



**Cover:** Burrowing is energetically expensive and requires substantial interaction with soil to dislodge and transport it. True moles (Talpidae) have extraordinary forelimb morphologies and a unique ability to dig in loose as well as compact soils, yet we know little of how moles coordinate their forelimb joint kinematics to dig. Lin et al. (jeb182436) used marker-based XROMM to study forelimb kinematics of eastern moles (*Scalopus aquaticus*) and demonstrated that the combination of stereotypic movements of the shoulder joint and flexibility in elbow and carpal joints makes moles extremely effective diggers in both loose and compact substrates. Photo credit: Yi-Fen Lin.

## INSIDE JEB

How buzzing helps bees to pollinate plants

**Knight, K.**

jeb201236

Unexpected eye fat pad likely helps ground squirrels wake up

**Knight, K.**

jeb201228

Pecking not so bird-brained after all

**Knight, K.**

jeb199885

Hunting great white sharks could motor but prefer to mosey

**Knight, K.**

jeb199877

Skate eyes adapt subtly to see but not be seen

**Gilman, C.**

jeb199091

## COMMENTARY

Dissecting cause from consequence: a systematic approach to thermal limits

**MacMillan, H. A.**

jeb191593

## SHORT COMMUNICATIONS

Lower leg morphology in runners: forefoot strikers have longer heels but not bigger muscles than rearfoot strikers

**Wessbecher, L. S. and Ahn, A. N.**

jeb187815

Identification of a lipid-rich depot in the orbital cavity of the thirteen-lined ground squirrel

**MacCannell, A. D. V., Sinclair, K. J., Tattersall, G. J.,**

**McKenzie, C. A. and Staples, J. F.**

jeb195750

Metabolic fuel use after feeding in the zebrafish (*Danio rerio*): a respirometric analysis

**Ferreira, M. S., Wood, C. M., Harter, T. S., Dal Pont, G.,**

**Val, A. L. and Matthews, P. G. D.**

jeb194217

Bark beetles use a spring-loaded mechanism to produce variable song patterns

**Lindeman, A. A. and Yack, J. E.**

jeb190660

Elaborate pupils in skates may help camouflage the eye

**Youn, S., Okinaka, C. and Mäthger, L. M.**

jeb195966

## METHODS AND TECHNIQUES

Field-based hearing measurements of two seabird species

**Mooney, T. A., Smith, A., Larsen, O. N., Hansen, K. A.,**

**Wahlberg, M. and Rasmussen, M. H.**

jeb190710

## RESEARCH ARTICLES

Energetics and behavior of coral reef fishes during oscillatory swimming in a simulated wave surge

**Marcoux, T. M. and Korsmeyer, K. E.**

jeb191791

Threshold effect in the H<sub>2</sub>O<sub>2</sub> production of skeletal muscle mitochondria during fasting and refeeding

**Roussel, D., Boël, M., Mortz, M., Romestaing, C., Duchamp, C.**

**and Voituron, Y.**

jeb196188

Nathusius' bats optimize long-distance migration by flying at maximum range speed

**Troxell, S. A., Holderied, M. W., Pētersons, G. and Voigt, C. C.**

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Mechanical properties of the wave-swept kelp *Egregia menziesii* change with season, growth rate and herbivore wounds

**Burnett, N. P. and Koehl, M. A. R.**

jeb190595

Bee and floral traits affect the characteristics of the vibrations experienced by flowers during buzz pollination

**Arroyo-Correa, B., Beattie, C. and Vallejo-Marín, M.**

jeb198176

*Drosophila* female fertility and juvenile hormone metabolism depends on the type of *Wolbachia* infection

**Gruntenko, N. E., Karpova, E. K., Adonyeva, N. V.,**

**Andreenkova, O. V., Burdina, E. V., Ilinsky, Y. Y., Bykov, R. A.,**

**Menshanov, P. N. and Rauschenbach, I. Y.**

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Antioxidant response to acute cold exposure and during recovery in juvenile Chinese soft-shelled turtles (*Pelodiscus sinensis*)

**Chen, B.-J., Zhang, W.-Y., Niu, C.-J., Li, W.-J., Jia, H. and**

**Storey, K. B.**

jeb197863

Brief exposure to intense turbulence induces a sustained life-history shift in echinoids

**Ferner, M. C., Hodin, J., Ng, G. and Gaylord, B.**

jeb187351

Rapid adjustment of pecking trajectory to prism-induced visual shifts in crows as compared with pigeons

**Matsui, H. and Izawa, E.-I.**

jeb182345

Speed control and force-vectoring of bluebottle flies in a magnetically levitated flight mill

**Hsu, S.-J., Thakur, N. and Cheng, B.**

jeb187211

Complementary roles of photoperiod and temperature in environmental sex determination in *Daphnia* spp.

**Camp, A. A., Haeba, M. H. and LeBlanc, G. A.**

jeb195289

How moles destroy your lawn: the forelimb kinematics of eastern moles in loose and compact substrates

**Lin, Y.-F., Konow, N. and Dumont, E. R.**

jeb182436

Contrasting response of haematological variables between long-term training and short exercise bouts in zebra finches

(*Taeniopygia guttata*)

**Bury, A., Niedojadlo, J., Sadowska, E. T., Bauchinger, U. and Cichoń, M.**

jeb193227

Swimming strategies and energetics of endothermic white sharks during foraging

**Watanabe, Y. Y., Payne, N. L., Semmens, J. M., Fox, A. and Huveneers, C.**

jeb185603

Population history with invasive predators predicts innate immune function response to early-life glucocorticoid exposure in lizards

**McCormick, G. L., Robbins, T. R., Cavigelli, S. A. and Langkilde, T.**

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