a field-captured inseminated female of *D. grimshawi* continued to produce fertile eggs for almost a year without additional insemination. This example emphasizes the abundance of sperm that can be stored and remain fertile for many months in the spermathecae and ventral receptacle of this species, as well as the enormous numbers of eggs produced per female over her long reproductive life. At any point in time, a mature female of *D. grimshawi* can potentially carry an egg load of 100 or so mature eggs in her ovaries (Craddock and Kambysellis, 1997). For comparative purposes, the egg load parameter (the number of ovarioles per fly times the number of mature eggs per ovariole) provides only a rough measure of potential female fecundity, given the asynchronous nature of ovariole function in these Hawaiian picture wing species and the lack of solid data on reproductive longevities. Of course, realized fecundity is typically less than potential fecundity. By all measures, however, the potential lifetime fecundity of *D. grimshawi* far exceeds that of nonHawaiian species and in particular, that of *D. melanogaster* and the other ten *Drosophila* species with complete genome sequences. The availability of these sequence data now provides the chance to address many important questions about the molecular basis of evolutionary differences in longevity, reproductive, developmental, and other traits within the genus *Drosophila.*

Acknowledgments: My thanks to Anneli Hoikkala, Durrell Kapan, and Steve Montgomery who were responsible for the 2010-2011 field collections of *D. grimshawi* from Molokai and East and West Maui, and to Ken Kaneshiro for kind provision of lab facilities at the University of Hawaii during my sabbatical visit. This submission is dedicated to the memory of my late husband and longtime collaborator Michael Kambysellis, who made seminal contributions to knowledge of the structure and function of the female reproductive system of *Drosophila*, and whose enthusiasm for Hawaiian flies knew no bounds.

References: Carson, H.L., 1970, Science 168**:** 1414-1418; Carson, H.L., and D.A. Clague 1995, In: *Hawaiian Biogeography. Evolution on a Hot Spot Archipelago* (Wagner, W.L., and V.A. Funk, eds), pp. 4-29; Carson, H.L., F.E. Clayton, and H.D. Stalker 1967, Proc. Nat. Acad. Sci. USA 57: 1280-1285; Carson, H.L., D.E. Hardy, H.T. Spieth, and W.S. Stone 1970, In: *Essays in Evolution and Genetics in Honor of Theodosius Dobzhansky* (Hecht, M.K., and W.C. Steere, eds), pp. 437-543. Appleton-Century-Crofts, N.Y.; Craddock, E.M., and M.P. Kambysellis 1997, Pacif. Sci. 51(4): 475-489; David, J.R., 1970, Arch. de Zool. Exper. et Gen. 111: 357-370; *Drosophila* 12 Genomes Consortium 2007, Nature 450: 203-218; Hardy, D.E., and K.Y. Kaneshiro 1972, Univ. Texas Publ. 7213: 155-161; Heed, W.B., 1968, Univ. Texas Publ. 6818: 387-419; Kambysellis, M.P., 1993, Int. J. Insect Morphol. & Embryol. 22: 417-446; Kambysellis, M.P., and E.M. Craddock 1997, In: *Molecular Evolution and Adaptive Radiation.* (Givnish, T.J., and K.J. Sytsma, eds.), pp. 475-509. Cambridge Univ. Press; Kambysellis, M.P., and W.B. Heed 1971, Amer. Nat. 105: 31-49; Kaneshiro, K.Y., and M.P. Kambysellis 1999, Pacif. Sci. 53(2): 208-213; Margaritis, L.H., K. Dellas, M.C. Kalantzi, and M.P. Kambysellis 1983, Roux's Arch. Dev. Biol. 192: 303-316; Markow, T.A., S. Beall, and L.M. Matzkin 2009, J. Evol. Biol. 22: 430-434; Markow, T.A., and P.M. O'Grady 2007, Genetics 177: 1269–1276; Montgomery, S.L., 1975, Proc. Haw. Ent. Soc. 22: 65-103; Piano, F., E.M. Craddock, and M.P. Kambysellis 1997, Mol. Phylog. Evol. 7(2): 173-184; Telonis-Scott, M., L.M. McIntyre, and M.L. Wayne 2005, Genetica 125: 211–222; Wayne, M.L., J.B. Hackett, and T.F.C. Mackay 1997, Evolution 51(4): 1156-1163; Wayne, M.L. , and T.F.C. Mackay 1998, Genetics 148: 201–210.

## *Drosophila suzukii* has been found in tropical Atlantic Rainforest in southeastern Brazil.

**Bitner-Mathé, B.C.*, J. Victorino, and F.S. Faria**. Departamento de Genética, Instituto de Biologia, Universidade Federal do Rio de Janeiro, 21941 902, Cidade Universitária, Rio de Janeiro, Brazil; *E-mail: bcbitner@biologia.ufrj.br.

*Drosophila suzukii* (Matsumura, 1931) belongs to the *Drosophila melanogaster* species group, probably native to the southeastern Palaearctic region (Bächli, 2013). Its ability to feed and breed in healthy fruits led it to become an agricultural pest. *D. suzukii* is an invasive species, being recorded in North America

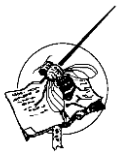
(Hauser *et al.*, 2009; Hauser, 2011) and Europe (Calabria *et al.*, 2012). In the Neotropical Region, there is a report that P. O'Grady had collected *D. suzukii* in Costa Rica and Ecuador in the late 1990s (Calabria *et al.*, 2012). More recently, Deprá *et al.* (2014) recorded this new invader in areas of subtropical Atlantic Rainforest in states of Santa Catarina and Rio Grande do Sul, southern Brazil. Vilela and Mori (2014) found it in blueberries produced in São Joaquim, state of Santa Catarina, that were bought at a São Paulo city grocery store. These authors point out that despite being a cold-adapted species, after having arrived to the southeastern state of São Paulo, this invasive fly will probably expand its territory to other Brazilian states and South American countries.

The present report concerns the first finding of *Drosophila suzukii* in the tropical Atlantic Rainforest. Collections were performed between 12$^{th}$ and 20$^{th}$ of November 2014 in the *Parque Nacional da Serra dos Órgãos* (PARNASO), Petrópolis, state of Rio de Janeiro, southeastern Brazil. The collection localities have about 800 m altitude with tropical highland climates. During November 2014, the average temperature in this region was 18.9$^{o}$C, with minimum of 14.8$^{o}$C and maximum of 23.0$^{o}$C (Climate-data 2014). Our sampling effort consisted in ten transects (A-J) of about 300 m: A- 22° 30' 16.8''S, 43°07'09.7''W; B- 22° 30' 20.0''S, 43°06'47.5''W; C- 22° 30' 31.6''S, 43°06'23.8''W; D- 22° 29' 42.2''S, 43°07'27.4''W; E- 22° 29' 38.8''S, 43°07'04.6''W; F- 22° 29' 20.5''S, 43°07'27.8''W; G- 22° 29' 07.5''S, 43°07'15.0''W; H- 22° 27' 36.2''S, 43°05'37.0''W; I- 22° 27' 49.6''S, 43°05'18.2''W; J- 22° 27' 57.1''S, 43°04'55.6''W. Except for transects named H and I, the localities surveyed in this study are areas of Atlantic Rainforest in good state of conservation. For each transect, five banana-baited traps were placed spaced 50-60 m apart. In transect "J", in a total of 299 flies, two males and one female of *D. suzukii* were collected. Although we have made similar effort to collect flies in all localities, no other specimen of *D. suzukii* was obtained. Species identification was based on external morphology and on the terminalia of both sexes (Bock and Wheeler, 1972; Vilela and Mori, 2014). An isofemale line was obtained from the wild collected female. Then, wild flies were preserved in a solution of 6 ethanol: 4 water: 1 acid acetic: 1 glycerin for further DNA analysis.

Most previous reports indicate the presence of *D. suzukii* in temperate and subtropical regions. Here we register the presence of this species in a tropical region, showing its high potential of spread and reinforcing the importance of monitoring this species for the knowledge of its colonization process in the Neotropics.

Acknowledgments: We are grateful to SISBIO and Parque Nacional da Serra dos Órgãos for the authorization to collect *Drosophila* (36893-3) and to CNPq for financial support on the PPBio/GEOMA Rede Mata Atlântica (457524/2012-0) and undergraduate scholarship to Jessica Victorino (PIBIC/UFRJ).

References: Bächli, G., 2014, TaxoDros, Available at http://www.taxodros.uzh.ch (accessed 15 December 2014); Bock, I.R., and M.R. Wheeler 1972, University of Texas Publications 7213: 1–102; Calabria, G., J. Máca, G. Bächli, L. Serra, and M. Pascual 2012, Journal of Applied Entomology 136: 139–147; Climate-data.org 2014, Available at http://climate-data.org/ (accessed 15 December 2014); Deprá, M., J.L. Poppe, H.J. Schmitz, D.C. De Toni, and V.L.S. Valente 2014, Journal of Pest Science 87: 379–383; Hauser, M., 2011, Pest Management Science 67: 1352–1357; Hauser, M., S. Gaimari, and M. Damus 2009, Fly Times 43: 12–15; Lee, J.C., D.J. Bruck, A.J. Dreeves, C. Ioriatti, H. Vogt, and P. Baufeld 2011, Pest Management Science 67: 1349–1351; Vilela, C.R., and L. Mori 2014, The invasive spotted-wing *Drosophila* (Diptera, Drosophilidae) has been found in the city of São Paulo (Brazil), Revista Brasileira de Entomologia (in press).



## Oxidative stress and longevity: Evidence from a long-lived strain of *Drosophila melanogaster.*

**Deepashree, S., S. Niveditha, T. Shivanandappa, and S.R. Ramesh*.** Department of Studies in Zoology, University of Mysore, Manasagangotri, Mysuru – 570006, India; e-mail: rameshuom@gmail.com; *Corresponding author. Tel.: +91 821 2419779.

Oxidative stress is one of the inescapable outcomes of the cellular processes. Reactive oxygen species (ROS) is one such contributor to the oxidative stress. Oxidative stress is implicated in aging and