

Publications of Thomas Flatt

- h-index: 50 (10'210 citations; <http://scholar.google.ch/citations?user=hnOIPdEAAAAJ&hl=en>)
- [113] Paris, M., Durmaz Mitchell, E., Kerdaffrec, E., Rubin, D., Spichtig, C., Zurbriggen, F., Becker, J., Augustijnen, H., Thyagarajan, H., Zinn, E., Gagliardi, F., Gobet, E., Rey, T., Rime, Y., Ribeiro Machado, S., Bachmann, J., Sgammeglia, N., Schmidt, P., and **T. Flatt**. 2025. Multiple Forms of Balancing Selection Maintain Inversion Polymorphism. **In revision**.
- [112] Durmaz Mitchell, E., Kerdaffrec, E., Schmidt, P., **Flatt, T.***, and S. Kittelmann*. 2025. A balanced inversion polymorphism exhibits dominance reversals at the gene expression level that depend on developmental context. **In revision** [*co-corresponding authors; co-senior authors].
- [111] Nunez, J.C.B., Coronado-Zamora, M., Gautier, M., Kapun, M., Steindl, S., Ometto, L., Hoedjes, K.M., Beets, J., Wiberg, R.A.W., Mazzeo, G.R., Bass, D.J., Radionov, D., Kozeretska, I., Zinchenko, M., Protsenko, O., Serga, S., Amor-Jimenez, C., Casillas, S., Sanchez-Gracia, A., Patenkovic, A., Glaser-Schmitt, A., Barbadilla, A., Buendia-Ruiz, A.J., Bertelli, A.C., Kiss, B., Önder, B.S., Matrín, B.R., Wertheim, B., Deschamps, C., Arboleda-Bustos, C.E., Tinedo, C., Feller, C., Schlötterer, C., Lawler, C., Fricke, C., Vieira, C.P., Vieira, C., Obbard, D.J., Orengo, D., Vela, D., Amat, E., Loreto, E., Kerdaffrec, E., Durmaz Mitchell, E., Puerma, E., Staubach, F., Camus, F., Colinet, H., Hrcek, J., Sørensen, J.G., Abbott, J., Torro, J., Parsch, J., Vieira, J., Olmo, J.L., Khafif, K., Wojciechowski, K., Madi-Ravazzi, L., Kankare, M., Schou, M.F., Ladoukakis, M., Gomez-Julian, M.J., Espinosa-Jimenez, M.L., Garcia-Guerreiro, M.P., Parakatselaki, M.-E., Veselinovic, M.S., Tanaskovic, M., Stamenkovic-Radak, M., Paris, M., Pascual, M., Ritchie, M.G., Rera, M., Jelić, M., Ansari, M.H., Rakic, M., Merenciano, M., Hernandes, N., Gora, N., Rode, N., Rota-Stabelli, O., Sepulveda, P., Gibert, P., Carazo, P., Kohlmeier, P., Erickson, P.A., Vitalis, R., Torres, R., Guirao-Rico, S., Ramos-Onsins, S.E., Castillo, S., Paulo, T.F., Tyukmaeva, V., Alonso, Z., Alatortsev, V., Pasyukova, E., Mukha, D., Petrov, D., Schmidt, P., **Flatt, T.** *, Bergland, A.O. *, and J. González*. 2025. Footprints of worldwide adaptation in structured populations of *D. melanogaster* through the expanded DEST 2.0 genomic resource. **In revision**, preprint: <https://doi.org/10.1101/2024.11.10.622744> [*co-senior authors, equal contribution].
- [110] Durmaz Mitchell, E.*, Kerdaffrec, E., Harney, E., Paulo, T., Savic Veselinovic, M. Tanaskovic, M., Tyukmaeva, V., Abaurrea Fernandez de Arcaya, T., Aksoy, C., Argyridou, E., Bailly, T.P.M., Can, D., Cobanoglu, E., Cook, N., Coşkun, S., Davidovic, S., Demir, E., Dias, T., Rasouli-Dogaheh, S., Duque, P., Eric, K., Eric, P., Erickson, P., Filipovski, F., Fishman, B., Glaser-Schmitt, A., Goldfischer, A., Green, L., Jaillon, S., Jelic, M., Kostic, H., Kreiman, L.E., Kremer, N., Lyrakis, M., Maistrenko, O.M., Marti, S.-L., McGunnigle, M., Merenciano, M., Mira, M., Montbel, V., Mouton, L., Mukha, D.V., Murali, S., Patenkovic, A., Protsenko, O., Putero, F.A., Reis, M., Roshina, N.V., Rybina, O.Y., Schou, M.F., Schowling, T., Senkal, S.S., Serga, S., Trieu, V., Symonenko, A.V., Trostnikov, M.V., Tsybul'ko, E.A., van den Heuvel, J., van Waarde, D., Veselkina, E.R., Vieira, C.P., Wang, X., Zandveld, J., Abbott, J., Billeter, J.-C., Colinet, H., Ebrahimi, M., Gibert, P., Hrcek, J., Kankare, M., Kozeretska, I., Loeschcke, V., Mensch, J., Onder, B.S., Parsch, J., Pasyukova, E.G., Stamenkovic-Radak, M., Tauber, E., Vieira, C., Wegener, C., Hoedjes, K.M., Zwaan, B.J., Betancourt, A.J., Fricke, C., Grath, S., Posnien, N., Vieira, J., Kapun, M., Schlötterer, C., Schmidt, P., Sucena, E., González, J., Bergland, A.O., Ritchie, M.G., and **T. Flatt***. 2025. Continent-wide differentiation of fitness traits and patterns of climate adaptation among European populations of *Drosophila melanogaster*. **Evolution Letters**, in press [*co-corresponding authors].
- [109] Hoedjes, K. M., Grath, S., Posnien, N., Ritchie, M. G., Schlötterer, C., Abbott, Jessica K., Almudi, I., Coronado-Zamora, M., Durmaz Mitchell, E., **Flatt, T.**, Fricke, C., Glaser-Schmitt, A., González, J., Holman, L., Kankare, M., Lenhart, B., Orengo, D. J., Snook, R. S., Yilmaz, V. M., and L. Yusuf. 2024.

- From whole bodies to single cells: a guide to transcriptomic approaches for ecology and evolutionary biology. ***Molecular Ecology*** e17382. <https://doi.org/10.1111/mec.17382>
- [108] Rodrigues, M.A., Dauphin-Villemant, C., Paris, M., Kapun, M., Durmaz Mitchell, E., Kerdaffrec, E., and **T. Flatt**. 2024. Germline proliferation trades off with lipid metabolism in *Drosophila*. ***Evolution Letters*** 8: 295-310. <https://doi.org/10.1093/evlett/qrad059>
- [107] Berdan, E.L.*, Barton, N.H., Butlin, R., Charlesworth, B., Faria, R., Fragata, I., Gilbert, K.J., Jay, P., Kapun, M., Lotterhos, K.E., Mérot, C., Durmaz Mitchell, E., Pascual, M., Peichel, C.L., Rafajlović, M., Westram, A.M., Schaeffer, S.W.*; Johannesson, K.*; and **T. Flatt*** 2023. How chromosomal inversions reorient the evolutionary process. [*co-corresponding authors]. ***Journal of Evolutionary Biology*** 36:1761-1782. <http://doi.org/10.1111/jeb.14242>
- [106] Santos, J., Matos, M., **Flatt, T.**, and I.M. Chelo. 2023. Microbes are potential key players in the evolution of life histories and aging in *Caenorhabditis elegans*. ***Ecology and Evolution*** 13(9):e10537. <https://doi.org/10.1002/ece3.10537>
- [105] Kapun, M.*, Durmaz Mitchell, E., Kawecki, T.J., Schmidt, P., and **T. Flatt*** 2023. An Ancestral Balanced Inversion Polymorphism Confers Global Adaptation. [*co-corresponding authors]. ***Molecular Biology and Evolution*** 40(6):msad118. <https://doi.org/10.1093/molbev/msad118>
- [104] Rau, V., **Flatt, T.**, and J. Korb. 2023. Remoulding of dietary effects on the fecundity / longevity trade-off in a social insect. ***BMC Genomics*** 24:244. <https://doi.org/10.1186/s12864-023-09335-z>
- [103] Hoedjes, K. M.*, Kostic, H., **Flatt, T.***, and L. Keller*. 2023. A single nucleotide variant in the PPAR γ homolog *Eip75B* affects fecundity in *Drosophila*. [*co-corresponding authors]. ***Molecular Biology and Evolution*** 40(2):msad018. <https://doi.org/10.1093/molbev/msad018>
- [102] Hoedjes, K. M.*, Kostic, H., Keller, L.*; and **T. Flatt***. 2022. Natural alleles at the *Doa* locus underpin evolutionary changes in *Drosophila* lifespan and fecundity. [*co-corresponding authors]. ***Proceedings of the Royal Society of London B*** 289:20221989. <https://doi.org/10.1098/rspb.2022.1989>
- [101] Berdan, E. L., **Flatt, T.**, Kozak, G. M., Lotterhos, K. E., and B. Wielstra. 2022. Genomic architecture of supergenes: Connecting form and function. ***Philosophical Transactions of the Royal Society of London B*** 377:20210192. <https://doi.org/10.1098/rstb.2021.0192>
- [100] Berdan, E. L., Blanckaert, A., Butlin, R., **Flatt, T.**, Slotte, T., and B. Wielstra. 2022. Mutation accumulation opposes polymorphism: Supergenes and the curious case of balanced lethals. ***Philosophical Transactions of the Royal Society of London B*** 377:20210199. <https://doi.org/10.1098/rstb.2021.0199>
- [99] Hoffmann, A. A.*; and **T. Flatt***. 2022. The Rapid Tempo of Adaptation. [*equal contribution]. ***Science*** 375: 1226-1227. <https://doi.org/10.1126/science.abo1817>
- [98] Promislow, D.E.L.*; **Flatt, T.***, and R. Bonduriansky*. 2022. The Biology of Aging in Insects: From *Drosophila* to Other Insects and Back. [*equal contribution; co-corresponding authors]. ***Annual Review of Entomology*** 67:83-103. <https://doi.org/10.1146/annurev-ento-061621-064341>
- [97] Nunez, J.C.B., Margot, P., Machado, H. E., Bogaerts, M., Gonzalez, J., **Flatt, T.**, Coronado, M., Kapun, M., Schmidt, P., Petrov, D.A., and A. O. Bergland. 2021. Note: Updating the metadata of four misidentified samples in the DrosRTEC dataset. Published as a non-peer-reviewed preprint: <https://www.biorxiv.org/content/10.1101/2021.01.26.428249v1>
- [96] Rodrigues, M.A., Merckelbach, A., Durmaz, E., Kerdaffrec, E., and **T. Flatt**. 2021. Transcriptomic Evidence for a Trade-off between Germline Proliferation and Immunity in *Drosophila*. ***Evolution Letters*** 5:644-656. <https://doi.org/10.1002/evl3.261>
- [95] Kapun, M.*; Nunez, J.C.B.; Bogaerts-Márquez, M.; Murga-Moreno, J.; Paris, M.; Outten, J.; Coronado-Zamora, M.; Tern, C.; Rota-Stabelli, O.; García Guerreiro, M.P.; Casillas, S.; Orengo, D.J.; Puerma, E.; Kankare, M.; Ometto, L.; Loeschke, V.; Onder, B.S.; Abbott, J.K.; Schaeffer, S.W.,

- Rajpurohit, S., Behrman, E.L., Schou, M.F., Merritt, T.J.S., Lazzaro, B.P., Glaser-Schmitt, A., Argyridou, E., Staubach, F., Wang, Y., Tauber, E., Serga, S.V., Fabian, D.K., Dyer, K.A., Wheat, C.W., Parsch, J., Grath, S., Savic Veselinovic, M., Stamenkovic-Radak, M., Jelic, M., Buendía-Ruiz, A.J., Gómez-Julián, J., Espinosa-Jimenez, L., Gallardo-Jiménez, F.D., Patenkovic, A., Eric, K., Tanaskovic, M., Ullastres, A., Guio, L., Merenciano, M., Guirao-Rico, S., Horváth, V., Obbard, D.J., Pasyukova, E., Alatortsev, V.E., Vieira, C.P., Vieira, J., Torres, J.R., Kozeretska, I., Maistrenko, O.M., Montchamp-Moreau, C., Mukha, D.V., Barbadilla, A., Petrov, D.*., Schmidt, P.*., Gonzalez, J.*., **Flatt, T.*.**, and A.O. Bergland*. 2021. *Drosophila* Evolution over Space and Time (DEST) – A New Population Genomics Resource. [*co-corresponding authors]. ***Molecular Biology and Evolution*** 38:5782-5805. <https://doi.org/10.1093/molbev/msab259> [*Cover article].
- [94] Machado, H.E., Bergland, A.O., Taylor, R., Tilk, S., Behrman, E., Dyer, K., Fabian, D.K., **Flatt, T.**, González, J., Karasov, T.L., Kim, B., Kozeretska, I., Lazzaro, B. P., Merritt, T.J.S., Pool, J.E., O'Brien, K.O., Rajpurohit, S., Roy, P.R., Schaeffer, S.W., Serga, S., Schmidt, P., and D. A. Petrov. 2021. Broad geographic sampling reveals the shared basis and environmental correlates of seasonal adaptation in *Drosophila*. ***eLife*** 2021;10:e67577. <https://doi.org/10.7554/eLife.67577>
- [93] Harrison, M.C., Jaimes, L.M., Rodrigues, M.A., **Flatt, T.**, Oettler, J., and E. Bornberg-Bauer. 2021. Gene co-expression network reveals highly conserved, well-regulated anti-ageing mechanisms in old ant queens. ***Genome Biology and Evolution*** 13(6). <https://doi.org/10.1093/gbe/evab093>
- [92] Charlesworth, B., and **T. Flatt**. 2021. On the Fixation or Non-Fixation of Inversions Under Epistatic Selection. ***Molecular Ecology*** 30:3896-3897. <https://doi.org/10.1111/mec.16026>
- [91] Betancourt, N., Rajpurohit, S., Durmaz, E., Fabian, D.K., Kapun, M., **Flatt, T.*.**, and P. Schmidt*. 2021. Allelic polymorphism at *foxo* contributes to local adaptation in *Drosophila melanogaster* [*co-corresponding authors]. ***Molecular Ecology*** 30:2817-2830. <https://doi.org/10.1111/mec.15939>
- [90] Wallace, M., Coffman, K.A., Gilbert, C., Ravindran, S., Albery, G.F., Argyridou, E., Bellosta, P., Betancourt, A., Colinet, H., Eric, K., Glaser-Schmitt, A., Grath, S., Jelic, M., Kankare, M., Kozeretska, I., Loeschke, V., Montchamp-Moreau, C., Ometto, L., Onder, B.S., Orengo, D.J., Parsch, J., Pascual, M., Patenkovic, A., Puerma, E., Ritchie, M.G., Rota-Stabelli, O., Schou, M.F., Serga, S.V., Stamenkovic-Radak, M., Tanaskovic, M., Veselinovic, M.S., Vieira, J., Vieira, C.P., Kapun, M., **Flatt, T.**, González, J., Staubach, F., and D. J. Obbard. 2021. The discovery, distribution and diversity of DNA viruses associated with *Drosophila melanogaster* in Europe. ***Virus Evolution*** 7(1):veab031. <https://doi.org/10.1093/ve/veab031> (highlighted by MBE as a "MBE Emerging Classic 2022")
- [89] Korb, J., Meusemann, K., Aumer, D., Bernadou, A., Elsner, D., Feldmeyer, B., Foitzik, S., Heinze, J., Libbrecht, R., Lin, S., Majoe, M., Monroy Kuhn J.M., Nehring, V., Negroni, M., Paxton, R., Séguert, A., Stoldt, M., **T. Flatt** and the So-Long consortium. 2021. Comparative Transcriptomic Analysis of the Mechanisms Underpinning Ageing and Fecundity in Social Insects. ***Philosophical Transactions of the Royal Society of London B*** 376 (1823): 20190728. <https://doi.org/10.1098/rstb.2019.0728> [Also see coverage in Science, 25 March, 2021, <https://doi.org/10.1126/science.371.6536.1302>].
- [88] Pen, I., and **T. Flatt**. 2021. Asymmetry, Division of Labour and the Evolution of Ageing in Multicellular Organisms. ***Philosophical Transactions of the Royal Society of London B*** 376 (1823): 20190729. <https://doi.org/10.1098/rstb.2019.0729> [Also see coverage in Science, 25 March, 2021, <https://doi.org/10.1126/science.371.6536.1302>].
- [87] Durmaz, E., Kerdaffrec, E., Katsianis, G., Kapun, M.*., and **T. Flatt***. 2020. How Selection Acts on Chromosomal Inversions. [*co-corresponding]. ***eLS (Encyclopedia of Life Sciences)*** 1:307-315, 2020. <https://doi.org/10.1002/9780470015902.a0028745>
- [86] Kapun, M.*., Barrón, M.G., Staubach, F., Vieira, J., Obbard, D.J., Wiberg, R. A. W., Goubert, C., Rota-Stabelli, O., Kankare, M., Haudry, A., Waidele, L., Kozeretska, I., Pasyukova, E.G., Loeschke, V., Pascual, M., Vieira, C.P., Serga, S., Montchamp-Moreau, C., Abbott, J., Gibert, P., Porcelli, D.,

- Posnien, N., Grath, S., Sucena, E., Bergland, A.O., Garcia Guerreiro, M.P., Onder, B.S., Argyridou, E., Guio, L., Schou, M.F., Deplancke, B., Vieira, C., Ritchie, M.G., Zwaan, B.J., Tauber, E., Orengo, D.J., Puerma, E., Aguadé, M., Schmidt, P.S., Parsch, J., Betancourt, A.J., **Flatt, T.***, and J. González*. 2020. Genomic analysis of European *Drosophila melanogaster* populations reveals longitudinal structure, continent-wide selection, and unknown DNA viruses. [*co-corresponding authors]. **Molecular Biology and Evolution** 37:2661-2678. <https://doi.org/10.1093/molbev/msaa120> [designated MBE "Emerging Classic" 2022]
- [85] Waldvogel, A.-M., Feldmeyer, B., Exposito-Alonso, M., Rellstab, C., Kofler, R., Mock, T., Schmid, K., Schmitt, I., Bataillon, T., Savolainen, O., Bergland, A., **Flatt, T.**, Guillaume, F., and M. Pfenninger. 2020. Evolutionary genomics can improve prediction of species' responses to climate change. **Evolution Letters** 4:4-18. <https://doi.org/10.1002/evl3.154>
- [84] **Flatt, T.** 2020. Life-History Evolution and the Genetics of Fitness Components in *Drosophila melanogaster*. **Genetics**, 214:3-48. <https://doi.org/10.1534/genetics.119.300160>
- [83] **Flatt, T.** 2019. How flies turn food into progeny. **eLife** 2019; e51289. <https://doi.org/10.7554/eLife.51289>
- [82] Hoedjes, K., van den Heuvel, J., Kapun, M., Keller, L., **Flatt, T.***, and B.J. Zwaan*. 2019. Distinct Genomic Signals of Lifespan and Life History Evolution in Response to Postponed Reproduction and Larval Diet in *Drosophila*. [*co-corresponding authors]. **Evolution Letters** 3:598-609. <https://doi.org/10.1002/evl3.143>
- [81] Ramaekers, A., Weinberger, S., Claeys, A., Kapun, M., Yan, J., Wolf, R., **Flatt, T.**, Buchner, E., and B.A. Hassan. 2019. Altering the temporal regulation of one transcription factor drives evolutionary trade-offs between head sensory organs. **Developmental Cell** 50:780-792. <https://doi.org/10.1016/j.devcel.2019.07.027> [Also see commentary by I. Almudi and A.P. McGregor. 2019. Sensory Organ Size Evolution: A View from *Drosophila*. *Developmental Cell* 50:673-674]
- [80] Durmaz, E., Rajpurohit, S., Betancourt, N., Fabian, D.K., Kapun, M., Schmidt, P.*, and **Flatt, T.*** 2019. A clinal polymorphism in the insulin signaling transcription factor *foxo* contributes to life-history adaptation in *Drosophila* [*co-corresponding authors]. **Evolution**, 73:1774-1792. <https://doi.org/10.1111/evo.13759> [Also see commentary by O. El-Deeb. 2019. Digest: A clinal polymorphism and life-history adaptations in *Drosophila*. *Evolution* 73:2026-2027]
- [79] May, T., van den Heuvel, J., Doroszuk, A., Hoedjes, K., **Flatt, T.**, and B. J. Zwaan. 2019. Adaptation to developmental diet influences the response to selection on age at reproduction in the fruit fly. **Journal of Evolutionary Biology** 32:425-437. <https://doi.org/10.1111/jeb.13425>
- [78] Colchero, F., Jones, O. R., Conde, D.A., Hodgson, D., Zajitschek, F., Schmidt, B. R., Malo, A. F., Alberts, S.C., Becker, P.H., Bouwhuis, S., Bronikowski, A.M., De Vleeschouwer, K.M., Delahey, R.J., Dummermuth, S., Fernández-Duque, E., Frisenvænge, J., Hesselsøe, M., Larson, S., Lemaître, J.-F., McDonald, J., Miller, D.A.W., O'Donnell, C., Packer, C., Raboy, B.E., Reading, C.J., Wapstra, E., Weimerskirch, H., While, G. M., Baudisch, A., **Flatt, T.**, Coulson, T., and J.-M. Gaillard. 2019. The diversity of population responses to environmental change. **Ecology Letters** 22: 342-353. <https://doi.org/10.1111/ele.13195>
- [77] Kapun, M., and **T. Flatt**. 2019. The adaptive significance of chromosomal inversion polymorphisms in *Drosophila melanogaster*. **Molecular Ecology** 28:1263-1282. <https://doi.org/10.1111/mec.14871>
- [76] Fabian, D.K., Garschall, K., Klepsatel, P., Santos-Matos, G., Sucena, E., Kapun, M., Lemaitre, B., Schlötterer, C., Arking, R., and **T. Flatt**. 2018. Evolution of longevity improves immunity in *Drosophila*. **Evolution Letters** 2:567-579. <https://doi.org/10.1002/evl3.89>

- [75] **Flatt, T.**, and L. Partridge. 2018. Horizons in the Evolution of Aging. **BMC Biology** 16(1):93. <https://doi.org/10.1186/s12915-018-0562-z> (reprinted in: The New Science of Healthy Aging, *Scientific American*, e-book, 2019)
- [74] Durmaz, E., Benson, C., Kapun, M., Schmidt, P., and **T. Flatt**. 2018. An Inversion Supergene in *Drosophila* Underpins Latitudinal Clines in Survival Traits. **Journal of Evolutionary Biology** 31: 1354-1364. <https://doi.org/10.1111/jeb.13310>
- [73] **Flatt, T.**, and G.P. Wagner. 2018. Canalization and Robustness. **Oxford Bibliographies in Evolutionary Biology**. <https://doi.org/10.1093/obo/9780199941728-0109>
- [72] Garschall, K., and **T. Flatt**. 2018. The interplay between immunity and aging in *Drosophila*. **F1000Research** 2018, 7(F1000 Faculty Rev):160. <https://doi.org/10.12688/f1000research.13117.1>
- [71] Andreatta, G., Kyriacou, C.P., **Flatt, T.*** and R. Costa*. 2018. Aminergic Signaling Control of Ovarian Dormancy in *Drosophila*. **Scientific Reports** 8:2030, 1-14. [*co-corresponding authors] <https://doi.org/10.1038/s41598-018-20407-z>
- [70] Hoedjes, K.M., Rodrigues, M.A., and **T. Flatt**. 2017. Amino Acid Modulation of Lifespan and Reproduction in *Drosophila*. **Current Opinion in Insect Science**, 23:118-122. <https://doi.org/10.1016/j.cois.2017.07.005>
- [69] Kubrak, O., Nylin, S., **Flatt, T.**, Nässel, D., and O. Leimar. 2017. Adaptation to fluctuating environments in a selection experiment with *Drosophila melanogaster*. **Ecology and Evolution** 7:3796-3807. <https://doi.org/10.1002/ece3.2965>
- [68] Garschall, K., Dellago, H., Gáliková, M., Schosserer, M.,* **Flatt, T.**,* and J. Grillari. 2017. Ubiquitous overexpression of the DNA repair factor dPrp19 reduces DNA damage and extends *Drosophila* life span. **npj Aging and Mechanisms of Disease** 3:5. [*co-corresponding authors] <https://doi.org/10.1038/s41514-017-0005-z>
- [67] Rodrigues, M.A., and **T. Flatt**. 2016. Endocrine uncoupling of the trade-off between reproduction and somatic maintenance in eusocial insects. **Current Opinion in Insect Science** 16:1-8. <https://doi.org/10.1016/j.cois.2016.04.013>
- [66] Kapun, M., Schmidt, C., Durmaz, E., Schmidt, P.S., and **T. Flatt**. 2016. Parallel effects of the inversion *In(3R)Payne* on body size across the North American and Australian clines in *Drosophila melanogaster*. **Journal of Evolutionary Biology** 29:1059-1072. <https://doi.org/10.1111/jeb.12847>
- [65] Kapun, M., Fabian, D.K., Goudet, J., and **T. Flatt**. 2016. Genomic Evidence for Adaptive Inversion Clines in *Drosophila melanogaster*. **Molecular Biology and Evolution** 33:1317-1336. <https://doi.org/10.1093/molbev/msw016>
- [64] **Flatt, T.** 2016. Genomics of clinal variation in *Drosophila*: disentangling the interactions of selection and demography. **Molecular Ecology** 25:1023-1026. <https://doi.org/10.1111/mec.13534>
- [64] Fuellen, G., Schofield, P.N., **Flatt, T.**, Schulz, R.-J., Boege, F., Kraft, K., Rimbach, G., Ibrahim, S., Tietz, A., Schmidt, C., Köhling, R., Simm, A. 2016. Living long and well: prospects for a personalized approach to the medicine of ageing. **Gerontology** 62:409-416. <https://doi.org/10.1159/000442746>
- [62] **Flatt, T.** 2015. Organ plasticity: Paying the costs of reproduction. **eLife** 2015;4:e09556. <https://doi.org/10.7554/eLife.09556>
- [61] Fabian, D. K., Lack, J. B., Mathur, V., Schlötterer, C., Schmidt, P.S., Pool, J.E, and **T. Flatt**. 2015. Spatially varying selection shapes life history clines among populations of *Drosophila melanogaster* from sub-Saharan Africa. **Journal of Evolutionary Biology** 28:826-840. <https://doi.org/10.1111/jeb.12607>

- [60] **Flatt, T.** 2014. Plasticity of Lifespan – A Reaction Norm Perspective. 2014. *Proceedings of the Nutrition Society* 73:532-542. <https://doi.org/10.1017/S002965114001141>
- [59] Klepsatel, P., Galikova, M., Huber, C.D., and **T. Flatt**. 2014. Similarities and differences in altitudinal versus latitudinal variation for morphological traits in *Drosophila melanogaster*. *Evolution* 68:1385-1398. <https://doi.org/10.1111/evo.12351>
- [58] Kapun, M., van Schalwyk, H., McAllister, B., **Flatt, T.**, and C. Schlötterer. 2014. Inference of chromosomal inversion dynamics from Pool-Seq data in natural and laboratory populations of *D. melanogaster*. *Molecular Ecology* 23:1813-1827 [Also see commentary by Navarro and Faria. Pool and conquer: new tricks for (c)old problems. *Molecular Ecology* 23:1653-1655]. <https://doi.org/10.1111/mec.12594>
- [57] Klepsatel, P., Galikova, M., De Maio, N., Huber, C., Schlötterer, C., and **T. Flatt**. 2013. Variation in Thermal Performance and Reaction Norms Among Populations of *Drosophila melanogaster*. *Evolution* 67:3573-3587. <https://doi.org/10.1111/evo.12221>
- [56] **Flatt, T.**, Amdam, G.V., Kirkwood, T.B.L., and S. W. Omholt. 2013. Life-History Evolution and the Polyphenic Regulation of Somatic Maintenance and Survival. *Quarterly Review of Biology* 88:185-218. <https://doi.org/10.1086/671484>
- [55] Alcedo, J.,* **Flatt, T.**,* and Pasyukova, E.* 2013. The Role of the Nervous System in Aging and Longevity. *Frontiers in Genetics* 4:124 [*Equal contribution, co-corresponding authors]. <https://doi.org/10.3389/fgene.2013.00124>
- [54] Rus, F., **Flatt, T.**, Tong, M., Kleino, A., Aggarwal, K., Okuda, K., Yates, E., Tatar, M., and N. Silverman. 2013. Ecdysone Triggered PGRP-LC Expression Controls *Drosophila* Innate Immunity. *EMBO Journal* 32:1626-1638. <https://doi.org/10.1038/emboj.2013.100>
- [53] Klepsatel, P., Galikova, M., De Maio, N., Ricci, S., Schlötterer, C., and **T. Flatt**. 2013. Reproductive and post-reproductive life history of wild-caught *Drosophila melanogaster*. *Journal of Evolutionary Biology* 26:1508-1520. <https://doi.org/10.1111/jeb.12155>
- [52] Alcedo, J.,* **Flatt, T.**,* and Pasyukova, E.* 2013. Neuronal Inputs and Outputs of Aging and Longevity. *Frontiers in Genetics* 4:71 [*Equal contribution, co-corresponding authors]. <https://doi.org/10.3389/fgene.2013.00071>
- [51] Hansen, M.,* **Flatt, T.**,* and H. Aguilaniu*. 2013. Reproduction, Fat Metabolism, and Life Span: What Is the Connection? *Cell Metabolism* 17:10-19. [*Equal contribution, co-corresponding authors]. <https://doi.org/10.1016/j.cmet.2012.12.003>
- [50] Fabian, D.K., Kapun, M., Nolte, V., Kofler, R., Schmidt, P.S., Schlötterer, C. and **T. Flatt**. 2012. Genome-wide patterns of latitudinal differentiation among populations of *Drosophila melanogaster* from North America. *Molecular Ecology* 21:4748-4769. <https://doi.org/10.1111/j.1365-294X.2012.05731.x>
- [49] **Flatt, T.** 2012. A new definition of aging? *Frontiers in Genetics* 3:148. [Commentary on (36) Rose et al. 2012, see below]. <https://doi.org/10.3389/fgene.2012.00148>
- [48] Rose, M.R., **Flatt, T.**, Graves, J.L., Greer, L., Martinez, D.E., Matos, M.M., Mueller, L.D., Shmookler Reis, R.J., and P. Shahrestani. 2012. What is aging? *Frontiers in Genetics* 3:134. <https://doi.org/10.3389/fgene.2012.00134>
- [47] Orozco-terWengel, P., Kapun, M., Nolte, V., Kofler, R., **Flatt, T.**, and C. Schlötterer. 2012. Adaptation of *Drosophila* to a novel laboratory environment reveals temporally heterogeneous trajectories of selected alleles. *Molecular Ecology* 21:4931-4941 [Cover article; also see commentary by Burke and Long. 2012. What paths do advantageous alleles take during short-term evolutionary change? *Molecular Ecology* 21:4913-4916]. <https://doi.org/10.1111/j.1365-294X.2012.05673.x>

- [46] Fabian, D.K., and **T. Flatt**. 2012. Life history evolution. **Nature Education Knowledge** 3(10):24. <https://www.nature.com/scitable/knowledge/library/life-history-evolution-68245673>
- [45] **Flatt, T.**, Heyland, A., and S.C. Stearns. 2011. What Mechanistic Insights Can or Cannot Contribute to Life History Evolution - An Exchange Between Stearns, Heyland, and Flatt. Chapter 28, Pp. 375-379, in **Flatt, T.** and Heyland, A. (Eds.), *Mechanisms of Life History Evolution. The Genetics and Physiology of Life History Traits and Trade-Offs*. Oxford University Press, Oxford, UK. (see link below)
- [44] **Flatt, T.**, and A. Heyland. 2011. Life History Integration and Trade-Offs. Part 6, Pp. 267-269, in **Flatt, T.** and Heyland, A. (Eds.): *Mechanisms of Life History Evolution. The Genetics and Physiology of Life History Traits and Trade-Offs*. Oxford University Press, Oxford, UK. (see link below)
- [43] **Flatt, T.**, and A. Heyland. 2011. Life History Plasticity. Part 5, Pp. 219-220, in **Flatt, T.** and Heyland, A. (Eds.): *Mechanisms of Life History Evolution. The Genetics and Physiology of Life History Traits and Trade-Offs*. Oxford University Press, Oxford, UK. (see link below)
- [42] **Flatt, T.**, and A. Heyland. 2011. Lifespan, Aging and Somatic Maintenance. Part 4, Pp. 169-170, in **Flatt, T.** and Heyland, A. (Eds.): *Mechanisms of Life History Evolution. The Genetics and Physiology of Life History Traits and Trade-Offs*. Oxford University Press, Oxford, UK. (see link below)
- [41] **Flatt, T.**, and A. Heyland. 2011. Reproduction. Part 3, Pp. 99-100, in **Flatt, T.** and Heyland, A. (Eds.): *Mechanisms of Life History Evolution. The Genetics and Physiology of Life History Traits and Trade-Offs*. Oxford University Press, Oxford, UK. (see link below)
- [40] **Flatt, T.**, and A. Heyland. 2011. Growth, Development, and Maturation. Part 2, Pp. 27-28, in **Flatt, T.** and Heyland, A. (Eds.): *Mechanisms of Life History Evolution. The Genetics and Physiology of Life History Traits and Trade-Offs*. Oxford University Press, Oxford, UK. (see link below)
- [39] Braendle, C., Heyland, A., and **T. Flatt**. 2011. Integrating Mechanistic and Evolutionary Analysis of Life History Variation. Chapter 1, Pp. 3-10, in **Flatt, T.** and Heyland, A. (Eds.), *Mechanisms of Life History Evolution. The Genetics and Physiology of Life History Traits and Trade-Offs*. Oxford University Press, Oxford, UK. (see link below)
- [38] **Flatt, T.**, and A. Heyland. 2011. Integrating Mechanisms into Life History Evolution. Part 1, Pp. 1-2, in **Flatt, T.** and Heyland, A. (Eds.): *Mechanisms of Life History Evolution. The Genetics and Physiology of Life History Traits and Trade-Offs*. Oxford University Press, Oxford, UK. (see link below)
- [37] **Flatt, T.**, and A. Heyland. 2011. Preface, Pp. ix-xi, In **Flatt, T.** and Heyland, A. (Eds.): *Mechanisms of Life History Evolution. The Genetics and Physiology of Life History Traits and Trade-Offs*. Oxford University Press, Oxford, UK. (see link below)
- [36] **Flatt, T.**, and A. Heyland (Eds.). 2011. *Mechanisms of Life History Evolution. The Genetics and Physiology of Life History Traits and Trade-Offs*. Oxford University Press, Oxford, UK. 478 pages, 75 illustrations, ISBN 978-0-19-956877-2. [book reviews in: *Times Higher Education*, *Quarterly Review of Biology*, *American Journal of Human Biology*, *Journal of Genetics*]. <http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780199568765.001.0001/acprof-9780199568765>
- [35] Fabian, D.K., and **T. Flatt**. 2011. The evolution of aging. **Nature Education Knowledge** 3(10):9. <https://www.nature.com/scitable/knowledge/library/the-evolution-of-aging-23651151>
- [34] Klepsatel, P., and **T. Flatt**. 2011. The genomic and physiological basis of life history variation in a butterfly metapopulation. **Molecular Ecology** 20:1795-1798. <https://doi.org/10.1111/j.1365-294X.2011.05078.x>
- [33] **Flatt, T.** 2011. Survival costs of reproduction in *Drosophila*. **Experimental Gerontology** 46:369-375. <https://doi.org/10.1016/j.exger.2010.10.008>

- [32] Galikova, M., Klepsatel, P., Senti, G., and **T. Flatt**. 2011. Steroid hormone regulation of *C. elegans* and *Drosophila* aging and life history. *Experimental Gerontology* 46:141-147. <https://doi.org/10.1016/j.exger.2010.08.021>
- [31] Bronikowski, A.M., and **T. Flatt**. 2010. Aging and its demographic measurement. *Nature Education Knowledge* 3(10):3 <https://www.nature.com/scitable/knowledge/library/aging-and-its-demographic-measurement-16821152>
- [30] Kapun, M., Nolte, V., **Flatt, T.**, and C. Schlötterer. 2010. Natural host range and host specificity of the *Drosophila* C virus. *PLoS One* 5(8):e12421. <https://doi.org/10.1371/journal.pone.0012421>
- [29] Galikova, M., and **T. Flatt**. 2010. Dietary restriction and other lifespan extending pathways converge at the activation of the downstream effector takeout. *Aging* 2:387-390. <https://doi.org/10.18632/aging.100174>
- [28] Vogl, C., **Flatt, T.**, Fuhrmann, B., Hofmann, E., Wallner, B., Kovarik, P., Strobl, B., and M. Müller. 2010. Transcriptome analysis reveals a major impact of tyrosine kinase 2 (Tyk2) on the expression of interferon responsive and metabolic genes. *BMC Genomics*, 2010 Mar 25;11(1):199. <https://doi.org/10.1186/1471-2164-11-199>
- [27] **Flatt, T.** 2009. Ageing: Diet and longevity in the balance. *Nature* 462:989-990. <https://doi.org/10.1038/462989a>
- [26] **Flatt, T.**, and P.S. Schmidt. 2009. Integrating evolutionary and molecular genetics of aging. *Biochimica et Biophysica Acta* 1790:951-962. <https://doi.org/10.1016/j.bbagen.2009.07.010>
- [25] Bauer, J.H., Morris, S.N.S., Chang, C., **Flatt, T.**, Wood, J.G., and S.L. Helfand. 2009. dSir2 and Dmp53 interact to mediate aspects of CR-dependent life span extension in *D. melanogaster*. *Aging* 1:38-48. [Commentary by L.A. Donehower. 2009. Longevity regulation in flies: A role for p53. *Aging* 1:6-8.]. <https://doi.org/10.18632/aging.100001>
- [24] **Flatt, T.**, Heyland, A., Rus, F., Porpiglia, E., Sherlock, C., Yamamoto, R., Garbuzov, A., Palli, S.R., Tatar, M., and N. Silverman. 2008. Hormonal regulation of the humoral innate immune response in *Drosophila melanogaster*. *Journal of Experimental Biology* 211: 2712-2724. [Image Featured in JEB Calendar 2009]. <https://doi.org/10.1242/jeb.014878>
- [23] **Flatt, T.**, Min, K.-J., D'Alterio, C., Villa-Cuesta, E., Cumbers, J., Lehmann, R., Jones, D.L., and M. Tatar. 2008. *Drosophila* germ-line modulation of insulin signaling and lifespan. *Proceedings of the National Academy of Sciences USA* 105:6368-6373. <https://doi.org/10.1073/pnas.0709128105>
- [22] Crook, T.C., **Flatt, T.**, and P.T. Smiseth. 2008. Hormonal modulation of larval begging and growth in the burying beetle *Nicrophorus vespilloides*. *Animal Behaviour* 75:71-77. <https://doi.org/10.1016/j.anbehav.2007.04.009>
- [21] **Flatt, T.**, and D.E.L. Promislow. 2007. Physiology: still pondering an age-old question. *Science* 318:1255-1256. <https://doi.org/10.1126/science.1147491>
- [20] **Flatt, T.**, and T.J. Kawecki. 2007. Juvenile hormone as a regulator of the trade-off between reproduction and life span in *Drosophila melanogaster*. *Evolution* 61:1980-1991. <https://doi.org/10.1111/j.1558-5646.2007.00151.x>
- [19] Shingleton, A., Frankino, W.A., **Flatt, T.**, Nijhout, H.F., and D. Emlen. 2007. Size and shape: the developmental regulation of static allometry in insects. *BioEssays* 29:536-548. <https://doi.org/10.1002/bies.20584>
- [18] Min, K.-J., **Flatt, T.**, Kulaots, I., and M. Tatar. 2007. Counting calories in *Drosophila* dietary restriction. *Experimental Gerontology* 42:247-251. <https://doi.org/10.1016/j.exger.2006.10.009>
- [17] **Flatt, T.**, Moroz, L. L., Tatar, M., and A. Heyland. 2006. Comparing thyroid and insect hormone signaling. *Integrative & Comparative Biology* 46:777-794. <https://doi.org/10.1093/icb/icl034>

- [16] Bishop, C., Erezylmaz, D.F., **Flatt, T.**, Georgiou, C.D., Hadfield, M., Heyland, A., Hodin, J., Jacobs, M., Maslakova, S.A., Pires, A., Reitzel, A., Santagata, S., Tanaka, K., and J.H. Youson, 2006. What is metamorphosis? **Integrative & Comparative Biology** 46:655-661.
<https://doi.org/10.1093/icb/icl004>
- [15] Braendle, C., and **T. Flatt**. 2006. A role for genetic accommodation in evolution? **BioEssays** 28:868-873. <https://doi.org/10.1002/bies.20456>
- [14] Killingback, T., Bieri, J., and **T. Flatt**. 2006. Evolution in group-structured populations can resolve the tragedy of the commons. **Proceedings of the Royal Society of London B** 273:1477-1481.
<https://doi.org/10.1098/rspb.2006.3476>
- [13] Tu, M.P., **Flatt, T.**, and M. Tatar. 2006. Juvenile and steroid hormones in *Drosophila melanogaster* longevity. Chapter 16 (pp. 415-448) in Masoro, E. J. and Austad, S.N. (Eds.), *Handbook of the Biology of Aging*, 6th Edition, Academic Press (Elsevier), San Diego.
- [12] **Flatt, T.**, Tu, M.-P., and M. Tatar. 2005. Hormonal pleiotropy and the juvenile hormone regulation of *Drosophila* development and life history. **BioEssays** 27:999-1010. [Cover article].
<https://doi.org/10.1002/bies.20290>
- [11] **Flatt, T.** 2005. The evolutionary genetics of canalization. **Quarterly Review of Biology** 80:287-316. <https://doi.org/10.1086/432265>
- [10] Altweig, R., Dummermuth, S., Anholt, B.R., and **T. Flatt**. 2005. Winter weather affects asp viper (*Vipera aspis aspis*) population dynamics through susceptible juveniles. **Oikos** 110:55-66.
<https://onlinelibrary.wiley.com/doi/10.1111/j.0030-1299.2005.13723.x>
- [9] **Flatt, T.**, and T.J. Kawecki. 2004. Pleiotropic effects of *Methoprene-tolerant (Met)*, a gene involved in juvenile hormone metabolism, on life history traits in *Drosophila melanogaster*. **Genetica** 122:141-160. <https://doi.org/10.1023/B:GENE.0000041000.22998.92>
- [8] **Flatt, T.**, and I. Scheuring. 2004. Stabilizing factors interact in promoting host-parasite coexistence. **Journal of Theoretical Biology** 228:241-249. <https://doi.org/10.1016/j.jtbi.2003.12.015>
- [7] **Flatt, T.** 2004. Assessing natural variation in genes affecting *Drosophila* lifespan. **Mechanisms of Ageing and Development** 125:155-159. <https://doi.org/10.1016/j.mad.2004.02.004>
- [6] Rauch, G., Simon, J.-C., Chaubet, B., Haack, L., **Flatt, T.**, and W.W. Weisser. 2002. The influence of ant attendance on aphid feeding behaviour investigated with the electrical penetration graph technique. **Entomologia Experimentalis et Applicata** 102:13-20. <https://doi.org/10.1046/j.1570-7458.2002.00920.x>
- [5] **Flatt, T.**, Shine, R., Borges-Landaez, P.A., and S.J. Downes. 2001. Phenotypic variation in an oviparous montane lizard: effects of thermal and hydric incubation environments. **Biological Journal of the Linnean Society** 74:339-350. <https://doi.org/10.1111/j.1095-8312.2001.tb01396.x>
- [4] **Flatt, T.**, Maire, N., and M. Doebeli. 2001. A bit of sex stabilizes host-parasite dynamics. **Journal of Theoretical Biology** 212:345-354. <https://doi.org/10.1006/jtbi.2001.2380>
- [3] **Flatt, T.**, and W.W. Weisser. 2000. The effects of mutualistic ants on aphid life-history traits. **Ecology** 81:3522-3529. [https://doi.org/10.1890/0012-9658\(2000\)081\[3522:TEOMAO\]2.0.CO;2](https://doi.org/10.1890/0012-9658(2000)081[3522:TEOMAO]2.0.CO;2)
- [2] **Flatt, T.**, Dummermuth, S., and B.R. Anholt. 1997. Mark-recapture estimates of survival in populations of the asp viper, *Vipera aspis aspis*. **Journal of Herpetology** 31:558-564.
<https://doi.org/10.2307/1565609>
- [1] **Flatt, T.**, and S. Dummermuth. 1993. [In German; English translation of title: "On the Asp or Jura Viper in the Canton of Solothurn"] "Zur Kenntnis der Aspis- oder Juraviper *Vipera a. aspis* (L., 1758) im Kanton Solothurn". **Mitteilungen der Naturforschenden Gesellschaft des Kantons Solothurn** 36: 75-102. [This natural history paper was an invited contribution and editorially reviewed by the editor-in-chief but not by external reviewers].

