Cover: This issue of Biology Open includes an Editorial (page 929), marking five years since the first issue was published. These striking cover images illustrate the diversity of research published by Biology Open. For individual captions and copyright information, please see the issue archive at http://bio.biologists.org/content/by/year.

EDITORIAL
929 Happy 5th Birthday Biology Open
Raff, J. W. and Hackett, R.

RESEARCH ARTICLES
931 Intra-generational protein malnutrition impairs temporal astrogenesis in rat brain
Naik, A. A., Patro, N., Seth, P. and Patro, I. K.

943 Proteomic responses to elevated ocean temperature in ovaries of the ascidian Ciona intestinalis

956 WNK1 and p38-MAPK distribution in ionocytes and accessory cells of euryhaline teleost fish implies ionoregulatory function
Marshall, W. S., Cozzi, R. R. F. and Spieker, M.

967 The Drosophila LIN54 homolog Mip120 controls two aspects of oogenesis

979 BMP-induced reprogramming of the neural retina into retinal pigment epithelium requires Wnt signalling

993 Intrinsic frequency response patterns in mechanosensory neurons of the leech
Fischer, L., Scherbarth, F., Chagnaud, B. and Felmy, F.

1000 Effects of altered sagittal trunk orientation on kinetic pattern in able-bodied walking on uneven ground
Aminighad, S. and Rode, C.

1008 Postmating sexual selection and the enigmatic jawed genitalia of Callorosbruchus subinnotatus

1013 Human TTBK1, TTBK2 and MARK1 kinase toxicity in Drosophila melanogaster is exacerbated by co-expression of human Tau
Fernius, J., Starkenberg, A., Pokrzywa, M. and Thor, S.

1024 Characterisation of phospholipid: diacylglycerol acyltransferases (PDATs) from Camelina sativa and their roles in stress responses
Yuan, L., Mao, X., Zhao, K., Ji, X., Ji, C., Xue, J. and Li, R.

1035 The effects of moderate intensity training in a hypoxic environment on transcriptional responses in Thoroughbred horses

1041 Developmental downregulation of LIS1 expression limits axonal extension and allows axon pruning
Kumamoto, K., Iguchi, T., Ishida, R., Uemura, T., Sato, M. and Hirotsune, S.

1056 Establishment of a retinal hypoxia organ culture model
Schmichels, S., Blak, M., Hurst, J., Dorfi, T., Bartz-Schmidt, K. U., Ziemssen, F., Spitzer, M. S. and Schultheiss, M.

1065 Cell lineage of timed cohorts of Tbx6-expressing cells in wild-type and Tbx6 mutant embryos

1074 Dietary saccharides and sweet tastants have differential effects on colonization of Drosophila oocytes by Wolbachia endosymbionts
Camacho, M., Oliva, M. and Serbus, L. R.

1084 GATA6 is essential for endoderm formation from human pluripotent stem cells
Fisher, J. B., Pulakanti, K., Rao, S. and Duncan, S. A.

1096 Effects of starvation on the carbohydrate metabolism in Harmonia axyridis (Pallas)

1104 Symmetrical retrograde actin flow in the actin fusion structure is involved in osteoclast fusion
Takito, J., Otsuka, H., Inoue, S., Kawashima, T. and Nakamura, M.

1115 Hagfish slime exude stabilization and its effect on slime formation and functionality