



Cover: Thoroughbred racehorses can reach maximum speeds of $\sim 19 \text{ m s}^{-1}$ but relatively little is known about the mechanics of these top speeds. Self Davies and colleagues (jeb204107) have now recorded ground reaction forces of multiple limbs during high-speed galloping. The forces recorded are in line with those predicted in the literature, although the distribution of the forces between the forelimbs and hindlimbs is closer to a 50:50 ratio rather than the 60:40 commonly cited for other gaits. Understanding the mechanics of the galloping gait of racehorses provides insight into injury risk and factors limiting athletic performance. Photo features jockey Richard Perham; photo credit: Alan Wilson.

INSIDE JEB

Stocky limbs help wild youngsters get ahead

Knight, K.

jeb211284

Scratch that tickle like a moulted locust

Knight, K.

jeb211292

Fake winter doesn't modify sculpin hearts as much as the real thing

Knight, K.

jeb210609

Echolocating porpoises fine-tune clicks to their surroundings

Knight, K.

jeb210955

EDITORIAL

The changing of the guard

Hoppeler, H. H.

jeb212183

REVIEW

Feedback to the future: motor neuron contributions to central pattern generator function

Barkan, C. L. and Zornik, E.

jeb193318

METHODS & TECHNIQUES

Augmenting biologging with supervised machine learning to study *in situ* behavior of the medusa *Chrysaora fuscescens*

Fannjiang, C., Mooney, T. A., Cones, S., Mann, D., Shorter, K. A. and Katija, K.

jeb207654

RESEARCH ARTICLES

CB₁ and CB₂ receptors play differential roles in early zebrafish locomotor development

Sufian, M. S., Amin, M. R., Kanyo, R., Allison, W. T. and Ali, D. W.

jeb206680

Streak formation in flow over biomimetic fish scale arrays

Muthuramalingam, M., Villemin, L. S. and Bruecker, C.

jeb205963

Developmental effects of heatwave conditions on the early life stages of a coral reef fish

Spinks, R. K., Munday, P. L. and Donelson, J. M.

jeb202713

Ground reaction forces of overground galloping in ridden Thoroughbred racehorses

Self Davies, Z. T., Spence, A. J. and Wilson, A. M.

jeb204107

Aimed limb movements in a hemimetabolous insect are intrinsically compensated for allometric wing growth by developmental mechanisms

Patel, A. J. and Matheson, T.

jeb208553

Effects of natural wing damage on flight performance in *Morpho* butterflies: what can it tell us about wing shape evolution?

Le Roy, C., Cornette, R., Llaurens, V. and Debat, V.

jeb204057

The distinct phenotypic signatures of dispersal and stress in an arthropod model: from physiology to life history

Dahirel, M., Masier, S., Renault, D. and Bonte, D.

jeb203596

Thermal acclimation and seasonal acclimatization: a comparative study of cardiac response to prolonged temperature change in shorthorn sculpin

Filatova, T. S., Abramochkin, D. V. and Shiels, H. A.

jeb202242

Context-dependent biosonar adjustments during active target approaches in echolocating harbour porpoises

Ladegaard, M. and Madsen, P. T.

jeb206169

Soft-surface grasping: radular opening in *Aplysia californica*

Kehl, C. E., Wu, J., Lu, S., Neustadter, D. M., Drushel, R. F., Smoldt, R. K. and Chiel, H. J.

jeb191254

Behavioural responses to video and live presentations of females reveal a dissociation between performance and motivational aspects of birdsong

James, L. S., Fan, R. and Sakata, J. T.

jeb206318

Regulation of blood flow in the pulmonary and systemic circuits during submerged swimming in common snapping turtle (*Chelydra serpentina*)

Kirby, A. R., Smith, B. and Crossley, D. A.

jeb205211

The effects of target contrast on *Drosophila* courtship

Agrawal, S. and Dickinson, M. H.

jeb203414

Ontogenetic change in predicted acoustic pressure sensitivity in larval red drum (*Sciaenops ocellatus*)

Salas, A. K., Wilson, P. S. and Fuiman, L. A.

jeb201962

Ontogeny of effective mechanical advantage in eastern cottontail rabbits (*Sylvilagus floridanus*)

Foster, A. D., Butcher, M. T., Smith, G. A., Russo, G. A., Thalluri, R. and Young, J. W.

jeb205237