



Cover: A hatchling California two-spot octopus (*Octopus bimaculoides*). Ramirez and Oakley (pp. 1513-1520) show that light causes a dramatic expansion of pigmented chromatophores in octopus skin, even without input from the eyes or brain, which typically control chromatophore activity. This behavior (dubbed light-activated chromatophore expansion, or LACE) indicates that octopus skin is intrinsically light sensitive. Gene expression data also suggest that the same genes used in eyes operate in octopus skin and underlie LACE behavior. This study illustrates how 'old' genes expressed in a new place may contribute to the evolution of novel behaviors. Photo credit: Markos Alexandrou.

INSIDE JEB

- 1461** New antibody insecticide targets malaria mosquito; Cephalopods sense light with skin; Female butterflies digest sperm packages in love duel

CLASSICS

- 1464** An amazing discovery: bird navigation based on olfaction
Wallraff, H. G.

SHORT COMMUNICATION

- 1467** Ammonia first? The transition from cutaneous to branchial ammonia excretion in developing rainbow trout is not altered by exposure to chronically high NaCl
Zimmer, A. M. and Wood, C. M.

RESEARCH ARTICLES

- 1471** Warm acclimation and oxygen depletion induce species-specific responses in salmonids
Anttila, K., Lewis, M., Prokkola, J. M., Kanerva, M., Seppänen, E., Kolari, I. and Nikinmaa, M.
- 1478** Characterization of the target of ivermectin, the glutamate-gated chloride channel, from *Anopheles gambiae*
Meyers, J. I., Gray, M., Kuklinski, W., Johnson, L. B., Snow, C. D., Black, W. C., IV, Partin, K. M. and Foy, B. D.
- 1487** Mosquitocidal properties of IgG targeting the glutamate-gated chloride channel in three mosquito disease vectors (Diptera: Culicidae)
Meyers, J. I., Gray, M. and Foy, B. D.
- 1496** Intraspecific metabolic scaling exponent depends on red blood cell size in fishes
Luo, Y., He, D., Li, G., Xie, H., Zhang, Y. and Huang, Q.
- 1504** The potential effects of climate-change-associated temperature increases on the metabolic rate of a small Afrotropical bird
Thompson, L. J., Brown, M. and Downs, C. T.
- 1513** Eye-independent, light-activated chromatophore expansion (LACE) and expression of phototransduction genes in the skin of *Octopus bimaculoides*
Ramirez, M. D. and Oakley, T. H.
- 1521** Transcranial light affects plasma monoamine levels and expression of brain encephalopsin in the mouse
Flyktman, A., Mänttari, S., Nissilä, J., Timonen, M. and Saarela, S.
- 1527** Burrowing by small polychaetes – mechanics, behavior and muscle structure of *Capitella* sp.
Grill, S. and Dorgan, K. M.
- 1538** Controlled feeding trials with ungulates: a new application of *in vivo* dental molding to assess the abrasive factors of microwear
Hoffman, J. M., Fraser, D. and Clementz, M. T.
- 1548** Dynamic digestive physiology of a female reproductive organ in a polyandrous butterfly
Plakke, M. S., Deutsch, A. B., Meslin, C., Clark, N. L. and Morehouse, N. I.
- 1556** Spectral sensitivity of cone photoreceptors and opsin expression in two colour-divergent lineages of the lizard *Ctenophorus decresii*
Yewers, M. S., McLean, C. A., Moussalli, A., Stuart-Fox, D., Bennett, A. T. D. and Knott, B.
- 1564** Visual acuity trade-offs and microhabitat-driven adaptation of searching behaviour in psyllids (Hemiptera: Psylloidea: Aphalaridae)
Farnier, K., Dyer, A. G., Taylor, G. S., Peters, R. A. and Steinbauer, M. J.
- 1572** Diversity and evolution of sound production in the social behavior of *Chaetodon* butterflyfishes
Tricas, T. C. and Boyle, K. S.
- 1585** Sound pressure enhances the hearing sensitivity of *Chaetodon* butterflyfishes on noisy coral reefs
Tricas, T. C. and Boyle, K. S.
- 1596** Visual phototransduction components in cephalopod chromatophores suggest dermal photoreception
Kingston, A. C. N., Kuzirian, A. M., Hanlon, R. T. and Cronin, T. W.
- 1603** The lateral line is necessary for blind cavefish rheotaxis in non-uniform flow
Kulpa, M., Bak-Coleman, J. and Coombs, S.

CORRECTION

- 1613** Adhesive pad differentiation in *Drosophila melanogaster* depends on the Polycomb group gene *Su(z)2*
Hüsken, M., Hufnagel, K., Mende, K., Appel, E., Meyer, H., Peisker, H., Tögel, M., Wang, S., Wolff, J., Gorb, S. N. and Paululat, A.