Cover: Hammerhead sharks, with their strange-looking heads, have long fascinated humans. The scalloped hammerhead (Sphyrna lewini; pictured) and the bonnethead shark (Sphyrna tiburo) have similar whole-body velocities, and they vary amplitude and frequency along the length of their bodies. Hoffmann et al. (pp. 3336-3343) show that both species also exhibit a double oscillating system, such that the frequency of head yaw is greater than that of the rest of the body. This unique system may allow them to increase the frequency of sensory inputs without increasing overall undulatory frequency (and the associated energetic costs). Photo credit: Phillip Colla.

INSIDE JEB

3195 Termite mound lungs driven by solar power; Ants prefer UV shades; Trichoplax neuropeptide controls movement without nerves; Free largemouth bass are prolifigate swimmers

CONVERSATION

3198 Early-career researchers: an interview with Kakani Katija

CLASSICS

3201 The V-ATPase in insect epithelia

O'Donnell, M.

SHORT COMMUNICATION

3204 Field swimming behavior in largemouth bass deviates from predictions based on economy and propulsive efficiency

Han, A. X., Berlin, C. and Ellerby, D. J.

RESEARCH ARTICLES

3209 Biomineralization-related specialization of hemocytes and mantle tissues of the Pacific oyster Crassostrea gigas

Ivanina, A. V., Falfushynska, H. I., Beniash, E., Plonktivska, H. and Sokolova, I. M.

3222 Circularly polarized light detection in stomatopod crustaceans: a comparison of photoreceptors and possible function in six species


3231 Pharyngeal stimulation with sugar triggers local searching behavior in Drosophila

Murata, S., Brockmann, A. and Tanimura, T.

3238 A species-specific nematocide that results in terminal embryogenesis

Renahan, T. and Hong, R. L.

3248 Mechanical properties of sediment determine burrowing success and influence distribution of two lugworm species

Crane, R. L. and Merz, R. A.

3260 Solar-powered ventilation of African termite mounds


3270 Ammonia-independent sodium uptake mediated by Naþ channels and NHEs in the freshwater ribbon leech

Nephelopsis obscura


3280 Individual variation in metabolic reaction norms over ambient temperature causes low correlation between basal and standard metabolic rate

Briga, M. and Verhulst, S.

3290 Avian thermoregulation in the heat: resting metabolism, evaporative cooling and heat tolerance in Sonoran Desert songbirds


3301 Expression and light-dependent translocation of β-arrestin in the visual system of the terrestrial slug Limax valentianus

Matsuo, R., Takatori, Y., Hamada, S., Koyanagi, M. and Matsuo, Y.

3315 Innate colour preference, individual learning and memory retention in the ant Camponotus blandus

Yilmaz, A., Dyer, A. G., Rössler, W. and Spaethe, J.

3327 Molecular and ultrastructural studies of a fibrillar collagen from octocoral (Cnidaria)

Orgel, J. P. R. O., Sell, I., Madhurapantula, R. S., Antipova, O., Mandelberg, Y., Kashman, Y., Benayahu, D. and Benayahu, Y.

3336 Regional variation in undulatory kinematics of two hammerhead species: the bonnethead (Sphyrna tiburo) and the scalloped hammerhead (Sphyrma lewini)

Hoffmann, S. L., Warren, S. M. and Porter, M. E.

3344 CRISPR-induced null alleles show that Frost protects Drosophila melanogaster reproduction after cold exposure


3355 pH control in the midgut of Aedes aegypti under different nutritional conditions


3363 Mass scaling of metabolic rates in carabid beetles (Carabidae) – the importance of phylogeny, regression models and gas exchange patterns

Gudowska, A., Schramm, B. W., Czarnoleski, M., Antol, A., Bauchinger, U. and Kozlowski, J.

3372 Physiological responses to fluctuating temperatures are characterized by distinct transcriptional profiles in a solitary bee


3381 Neuropetidergic integration of behavior in Trichoplax adhaerens, an animal without synapses

Senatore, A., Reese, T. S. and Smith, C. L.

3391 Exogenous stress hormones alter energetic and nutrient costs of development and metamorphosis

Kirschman, L. J., McCue, M. D., Boyles, J. G. and Warne, R. W.