



Cover: Variation in the spectral composition of natural light environments has been proposed to 'drive' visual signal evolution. Polarization may be particularly effective in complex light environments. In butterflies, a strong evolutionary correlation exists between polarized patterns and light habitat preference (see article by J. M. Douglas et al., pp. 788-799). Composite images show non-polarized *Heliconius* butterflies from open habitat (top images) and closely related forest species (bottom four images) that exhibit polarized iridescent patterns. Right portions of specimens are false-color images representing degree of polarization. Blue pixels indicate no polarization while green, yellow, red and white indicate increasing polarization.

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Research Articles

Kato, H., Jochim, R. C., Lawyer, P. G. and Valenzuela, J. G. Identification and characterization of a salivary adenosine deaminase from the sand fly *Phlebotomus duboscqi*, the vector of *Leishmania major* in sub-Saharan Africa. 733-740

► **Hoffman, T. C.M., Walsberg, G. E. and DeNardo, D. F.** Cloacal evaporation: an important and previously undescribed mechanism for avian thermoregulation. 741-749

Rank, N. E., Bruce, D. A., McMillan, D. M., Barclay, C. and Dahlhoff, E. P. Phosphoglucose isomerase genotype affects running speed and heat shock protein expression after exposure to extreme temperatures in a montane willow beetle. 750-764

Marasco, P. D. and Catania, K. C. Response properties of primary afferents supplying Eimer's organ. 765-780

Schulte-Pelkum, N., Wieskotten, S., Hanke, W., Dehnhardt, G. and Mauck, B. Tracking of biogenic hydrodynamic trails in harbour seals (*Phoca vitulina*). 781-787

Douglas, J. M., Cronin, T. W., Chiou, T.-H. and Dominy, N. J. Light habitats and the role of polarized iridescence in the sensory ecology of neotropical nymphalid butterflies (Lepidoptera: Nymphalidae). 788-799

Pereira, A. C., Rodríguez-Cattaneo, A., Castelló, M. E. and Caputi, A. A. Post-natal development of the electromotor system in a pulse gymnotid electric fish. 800-814

Wujcik, J. M., Wang, G., Eastman, J. T. and Sidell, B. D. Morphometry of retinal vasculature in Antarctic fishes is dependent upon the level of hemoglobin in circulation. 815-824

► **Symonds, B. L., James, R. S. and Franklin, C. E.** Getting the jump on skeletal muscle disuse atrophy: preservation of contractile performance in aestivating *Cyclorana alboguttata* (Günther 1867). 825-835

Hayward, S. A. L., Rinehart, J. P., Sandro, L. H., Lee, R. E., Jr and Denlinger, D. L. Slow dehydration promotes desiccation and freeze tolerance in the Antarctic midge *Belgica antarctica*. 836-844

► **Dacke, M. and Srinivasan, M. V.** Honeybee navigation: distance estimation in the third dimension. 845-853

Telang, A., Frame, L. and Brown, M. R. Larval feeding duration affects ecdysteroid levels and nutritional reserves regulating pupal commitment in the yellow fever mosquito *Aedes aegypti* (Diptera: Culicidae). 854-864

Oliva, D., Medan, V. and Tomsic, D. Escape behavior and neuronal responses to looming stimuli in the crab *Chasmagnathus granulatus* (Decapoda: Grapsidae). 865-880

Ramamurti, R. and Sandberg, W. C. A computational investigation of the three-dimensional unsteady aerodynamics of *Drosophila* hovering and maneuvering. 881-896

Greene, M. J. and Gordon, D. M. Structural complexity of chemical recognition cues affects the perception of group membership in the ants *Linepithema humile* and *Aphaenogaster cockerelli*. 897-905

► **Kumar, S., Kumar, D., Paranjpe, D. A., Akarsh, C. R. and Sharma, V. K.** Selection on the timing of adult emergence results in altered circadian clocks in fruit flies *Drosophila melanogaster*. 906-918

Erratum

Sawai, S., Hirano, T., Maeda, Y. and Sawada, Y. Rapid patterning and zonal differentiation in a two-dimensional *Dictyostelium* cell mass: the role of pH and ammonia. 919

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