770

Impact of differences in nutritional quality of wingless and winged aphids on parasitoid fitness

**Pirotte, J. A.-L. M., Lorenzi, A., Foray, V. and Hance, T.**

jeb185645

ArHsp40 and ArHsp40-2 contribute to stress tolerance and longevity in *Artemia franciscana*, but only ArHsp40 influences diapause entry

**Rowarth, N. M. and MacRae, T. H.**

jeb189001

Environmental temperature alters the digestive performance and gut microbiota of a terrestrial amphibian

**Fontaine, S. S., Novarro, A. J. and Kohl, K. D.**

jeb187559

Extreme physiological plasticity in a hibernating basoendothermic mammal, *Tenrec ecaudatus*

**Treat, M. D., Scholer, L., Barrett, B., Khachatryan, A., McKenna, A. J., Reyes, T., Rezazadeh, A., Ronkon, C. F., Samora, D., Santamaria, J. F., Silva Rubio, C., Sutherland, E., Richardson, J., Lighton, J. R. B. and van Breukelen, F.**

jeb185900

Differences in motor cortical control of the soleus and tibialis anterior

**Lauber, B., Gollhofer, A. and Taube, W.**

jeb174680

Glyphosate impairs learning in *Aedes aegypti* mosquito larvae at field-realistic doses

**Baglan, H., Lazzari, C. R. and Guerrieri, F. J.**

jeb187518

Differences in spatial resolution and contrast sensitivity of flight control in the honeybees *Apis cerana* and *Apis mellifera*

**Chakravarthi, A., Rajus, S., Kelber, A., Dacke, M. and Baird, E.**

jeb184267

Parameters of motion vision in low light in the hawkmoth *Manduca sexta*

**Parthasarathy, K. and Willis, M. A.**

jeb173344

Influence of flow on locomotion, feeding behaviour and spatial distribution of a suspension-feeding sea cucumber

**Sun, J., Hamel, J.-F. and Mercier, A.**

jeb189597

The insensitive dormouse: reproduction skipping is not caused by chronic stress in *Glis glis*

**Cornils, J. S., Hoelzl, F., Huber, N., Zink, R., Gerritsmann, H., Bieber, C., Schwarzenberger, F. and Ruf, T.**

jeb183558

Context-dependent behavioural lateralization in the European pond turtle, *Emys orbicularis* (Testudines, Emydidae)

**Pellitteri-Rosa, D. and Gazzola, A.**

jeb186775

Adult-larval vibrational communication in paper wasps: the role of abdominal wagging in *Polistes dominula*

**Pepicciello, I., Cini, A., Nieri, R., Mazzoni, V. and Cervo, R.**

jeb186247

How the hummingbird wingbeat is tuned for efficient hovering

**Ingersoll, R. and Lentink, D.**

jeb178228

Mammals repel mosquitoes with their tails

**Matherne, M. E., Cockerill, K., Zhou, Y., Bellamkonda, M. and Hu, D. L.**

jeb178905