



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 H₂O₂ 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.

jeb176396

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.

jeb195347

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 Huvneers, 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.

jeb188359