



**Cover:** A simulation illustrating the optical field intensity inside an oil droplet and outer segment of a cone photoreceptor. Wilby and Roberts (pp. 1997–2004) calculated how oil droplets influence the absolute sensitivity of vision. Transparent oil droplets found in the cone photoreceptors of some frogs and toads, as well as birds' ultraviolet-sensitive photoreceptors, focus more light into the cone, improving sensitivity. However, strongly pigmented oil droplets in the other spectral classes of cone photoreceptors in birds and reptiles tune their colour vision at the expense of absolute sensitivity.

### INSIDE JEB

- 1931** Ticks use sticky pad to hold tight to skin; X\*Y super female pygmy mice have larger heads and superior bites; Snails prioritise protein stability at sizzling temperatures; Salt pumps protect leaky toads when replacing skin

### OUTSIDE JEB

- 1934** The little feathered ecosystem engineer; Lateralisation helps sailfish snatch sardines; Oceans of oxygen, gone; Fidgety embryos grow longer limbs

### REVIEW

- 1937** Mechanisms underlying the control of responses to predator odours in aquatic prey  
**Mitchell, M. D., Bairos-Novak, K. R. and Ferrari, M. C. O.**

### SHORT COMMUNICATIONS

- 1947** Sex reversal induces size and performance differences among females of the African pygmy mouse, *Mus minutoides*  
**Ginot, S., Claude, J., Perez, J. and Veyrunes, F.**
- 1952** Hearing on the fly: the effects of wing position on noctuid moth hearing  
**Gordon, S. D., Klenschi, E. and Windmill, J. F. C.**

### METHODS & TECHNIQUES

- 1956** High-speed surface reconstruction of a flying bird using structured light  
**Deetjen, M. E., Biewener, A. A. and Lentink, D.**

### RESEARCH ARTICLES

- 1962** Disruptive colouration in reef fish: does matching the background reduce predation risk?  
**Phillips, G. A. C., How, M. J., Lange, J. E., Marshall, N. J. and Cheney, K. L.**
- 1975** Spiders have rich pigmentary and structural colour palettes  
**Hsiung, B.-K., Justyn, N. M., Blackledge, T. A. and Shawkey, M. D.**
- 1984** Functional morphology of tarsal adhesive pads and attachment ability in ticks *Ixodes ricinus* (Arachnida, Acari, Ixodidae)  
**Voigt, D. and Gorb, S.**
- 1997** Optical influence of oil droplets on cone photoreceptor sensitivity  
**Wilby, D. and Roberts, N. W.**
- 2005** Flight control of fruit flies: dynamic response to optic flow and headwind  
**Lawson, K. K. K. and Srinivasan, M. V.**

- 2017** Effects of temperature and force requirements on muscle work and power output  
**Olberding, J. P. and Deban, S. M.**
- 2026** Living with a leaky skin: upregulation of ion transport proteins during sloughing  
**Wu, N. C., Cramp, R. L. and Franklin, C. E.**
- 2036** Ontogeny of bite force in a validated biomechanical model of the American alligator  
**Sellers, K. C., Middleton, K. M., Davis, J. L. and Holliday, C. M.**
- 2047** Extreme polarisation sensitivity in the retina of the corn borer moth *Ostrinia*  
**Belušič, G., Šporar, K. and Meglič, A.**
- 2057** Olfactory sensitivity of the marine flatfish *Solea senegalensis* to conspecific body fluids  
**Fatsini, E., Carazo, I., Chauvigné, F., Machado, M., Cerdà, J., Hubbard, P. C. and Duncan, N. J.**
- 2066** Heat-resistant cytosolic malate dehydrogenases (cMDHs) of thermophilic intertidal snails (genus *Echinolittorina*): protein underpinnings of tolerance to body temperatures reaching 55°C  
**Liao, M., Zhang, S., Zhang, G., Chu, Y., Somero, G. N. and Dong, Y.**
- 2076** Escape path complexity and its context dependency in Pacific blue-eyes (*Pseudomugil signifer*)  
**Herbert-Read, J. E., Ward, A. J. W., Sumpter, D. J. T. and Mann, R. P.**
- 2082** Muscle–tendon mechanics explain unexpected effects of exoskeleton assistance on metabolic rate during walking  
**Jackson, R. W., Dembia, C. L., Delp, S. L. and Collins, S. H.**
- 2096** Model-assisted measurements of suspension-feeding flow velocities  
**Du Clos, K. T., Jones, I. T., Carrier, T. J., Brady, D. C. and Jumars, P. A.**
- 2108** Mechanical adaptability of sea cucumber Cuvierian tubules involves a mutable collagenous tissue  
**Demeuldre, M., Hennebert, E., Bonneel, M., Lengerer, B., Van Dyck, S., Wattiez, R., Ladurner, P. and Flammang, P.**
- 2120** Ecology of ontogenetic body-mass scaling of gill surface area in a freshwater crustacean  
**Glazier, D. S. and Paul, D. A.**