



Cover: Imagine yourself in a dense forest: nothing from which to get your bearings except for trees that all look alike and patches of sky visible through the leaf canopy. Field crickets cope with a similar situation when foraging in a meadow. In contrast to humans, however, crickets can detect skylight polarization and use it for compass orientation (see article by Henze and Labhart, pp. 3266–3276). Their polarization sense is robust enough to rely on even if sky visibility is restricted to pinhole size. Photograph taken in a meadow with a 180° fisheye lens, by Martin Kohler and Miriam Henze.

▼ **Inside JEB**

Flying Crickets Hear Ultrasound Better i; Visual Magnetism i; Desperate To Settle ii; Young Crickets' Superior Escape Response iii

JEB Classics

Riddiford, L. M. The control of metamorphosis in the kissing bug. 3133-3134

Commentary

Tobalske, B. W. Biomechanics of bird flight. 3135-3146

Research Articles

Richards, C. T. and Biewener, A. A. Modulation of *in vivo* muscle power output during swimming in the African clawed frog (*Xenopus laevis*). 3147-3159

► **Pollack, G. S. and Martins, R.** Flight and hearing: ultrasound sensitivity differs between flight-capable and flight-incapable morphs of a wing-dimorphic cricket species. 3160-3164

► **Dangles, O., Pierre, D., Christides, J. P. and Casas, J.** Escape performance decreases during ontogeny in wild crickets. 3165-3170

► **Johnsen, S., Mattern, E. and Ritz, T.** Light-dependent magnetoreception: quantum catches and opponency mechanisms of possible photosensitive molecules. 3171-3178

Krönström, J., Dupont, S., Mallefet, J., Thorndyke, M. and Holmgren, S. Serotonin and nitric oxide interaction in the control of bioluminescence in northern krill, *Meganctiphanes norvegica* (M. Sars). 3179-3187

Mulenga, A., Khumthong, R. and Blandon, M. A. Molecular and expression analysis of a family of the *Amblyomma americanum* tick Lospins. 3188-3198

Neri, P. Fast-scale adaptive changes of directional tuning in fly tangential cells are explained by a static nonlinearity. 3199-3208

Dudek, D. M. and Full, R. J. An isolated insect leg's passive recovery from dorso-ventral perturbations. 3209-3217

Duistermars, B. J., Chow, D. M., Condro, M. and Frye, M. A. The spatial, temporal and contrast properties of expansion and rotation flight optomotor responses in *Drosophila*. 3218-3227

► **Swanson, R. L., Marshall, D. J. and Steinberg, P. D.** Larval desperation and histamine: how simple responses can lead to complex changes in larval behaviour. 3228-3235

Lee, K. P. The interactive effects of protein quality and macronutrient imbalance on nutrient balancing in an insect herbivore. 3236-3244

Lee, S. G., Bader, B. D., Chang, E. S. and Mykles, D. L. Effects of elevated ecdysteroid on tissue expression of three guanylyl cyclases in the tropical land crab *Gecarcinus lateralis*: possible roles of neuropeptide signaling in the molting gland. 3245-3254

Umberger, B. R. and Martin, P. E. Mechanical power and efficiency of level walking with different stride rates. 3255-3265

Henze, M. J. and Labhart, T. Haze, clouds and limited sky visibility: polarotactic orientation of crickets under difficult stimulus conditions. 3266-3276

Geurten, B. R. H., Nordström, K., Sprayberry, J. D. H., Bolzon, D. M. and O'Carroll, D. C. Neural mechanisms underlying target detection in a dragonfly centrifugal neuron. 3277-3284

Gallon, S. L., Sparling, C. E., Georges, J.-Y., Fedak, M. A., Biuw, M. and Thompson, D. How fast does a seal swim? Variations in swimming behaviour under differing foraging conditions. 3285-3294

Fujiwara, Y. and Denlinger, D. L. p38 MAPK is a likely component of the signal transduction pathway triggering rapid cold hardening in the flesh fly *Sarcophaga crassipalpis*. 3295-3300

Le Mével, J.-C., Lancien, F., Mimassi, N. and Conlon, J. M. Ventilatory and cardiovascular actions of centrally administered trout tachykinins in the unanesthetized trout. 3301-3310

Burrows, M., Hartung, V. and Hoch, H. Jumping behaviour in a Gondwanan relict insect (Hemiptera: Coleorrhyncha: Peloridiidae). 3311-3318

► Article featured 'Inside JEB'