

CURRICULUM VITAE

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POSITION: Professor of Biology
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EDUCATION:

Purdue University	B.A.	1966	Biology
University of California, Irvine	Predoc	1968-70	Developmental Genetics
Case Western Reserve University	Ph.D.	1970	Developmental Genetics
Harvard University	Postdoc	1970-71	Molecular Genetics

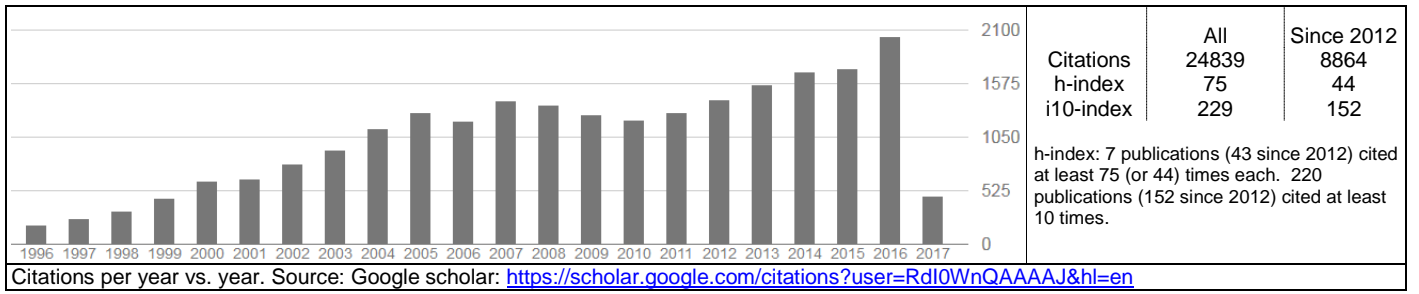
RESEARCH AND PROFESSIONAL EXPERIENCE:

1971-1977	Assistant Professor of Biology, University of Oregon
1977-1981	Associate Professor of Biology, University of Oregon
1977-1978	Visiting Research Scientist, Institute for Molecular Biology, Austrian Academy of Sciences, Salzburg, Austria
1981-present	Professor of Biology, University of Oregon
1982-1983	Visiting Research Scientist, CNRS, Laboratory of Eukaryotic Molecular Genetics, Strasbourg, France
1987-present	Affiliate, Institute of Molecular Biology, University of Oregon
1989-1990	Visiting Research Scientist, Imperial Cancer Research Fund, Oxford University, Oxford, Great Britain
1990-present	Member, Institute of Neuroscience, University of Oregon
2009	Visiting Researcher, Biozentrum, Universität Würzburg, Germany

AWARDS AND HONORS:

1966	Phi Beta Kappa, Purdue University
1974-1979	Research Career Development Award, National Institutes of Health
1979	Recipient, Ersted Distinguished Teaching Award, University of Oregon
1988	Fellow of the American Association for the Advancement of Science
1997	Recipient, Kezer Distinguished Teacher Award, Biology Department, University of Oregon
2000	Distinguished Alumnus Award, Purdue University
2001	Distinguished Alumnus Award, Jefferson High School, Lafayette, Indiana
2007	Medical Research Foundation Discovery Award
2007	Oregon Discovers Achievement Award
2009	Humbolt Research Award, Germany
2015	George W. Beadle Award, Genetics Society of America
2016	University of Oregon Outstanding Career Award, Research Excellence

PUBLICATIONS (2008 –2017)



2017

1. Lu Y, Boswell M, Boswell W, Kneitz S, Hausmann M, Klotz B, Regneri J, Savage M, Amores A, **Postlethwait J**, Warren W, Schartl M, Walter R. (2017) [Molecular genetic analysis of the melanoma regulatory locus in *Xiphophorus interspecies hybrids*](#). Mol Carcinog. 2017 Mar 27. doi: 10.1002/mc.22651. [Epub ahead of print]
2. Granneman JG, Kimler VA, Zhang H, Ye X, Luo X, **Postlethwait JH**, Thummel R. (2017) [Lipid droplet biology and evolution illuminated by the characterization of a novel perilipin in teleost fish](#). Elife. 6:e21771. doi: 10.7554/eLife.21771. PMC5342826.
3. Chao HT, Davids M, Burke E, Pappas JG, Rosenfeld JA, McCarty AJ, Davis T, Wolfe L, Toro C, Tifft C, Xia F, Stong N, Johnson TK, Warr CG; Undiagnosed Diseases Network., Yamamoto S, Adams DR, Markello TC, Gahl WA, Bellen HJ, Wangler MF, Malicdan MC. [A Syndromic Neurodevelopmental Disorder Caused by De Novo Variants in EBF3](#). Am J Hum Genet. 2017 Jan 5;100(1):128-137. PMC5223093
4. Gardell AM, von Hippel FA, Adams EM, Dillon DM, Petersen AM, **Postlethwait JH**, Cresko WA, Buck CL. (2017) [Exogenous iodide ameliorates perchlorate-induced thyroid phenotypes in threespine stickleback](#). Gen Comp Endocrinol. 243:60-69. PMC5318228.
5. Suarez-Bregua P, Torres-Nuñez E, Saxena A, Guerreiro P, Braasch I, Prober DA, Moran P, Cerda-Reverter JM, Du SJ, Adrio F, Power DM, Canario AV, **Postlethwait JH**, Bronner ME, Cañestro C, Rotllant J. (2017) [Pth4, an ancient parathyroid hormone lost in eutherian mammals, reveals a new brain-to-bone signaling pathway](#). FASEB J. 31:569-583. PMC5240660

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6. Sukeena JM, Galicia CA, Wilson JD, McGinn T, Boughman JW, Robison BD, **Postlethwait JH**, Braasch I, Stenkamp DL, Fuerst PG. (2016) [Characterization and Evolution of the Spotted Gar Retina](#). J Exp Zool B Mol Dev Evol. 2016 Nov 9. doi: 10.1002/jez.b.22710. [Epub ahead of print]
7. Böhne A, Wilson CA, **Postlethwait JH**, Salzburger W. (2016) [Variations on a theme: Genomics of sex determination in the cichlid fish *Astatotilapia burtoni*](#). BMC Genomics. 2016 Nov 7;17(1):883.
8. Bertho S, Pasquier J, Pan Q, Le Trionnaire G, Bobe J, **Postlethwait JH**, Pailhoux E, Schartl M, Herpin A, Guiguen Y. (2016) [Foxl2 and Its Relatives Are Evolutionary Conserved Players in Gonadal Sex Differentiation](#). Sex Dev. 2016;10(3):111-29. doi: 10.1159/000447611.
9. Postlethwait JH, Yan YL, Desvignes T, Allard C, Titus T, Le François NR, Detrich HW 3rd. (2016) [Embryogenesis and early skeletogenesis in the Antarctic Bullhead notothen, *Notothenia coriiceps*](#). Dev Dyn. 2016 Aug 10. doi: 10.1002/dvdy.24437. [Epub ahead of print]
10. Schartl M, Kneitz S, Roco A, Kottler VA, Anderson J, Schories S, Nanda I, Schmid M, Volf J-N, Postlethwait JH, Guiguen Y. (2016) Molecular Differentiation Markers for the Analyses of Sex Determination Diversity and Sex Chromosome Evolution in Fish M. [Cytogenet Genome Res](#). 148:83-155. doi: 10.1159/000446523.
11. Askary A, Smeeton J, Paul S, Schindler S, Braasch I, Ellis NA, Postlethwait J, Miller, CT, Crump JG. (2016) [Ancient origin of lubricated joints in bony vertebrates](#). eLife 2016;5:e16415.
12. Petersen AM, Earp NC, Redmond ME, Postlethwait JH, von Hippel FA, Buck CL, Cresko WA. (2016) [Perchlorate Exposure Reduces Primordial Germ Cell Number in Female Threespine Stickleback](#). PLoS One. 2016 Jul 6;11(7):e0157792. doi: 10.1371/journal.pone.0157792. eCollection 2016.
13. Pan Q, Anderson J, Bertho S, Herpin A, Wilson C, Postlethwait JH, Schartl M, Guiguen Y. (2016) [Vertebrate sex-determining genes play musical chairs](#). C R Biol. 2016 Jul-Aug;339(7-8):258-62. doi: 10.1016/j.crv.2016.05.010. Epub 2016 Jun 10.

14. Talbot JC, Nichols JT, Yan YL, Leonard IF, BreMiller RA, Amacher SL, Postlethwait JH, Kimmel CB. (2016) [Pharyngeal morphogenesis requires fras1-itga8-dependent epithelial-mesenchymal interaction.](#) Dev Biol. 2016 Jun 2. pii: S0012-1606(16)30105-1. doi: 10.1016/j.ydbio.2016.05.035. [Epub ahead of print]
15. Braasch I, Gehrke AR, Smith JJ, Kawasaki K, Manousaki T, Pasquier J, Amores A, Desvignes T, Batzel P, Catchen J, Berlin AM, Campbell MS, Barrell D, Martin KJ, Mulley JF, Ravi V, Lee AP, Nakamura T, Chalopin D, Fan S, Wcisel D, Cañestro C, Sydes J, Beaudry FE, Sun Y, Hertel J, Beam MJ, Fasold M, Ishiyama M, Johnson J, Kehr S, Lara M, Letaw JH, Litman GW, Litman RT, Mikami M, Ota T, Saha NR, Williams L, Stadler PF, Wang H, Taylor JS, Fontenot Q, Ferrara A, Searle SM, Aken B, Yandell M, Schneider I, Yoder JA, Volff JN, Meyer A, Amemiya CT, Venkatesh B, Holland PW, Guiguen Y, Bobe J, Shubin NH, Di Palma F, Alfo Ldi J, Lindblad-Toh K, Postlethwait JH. (2016) [Corrigendum: The spotted gar genome illuminates vertebrate evolution and facilitates human-teleost comparisons.](#) Nat Genet. 2016 May 27;48(6):700. doi: 10.1038/ng0616-700c.
16. Pasquier J, Cabau C, Nguyen T, Jouanno E, Severac D, Braasch I, Journot L, Pontarotti P, Klopp C7, Postlethwait JH, Guiguen Y, Bobe J. (2016) [Gene evolution and gene expression after whole genome duplication in fish: the PhyloFish database.](#) BMC Genomics. 2016 May 18;17(1):368. doi: 10.1186/s12864-016-2709-z.
17. Kneitz S, Mishra RR, Chalopin D, Postlethwait J, Warren WC, Walter RB, Schartl M. (2016) [Germ cell and tumor associated piRNAs in the medaka and Xiphophorus melanoma models.](#) BMC Genomics. 2016 May 17;17(1):357. doi: 10.1186/s12864-016-2697-z.
18. Desvignes T, Detrich HW 3rd, Postlethwait JH. (2016) [Genomic conservation of erythropoietic microRNAs \(erythromiRs\) in white-blooded Antarctic icefish.](#) Mar Genomics. 2016 May 14. pii: S1874-7787(16)30037-X. doi: 10.1016/j.margen.2016.04.013. [Epub ahead of print].
19. Braasch I, Gehrke AR, Smith JJ, Kawasaki K, Manousaki T, Pasquier J, Amores A, Desvignes T, Batzel P, Catchen J, Berlin AM, Campbell MS, Barrell D, Martin KJ, Mulley JF, Ravi V, Lee AP, Nakamura T, Chalopin D, Fan S, Wcisel D, Cañestro C, Sydes J, Beaudry FE, Sun Y, Hertel J2, Beam MJ, Fasold M, Ishiyama M, Johnson J, Kehr S, Lara M8, Letaw JH, Litman GW, Litman R, Mikami M, Ota T, Saha NR, Williams L, Stadler PF, Wang H, Taylor JS, Fontenot Q, Ferrara A, Searle SM, Aken B, Yandell M, Schneider I, Yoder JA, Volff JN, Meyer A, Amemiya CT, Venkatesh B, Holland PW, Guiguen Y, Bobe J, Shubin NH, Di Palma F, Alföldi J, Lindblad-Toh K, Postlethwait JH. (2016) [The spotted gar genome illuminates vertebrate evolution and facilitates human-teleost comparisons.](#) Nat Genet. 2016 Apr;48(4):427-37. doi: 10.1038/ng.3526. Epub 2016 Mar 7.
20. Kanamori A, Sugita Y, Yuasa Y, Suzuki T, Kawamura K, Uno Y, Kamimura K, Matsuda Y, Wilson CA, Amores A, Postlethwait JH, Suga K, Sakakura Y. (2016) [A Genetic Map for the Only Self-Fertilizing Vertebrate.](#) G3 (Bethesda). 2016 Apr 7;6(4):1095-106. doi: 10.1534/g3.115.022699.
21. Shen Y, Chalopin D, Garcia T, Boswell M, Boswell W, Shiryev SA, Agarwala R, Volff JN, Postlethwait JH, Schartl M, Minx P, Warren WC, Walter RB. (2016) [X. couchianus and X. hellerii genome models provide genomic variation insight among Xiphophorus species.](#) BMC Genomics. 2016 Jan 7;17:37. doi: 10.1186/s12864-015-2361-z.
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24. Schartl M, Shen Y, Maurus K, Walter R, Tomlinson C, Wilson RK, Postlethwait J, Warren WC. (2015) [Whole Body Melanoma Transcriptome Response in Medaka](#). PLoS One. 2015 Dec 29;10(12):e0143057. doi: 10.1371/journal.pone.0143057. eCollection
25. Tallafuss A, Kelly M, Gay L, Gibson D, Batzel P, Karfilis KV, Eisen J, Stankunas K, Postlethwait JH, Washbourne P. (2015) [Transcriptomes of post-mitotic neurons identify the usage of alternative pathways during adult and embryonic neuronal differentiation](#). BMC Genomics. 2015 Dec 23;16:1100. doi: 10.1186/s12864-015-2215-8.
26. Desvignes T, Batzel P, Berezikov E, Eilbeck K, Eppig JT, McAndrews MS, Singer A, Postlethwait JH. (2015) [miRNA Nomenclature: A View Incorporating Genetic Origins, Biosynthetic Pathways, and Sequence Variants](#). *Trends Genet.* 31:613-26. doi: 10.1016/j.tig.2015.09.002. PMC4639415
27. Postlethwait JH. (2015) ["Wrecks of Ancient Life": Genetic Variants Vetted by Natural Selection](#). *Genetics.* 200 (3), 675-678.
28. Lin JC, Hu S, Ho PH, Hsu HJ, Postlethwait J, Chung B. (2015) [Two zebrafish hsd3b genes are distinct in function, expression and evolution](#). *Endocrinology.* 156:2854–2862.
29. Furin CG, von Hippel FA, Postlethwait JH, Buck CL, Cresko WA. (2015) [Developmental timing of sodium perchlorate exposure alters angiogenesis, thyroid follicle proliferation and sexual maturation in stickleback](#). *Gen Comp Endocrinol.* 219:24-35.
30. Petersen A, Earp N, Fitch C, Redmond A, Yan Y, Bremiller R, et al., editors. (2015) Perchlorate exposure alters gene expression in primary germ cells and developing gonads of zebrafish and stickleback fishes. *Integr Comp Biol.* Oxford Univ Press Inc., Cary, NC.
31. Manger M, Gardell A, Buck C, Von Hippel F, Petersen A, Cresko W, et al., editors. The effects of perchlorate, iodide and thyroid hormone on the kidney and gonad morphology of the threespine stickleback. *Integr Comp Biol.* Oxford Univ Press Inc., Cary, NC.
32. Furin CG, von Hippel FA, Postlethwait J, Buck CL, Cresko WA, O'Hara TM. (2015) [Developmental timing of perchlorate exposure alters threespine stickleback dermal bone](#). *Gen Comp Endocrinol.* 219:36-44.
33. McCluskey BM, Postlethwait JH. (2015) [Phylogeny of Zebrafish, a "Model Species," within Danio, a "Model Genus"](#). *Mol Biol Evol.* 32:635-52.
34. Gardell AM, Dillon DM, Smayda LC, von Hippel FA, Cresko WA, Postlethwait JH, et al. (2015) [Perchlorate exposure does not modulate temporal variation of whole-body thyroid and androgen hormone content in threespine stickleback](#). *Gen Comp Endocrinol.* 219:45-52.
35. Huang J, Zhong Z, Wang M, Chen X, Tan Y, Zhang S, et al. (2015) [Circadian Modulation of Dopamine Levels and Dopaminergic Neuron Development Contributes to Attention Deficiency and Hyperactive Behavior](#). *J Neurosci.* 35:2572-87.
36. Liu C, Hu J, Qu C, Wang L, Huang G, Niu P, et al. (2015) [Molecular evolution and functional divergence of zebrafish \(Danio rerio\) cryptochrome genes](#). *Sci Rep.* 5:8113.
37. Gehrke AR, Schneider I, de la Calle-Mustienes E, Tena JJ, Gomez-Marin C, Chandran M, et al. (2015) [Deep conservation of wrist and digit enhancers in fish](#). *Proc Natl Acad Sci U S A.* 112:803-8.
38. Petersen AM, Dillon D, Bernhardt RR, Torunsky R, Postlethwait JH, von Hippel FA, et al. (2015) [Perchlorate disrupts embryonic androgen synthesis and reproductive development in threespine stickleback without changing whole-body levels of thyroid hormone](#). *Gen Comp Endocrinol.* 210:130-44.

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39. McCluskey BM, **Postlethwait JH.** (2014) [Phylogeny of zebrafish, a 'model species', within Danio, a 'model genus'](#). *Mol Biol Evol.* 32(3):635-52.

40. Shin S, Ahn D, Kim S, Pyo C, Lee H, Kim MK, Lee J, Lee J, Detrich H, Postlethwait JH, Edwards D, Lee S, Lee J, Park H. (2014) [The genome sequence of the Antarctic bullhead notothen reveals evolutionary adaptations to a cold environment](#). *Genome Biol.* 2014 Sep 25;15(9):468. [Epub ahead of print]. PMC4192396.
41. Wilson CA, High SK, McCluskey BM, Amores A, Yan YL, Titus TA, Anderson JL, Batzel P, Carvan MJ 3rd, Schartl M, Postlethwait JH. (2014) [Wild Sex in Zebrafish: Loss of the Natural Sex Determinant in Domesticated Strains](#). *Genetics*. pii: genetics.114.169284. [Epub ahead of print] PMID: 25233988 [Selected by the journal as one of 12 articles in: 'Genetics Spotlight, A showcase of research and scholarship in selected articles from 2014'.]
42. Tallafuss A, Washbourne P, Postlethwait J. (2014) [Temporally and spatially restricted gene expression profiling](#). *Curr Genomics*. 2014 Aug;15(4):278-92. PMC4133951. doi: 10.2174/1389202915666140602230106.
43. Braasch I, Peterson SM, Desvignes T, McCluskey BM, Batzel P, Postlethwait JH. (2014) [A New Model Army: Emerging fish models to study the genomics of vertebrate Evo-Devo](#). *J Exp Zool B Mol Dev Evol*. Epub ahead of print. 2014 Aug 11. doi: 10.1002/jez.b.22589. NIHMS 617646.
44. Desvignes T, Beam MJ, Batzel P, Sydes J, **Postlethwait JH**. (2014) [Expanding annotated zebrafish microRNAs based on smallRNA sequencing](#). *Gene*. 546:386-389. NIHMS 24835514.
45. Amores A, Catchen J, Nanda I, Warren W, Walter R, Schartl M, Postlethwait JH. (2014) [A RAD-tag Genetic Map for the Platyfish \(*Xiphophorus maculatus*\) Reveals Mechanisms of Karyotype Evolution Among Teleost Fish](#). *Genetics*. 2014 Apr 2. [Epub ahead of print]. PMC4063920.
46. Desvignes T, Contreras A, Postlethwait JH. (2014) [Evolution of the *miR199-214* cluster and vertebrate skeletal development](#). *RNA Biology* 11:281-294. PMC4075512.
47. Braasch I, Guiguen Y, Loker R, Letaw JH, Ferrara A, Bobe J, **Postlethwait JH**. (2014) [Connectivity of vertebrate genomes: Paired-related homeobox \(*Prrx*\) genes in spotted gar, basal teleosts, and tetrapods](#). *Comp Biochem Physiol C Toxicol Pharmacol*. 163:24-36. PMC4032612.
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49. Korenbrot JI, Mehta M, Tserentsoodol N, **Postlethwait JH**, Rebrik TI. (2013) [EML1 \(CNG-modulin\) controls light sensitivity in darkness and under continuous illumination in zebrafish retinal cone photoreceptors](#). *J Neurosci*. 33:17763-76. PMC3818550.
50. Rodríguez-Marí A, Cañestro C, BreMiller RA, Catchen JM, Yan YL, **Postlethwait JH**. (2013) [Retinoic acid metabolic genes, meiosis, and gonadal sex differentiation in zebrafish](#). *PLoS One*. 8:e73951. PMC3769385.
51. Zhang G, Hoersch S, Amsterdam A, Whittaker CA, Beert E, Catchen JM, Farrington S, **Postlethwait JH**, Legius E, Hopkins N, Lees JA. (2013) [Comparative oncogenomic analysis of copy number alterations in human and zebrafish tumors enables cancer driver discovery](#). *PLoS Genet*. 9:e1003734. PMC3757083
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54. Howe K, Clark MD, Torroja CF, Torrance J, Berthelot C, Muffato M, Collins JE, Humphray S, McLaren K, Matthews L, McLaren S, Sealy I, Caccamo M, Churcher C, Scott C, Barrett JC, Koch R, Rauch GJ, White S, Chow W, Kilian B, Quintais LT, Guerra-Assunção JA, Zhou Y, Gu Y, Yen J, Vogel JH, Eyre T, Redmond S, Banerjee R, Chi J, Fu B, Langley E, Maguire SF, Laird GK, Lloyd D, Kenyon E, Donaldson S, Sehra H, Almeida-King J, Loveland J, Trevanion S, Jones M, Quail M, Willey D, Hunt A, Burton J, Sims S, McLay K, Plumb B, Davis J, Cleve C, Oliver K, Clark R, Riddle C, Elliott D, Threadgold G, Harden G, Ware D, Mortimer B, Kerry G, Heath P, Phillimore B, Tracey A, Corby N, Dunn M, Johnson C, Wood J, Clark S, Pelan S, Griffiths G, Smith M, Glithero R, Howden P, Barker N, Stevens C, Harley J, Holt K, Panagiotidis G, Lovell J, Beasley H, Henderson C, Gordon D, Auger K, Wright D, Collins J, Raisen C, Dyer L, Leung K, Robertson L, Ambridge K, Leongamornlert D, McGuire S, Gilderthorp R, Griffiths C, Manthravadi D, Nichol S, Barker G, Whitehead S, Kay M, Brown J, Murnane C, Gray E, Humphries M, Sycamore N, Barker D, Saunders D, Wallis J, Babbage A, Hammond S, Mashreghi-Mohammadi M, Barr L, Martin S, Wray P, Ellington A, Matthews N, Ellwood M, Woodmansey R, Clark G, Cooper J, Tromans A, Grafham D, Skuce C, Pandian R, Andrews R, Harrison E, Kimberley A, Garnett J, Fosker N, Hall R, Garner P, Kelly D, Bird C, Palmer S, Gehring I, Berger A, Dooley CM, Ersan-Ürün Z, Eser C, Geiger H, Geisler M, Karotki L, Kirn A, Konantz J, Konantz M, Oberländer M, Rudolph-Geiger S, Teucke M, Osoegawa K, Zhu B, Rapp A, Widaa S, Langford C, Yang F, Carter NP, Harrow J, Ning Z, Herrero J, Searle SM, Enright A, Geisler R, Plasterk RH, Lee C, Westerfield M, de Jong PJ, Zon LI, **Postlethwait JH**, Nüsslein-Volhard C, Hubbard TJ, Roest Crolius H, Rogers J, Stemple DL. (2013) [The zebrafish reference genome sequence and its relationship to the human genome](#). *Nature*. 496:498-503. PMID:23594743. PMC3703927. [Despite the long list of authors, I actually played a major role in getting this genome project back on track, as documented in the acknowledgements section of the paper "The Zebrafish Genome Project was coordinated by L.I.Z., J.H.P., C.N.-V., T.J.P.H., J.R. and D.L.S.". In addition, one of our many contributions to this project was highlighted in a review of this work (Gross, M. 2013 *Current Biology*, 23:R419-R421, 20 May 2013).]
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56. Meng F, Zhao Y, **Postlethwait JH**, Zhang C. (2013) [Differentially-expressed opsin genes identified in *Sinocyclocheilus cavefish* endemic to China](#). *Curr Zool*. 59:170-174. PMC3868444.

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