



**Cover:** During winter, tegu lizards, *Salvator merianae*, aestivate for up to 5 months, retreating to burrows and halting most activities. Dormant tegus also reduce their gastrointestinal mass, which allows a substantial energy economy but implies that the first post-dormancy digestion would be more costly than subsequent feeding episodes because of gastrointestinal atrophy. To address this, Gavira et al. (jeb176156) determined the postprandial metabolic response of the first, second and subsequent feeding episodes following dormancy. Seasonal fasting imposes an extra digestion cost to tegus following their next feeding. However, this surplus cost is negligible compared with the overall energetic savings from gastrointestinal tract atrophy during the dormancy period. Photo credit: R. S. B. Gavira.

### INSIDE JEB

Gigantic Antarctic sea spiders need pores to breathe  
**Knight, K.**  
jeb181859

Cancer-defying blind mole rats are super DNA repairers  
**Knight, K.**  
jeb181024

No-pressure thumbs could be key to hand evolution  
**Knight, K.**  
jeb181032

Giant clams make most of urea thanks to lodger algae  
**Knight, K.**  
jeb181040

### REVIEW

Aquatic–terrestrial transitions of feeding systems in vertebrates: a mechanical perspective  
**Heiss, E., Aerts, P. and Van Wassenbergh, S.**  
jeb154427

### SHORT COMMUNICATIONS

Contribution of active atrial contraction to cardiac output in anesthetized American alligators (*Alligator mississippiensis*)  
**Joyce, W., Crossley, J., Elsey, R. M., Wang, T. and Crossley, D. A., II**  
jeb178194

Energetic costs of performance in trained and untrained *Anolis carolinensis* lizards  
**Lailvaux, S. P., Wang, A. Z. and Husak, J. F.**  
jeb176867

### RESEARCH ARTICLES

Cuticular gas exchange by Antarctic sea spiders  
**Lane, S. J., Moran, A. L., Shishido, C. M., Tobalske, B. W. and Woods, H. A.**  
jeb177568

Brain mitochondrial bioenergetics change with rapid and prolonged shifts in aggression in the honey bee, *Apis mellifera*  
**Rittschof, C. C., Vekaria, H. J., Palmer, J. H. and Sullivan, P. G.**  
jeb176917

The effects of lateral line ablation and regeneration in schooling giant danios  
**Mekdara, P. J., Schwalbe, M. A. B., Coughlin, L. L. and Tytell, E. D.**  
jeb175166

Suppression of reactive oxygen species generation in heart mitochondria from anoxic turtles: the role of complex I S-nitrosation  
**Bundgaard, A., James, A. M., Joyce, W., Murphy, M. P. and Fago, A.**  
jeb174391

Detection and direction discrimination of single vortex rings by harbour seals (*Phoca vitulina*)  
**Krüger, Y., Hanke, W., Miersch, L. and Dehnhardt, G.**  
jeb170753

Surface friction alters the agility of a small Australian marsupial  
**Wheatley, R., Clemente, C. J., Niehaus, A. C., Fisher, D. O. and Wilson, R. S.**  
jeb172544

Environmental acoustic cues guide the biosonar attention of a highly specialised echolocator  
**Lattenkamp, E. Z., Kaiser, S., Kaučič, R., Großmann, M., Koselj, K. and Goerlitz, H. R.**  
jeb165696

HSP90 regulates larval settlement of the bryozoan *Bugula neritina* through the nitric oxide pathway  
**Yang, X.-X., Zhang, Y., Wong, Y.-H. and Qian, P.-Y.**  
jeb167478

Resistance to DNA damage and enhanced DNA repair capacity in the hypoxia-tolerant blind mole rat *Spalax carmeli*  
**Domankevich, V., Eddini, H., Odeh, A. and Shams, I.**  
jeb174540

Are the surface areas of the gills and body involved with changing metabolic scaling with temperature?  
**Li, G., Lv, X., Zhou, J., Shen, C., Xia, D., Xie, H. and Luo, Y.**  
jeb174474

Microsurgical manipulation reveals pre-copulatory function of key genital sclerites  
**Cocks, O. T. M. and Eady, P. E.**  
jeb173427

Thermal strategies vary with life history stage  
**Truebano, M., Fenner, P., Tills, O., Rundle, S. D. and Rezende, E. L.**  
jeb171629

Light exposure enhances urea absorption in the fluted giant clam, *Tridacna squamosa*, and up-regulates the protein abundance of a light-dependent urea active transporter, DUR3-like, in its ctenidium  
**Chan, C. Y. L., Hiong, K. C., Boo, M. V., Choo, C. Y. L., Wong, W. P., Chew, S. F. and Ip, Y. K.**  
jeb176313

The consequences of seasonal fasting during the dormancy of tegu lizards (*Salvator merianae*) on their postprandial metabolic response  
**Gavira, R. S. B., Sartori, M. R., Gontero-Fourcade, M. N., Gomes, B. F., Abe, A. S. and Andrade, D. V.**  
jeb176156

Hand pressures during arboreal locomotion in captive bonobos (*Pan paniscus*)  
**Samuel, D. S., Nauwelaerts, S., Stevens, J. M. G. and Kivell, T. L.**  
jeb170910

Critical thermal limits of bumblebees (*Bombus impatiens*) are marked by stereotypical behaviors and are unchanged by acclimation, age or feeding status  
**Oyen, K. J. and Dillon, M. E.**  
jeb165589

Emersion behaviour underlies variation in gill morphology and aquatic respiratory function in the amphibious fish *Kryptolebias marmoratus*  
**Turko, A. J., Tatarenkov, A., Currie, S., Earley, R. L., Platek, A., Taylor, D. S. and Wright, P. A.**  
jeb168039

Differences in stress and disease resilience related to emergence time for first feeding in farmed rainbow trout (*Oncorhynchus mykiss*)  
**Gesto, M., Madsen, L., Andersen, N. R. and Jokumsen, A.**  
jeb174623