



**Cover:** A 12 year old male from a wild population of mandrills (*Mandrillus sphinx*) monitored by the 'Mandrillus Project' (<http://www.cefe.cnrs.fr/en/mandrillus/presentation>). This male exhibits facial features typical of high social ranking (red nostrils and central stripe sharply contrasting with the blue ridges of the muzzle). Beaulieu et al. (pp. 2629–2632) found that such high-ranking males were the only individuals in the colony experiencing increased oxidative damage during the mating season, when social dominance between males is unstable. This suggests that the coupling between social rank and stability differentially affects the oxidative status of individuals living in hierarchically structured groups. Photo credit: Timo Brockmeyer.

### INSIDE JEB

- 2621** How bumblebees detect near and far; HP complex is not an essential hibernation switch; *Rhodnius* respiration depends on multiple factors; Largest squid have lowest anaerobic metabolic capacities

### OUTSIDE JEB

- 2624** Exercise when young to protect old bones; A novel ant protein for chemical communication; Deep appreciation for a freakish crab; Hidden capacity for water preservation in mammals

### SHORT COMMUNICATIONS

- 2627** Avian-style respiration allowed gigantism in pterosaurs  
**Ruxton, G.**
- 2629** The oxidative cost of unstable social dominance  
**Beaulieu, M., Mboumba, S., Willaume, E., Kappeler, P. M. and Charpentier, M. J. E.**

### RESEARCH ARTICLES

- 2633** Head movements and the optic flow generated during the learning flights of bumblebees  
**Riabinina, O., Hempel de Ibarra, N., Philippides, A. and Collett, T. S.**
- 2643** Following the sun: a mathematical analysis of the tracks of clock-shifted homing pigeons  
**Schiffner, I., Siegmund, B. and Wiltschko, R.**
- 2650** Chill coma temperatures appear similar along a latitudinal gradient, in contrast to divergent chill coma recovery times, in two widespread ant species  
**Maysov, A.**
- 2659** Transition from wing to leg forces during landing in birds  
**Provini, P., Tobalske, B. W., Crandell, K. E. and Abourachid, A.**
- 2667** Seasonal oscillation of liver-derived hibernation protein complex in the central nervous system of non-hibernating mammals  
**Seldin, M. M., Byerly, M. S., Petersen, P. S., Swanson, R., Balkema-Buschmann, A., Groschup, M. H. and Wong, G. W.**
- 2680** Social status differences regulate the serotonergic system of a cichlid fish, *Astatotilapia burtoni*  
**Loveland, J. L., Uy, N., Maruska, K. P., Carpenter, R. E. and Fernald, R. D.**
- 2691** Mitochondrial phenotypic flexibility enhances energy savings during winter fast in king penguin chicks  
**Monternier, P.-A., Marmillot, V., Rouanet, J.-L. and Roussel, D.**
- 2698** The spectral transmission of non-salticid spider corneas  
**Hu, Z., Xu, X., Chen, Z., Li, H., Wang, X., Wu, L., Liu, F., Chen, J. and Li, D.**
- 2704** Brightness discrimination in the day- and night-adapted wandering spider *Cupiennius salei*  
**Campione, E. and Schmid, A.**
- 2710** Slow swimming, fast-strikes: effects of feeding behavior on scaling of anaerobic metabolism in epipelagic squid  
**Trueblood, L. A. and Seibel, B. A.**
- 2717** The mechanics and behavior of cliff swallows during tandem flights  
**Shelton, R. M., Jackson, B. E. and Hedrick, T. L.**
- 2726** Effects of load magnitude, muscle length and velocity during eccentric chronic loading on the longitudinal growth of the vastus lateralis muscle  
**Sharifnezhad, A., Marzilger, R. and Arampatzis, A.**
- 2734** Parental experience of a risky environment leads to improved offspring growth rate  
**Besson, A. A., Guerreiro, R., Bellenger, J., Ragot, K., Faivre, B. and Sorci, G.**
- 2740** The hydrodynamics of swimming at intermediate Reynolds numbers in the water boatman (*Corixidae*)  
**Ngo, V. and McHenry, M. J.**
- 2752** Temperature-dependent variation in gas exchange patterns and spiracular control in *Rhodnius prolixus*  
**Heinrich, E. and Bradley, T.**
- 2761** Role of oleoylethanolamide as a feeding regulator in goldfish  
**Tinoco, A. B., Armirotti, A., Isorna, E., Delgado, M. J., Piomelli, D. and de Pedro, N.**
- 2770** Long-axis rotation: a missing degree of freedom in avian bipedal locomotion  
**Kambic, R. E., Roberts, T. J. and Gatesy, S. M.**
- 2783** Bees associate colour cues with differences in pollen rewards  
**Nicholls, E. and Hempel de Ibarra, N.**
- 2789** Desiccation resistance reflects patterns of microhabitat choice in a Central American assemblage of wandering spiders  
**Lapinski, W. and Tschapka, M.**
- 2796** The relative roles of vision and chemosensation in mate recognition of *Drosophila melanogaster*  
**Agarwal, S., Safarik, S. and Dickinson, M.**
- 2806** Conditioned hearing sensitivity reduction in a bottlenose dolphin (*Tursiops truncatus*)  
**Nachtigall, P. E. and Supin, A. Ya.**

### CORRECTION

- 2814** What a jerk: prey engulfment revealed by high-rate, supercranial accelerometry on a harbour seal (*Phoca vitulina*)  
**Ydesen, K. S., Wisniewska, D. M., Hansen, J. D., Beedholm, K., Johnson, M. and Madsen, P. T.**