

BIOGRAPHICAL SKETCH

James R. Carey

University of California, Davis
(November, 2018)

Education

Institution	Degree	Year	Field
Iowa State University	B.S.	1973	Animal Ecology
Iowa State University	M.S.	1975	Entomology
University of California, Berkeley	Ph.D.	1980	Entomology
Harvard University (Visiting PhD Student)	--	1977-78	Population Biology

Positions/Major Recognitions

1973-75	Graduate Research Assistant	Iowa State University, Ames
1975-80	Graduate Research Assistant	University of California, Berkeley
1980-87	Assistant Professor	University of California, Davis
1987-92	Associate Professor	University of California, Davis
1992-2014	Professor	University of California, Davis
2014-present	Distinguished Professor	University of California, Davis (above scale)
1996- present	Senior Scholar	Center for the Economics and Demography of Aging, UC Berkeley
1997-99	Vice Chairman	UC Davis, Department of Entomology
1989-2005	Principal Investigator (PI)	Duke Univ.-based NIA program (P01)
2003-2012	Director/PI (NIH/NIA P01)	Lifespan ecology and evolution (\$10 million 11-university international program)
2006	Smithgroup Distinguished Lecture	Beckman Center, University of Illinois
2008	Chair, University of California Committee on Research Policy	University of California systemwide; member 2006-2009; selected as chair 2008-09
2008	University of California 20-member Academic Council	Administrative arm of the Assembly of the UC Academic Senate (10-campus systemwide)
2000-present	Associate editor	Aging Cell (stepped down 2011); Demographic Research, Experimental Gerontology
2000	Fellow	American Association for the Advancement of Science (AAAS)
2003	Fellow	Gerontological Society of America
2010	Fellow	California Academy of Science
2011	Fellow	Entomological Society of America
2013	Distinguished Teaching Award	UC Davis Academic Senate
2014	Distinguished Teaching Award	Entomological Soc. America (Pacific Branch)
2014	Distinguished Service Award	UC Davis Academic Senate
2014	C. W. Woodward Award	Highest achievement award in Pacific Branch of the Entomological Society of America
2015	Distinguished Teaching Award	Entomological Society of America (National; all society branches)
2016	Plenary speaker, 2016 International Congress of Entomology	Lead-off plenary session to the ≈7,000 individuals at the meeting (Orlando; 9/26/16)

Publications

2019

- Carey, J. R., and D. Roach. 2020. *Biodemography: Introduction to Concepts and Methods (in production)* (Princeton University Press: Princeton).
- Carey, J. R. 2019. 'Aging in the wild, residual demography and discovery of a stationary population identity.' in R. Sears, R. Lee and O. Burger (eds.), *Human Evolutionary Demography* (Open Book Publishers: Cambridge).
- Carey, J. R., and J. W. Vaupel. 2019. 'Biodemography.' in D. Poston and M. Micklin (eds.), *Handbook of Population* (Kluwer Academic/Plenum Publishers: New York).
- Zhao, Z.-H., C. Hui, R. E. Plant, N. T. Papadopoulos, T. E. Carpenter, Z. Li, and J. R. Carey. 2019. 'The failure of success: Continuous eradication-recurrence cycles of a globally-invasive pest', (*in review*).
- Zhao, Z.-H., C. Hui, R. E. Plant, M. Su, T. E. Carpenter, N. T. Papadopoulos, Z. Li, and J. R. Carey. 2019. 'Multi-regional invasion models: Recurrence progression and species-specific partitioning', (*in review*).

2018

- Molleman, F., J. Javoš, R. B. Davis, A. Kaasik, M. Whitaker, E. Öunap, N. Wahlberg, K. Aduse-Poku, R. v. Velzen, T. Tammaru, M. E. Arlet, and J. R. **Carey**. 2016. The Natural History of Impairment: Sex and Species Specific Damages to Wings and Legs in a Community of Tropical Butterflies. (*in review*).
- Carey, J. R., S. Silverman, and A. S. R. S Rao. 2018. 'Chapter 5: The life table population identity: Discovery, formulations, proof, extensions and applications.' in A. S. R. S Rao (ed.), *Handbook of Statistics: Integrated population biology and modeling Vol. 39* (Elsevier LTC).

2017

- Carey, J. R., N. Papadopoulos, and R. Plant. 2017. 'The 30-year debate on a multi-billion dollar threat: Tephritid fruit fly establishment in California', *American Entomologist*, 63: 100-13.
- Carey, J. R., N. Papadopoulos, and R. Plant. 2017. 'Oriental fruit fly outbreaks in California: 48 consecutive years, 235 cities, 1500 detections—and counting', *American Entomologist*, 63: 232-36.
- Ji, H., H.-G. Müller, N. T. Papadopoulos, and J. R. Carey. 2017. 'Quantifying functionals of age distribution in the wild by solving an operator equation', *Journal of Mathematical Biology*, 75: 973-84.

2016

- Carey, J. R. 2016. 'Biodemography.' in, *The Biomedical & Life Sciences Collection, Henry Stewart talks Ltd, London (online at <https://hstalks.com/bs/3304/>)*.
- Carey, J. R., P. Liedo, J.-L. Wang, H.-G. Müller, Y.-R. Su, C. Xu, and J. W. Vaupel. 2016. Diet shapes mortality response to trauma in old tephritid fruit flies. PLoS One **DOI:10.1371/journal.pone.0158468**.
- Carey, J. R. 2016. Biodemography. The Biomedical & Life Sciences Collection, Henry Stewart talks Ltd, London (online at <https://hstalks.com/bs/3304/>).

Papadopoulos, N., J. R. **Carey**, C. Ioannou, H. Ji, H.-G. Müller, J.-L. Wang, S. Luckhart, and E. Lewis. 2016. Seasonality of post-capture longevity in a medically-important mosquito (*Culex pipiens*). *Frontiers in Ecology and Evolution* **4**:63 doi: 10.3389/fevo.20016.00063.

2015

Carey, J. R. 2015. Biodemography. *Encyclopedia of Sociology*, 2nd Edition. Wiley Blackwell, New York.

Harwood, J. F., K. Chen, P. Liedo, H.-G. Müller, J.-L. Wang, A. E. Morice, and J. R. **Carey**. 2015. Effects of female access and diet on insemination success, senescence, and the cost of reproduction in male Mexican fruit flies (*Anastrepha ludens*). *Journal of Insect Physiology* DOI: **10.1111/phen.12089**.

2014

Arlet, M. E., L. A. Isbell, F. Molleman, A. Kaasik, R. L. Chancellor, C. A. Chapman, R. Mänd, and J. R. **Carey**. 2014. Maternal investment and infant survival in gray-cheeked mangabeys (*Lophocebus albigena johnstonii*) *International Journal of Primatology* **35**:476-490.

Roach, D. A., and J. R. **Carey**. 2014. Population biology of aging in the wild. *Annual Review of Ecology, Evolution and Systematics* **45**:421-443.

Rao, A. R. R. S., and J. R. **Carey**. 2014. Generalization of Carey's equality and a theorem on stationary population. *Journal of Mathematical Biology* **71**:583-594.

Johnson, B., and J. R. **Carey**. 2014. Hierarchy and connectedness as determinants of health and longevity in social insects. *in* M. Weinstein and M. Lane, editors. *Sociality, Hierarchy, Health: Comparative Biodemography: A Collection of Papers*. National Academies Press, Washington, D.C.

Carey, J. R., and D. Harder. 2014. Response to Liebhold. *American Entomologist* **Winter (2014)**:247.

Carey, J. R., R. E. Plant, and N. T. Papadopoulos. 2014. Response to commentary by Gutierrez et al. *Proceedings of the Royal Society B: Biological Sciences* **281**.

Carey, J. R. and D. Harder. 2014. Clear, present, significant, and imminent danger. Questions for the California light brown apple moth (LBAM) working group (TWG) (*Epiphyas postvittana*: Tortricidae). *American Entomologist* (**Winter Issue**).

2013

Valtonen A, Molleman F, Chapman CA, **Carey**, JR, Ayres MP, Roinnen H. 2013 Tropical phenology: Bi-annual rhythms and interannual variation in an Afrotropical butterfly assemblage. *Ecosphere* **4**, 1-28.

Papadopoulos N, Plant R, **Carey**, JR. 2013 From trickle to flood: The large-scale, cryptic invasion of California by tropical fruit flies. *Proceedings of the Royal Society of London* **20131466**. <http://dx.soi.org/10.1098/rspb.2013.1466>.

Harwood JF, Vargas RI, **Carey**, JR. 2013 Leg impairment magnifies reproductive costs in male Mediterranean fruit flies, *Ceratitis capitata*. *Entomologia Experimentalis et Applicata* **147**, 73-81.

Chiu JC, Kaub K, Zou S, Liedo P, Altamirano-Robles LA, Ingram D, **Carey**, JR. 2013 Deleterious effect of suboptimal diet on sleep-wake cycle in *Anastrepha ludens* manifests itself with age. *Scientific Reports* **3** : 1773 | DOI: **10.1038/srep01773**.

Carey, JR, Liedo P, Wang J-L, Müller H-G, Su Y-R, Xu C, Vaupel JW. 2013 Geriatric trauma shapes mortality in a tephritid fly. (*in prep*).

2012

- Carey, JR, Tuljapurkar S, Wachter K.** 2012 Special Issue: Biodemographic determinants of lifespan. *Experimental Gerontology* **47**, 755-813.
- Carey, JR, Tuljapurkar S, Wachter K.** 2012 Editorial for the Special Issue: Biodemographic determinants of lifespan. *Experimental Gerontology* **47**, 755-758.
- Carey, JR, Papadopoulos NT, Papanastasiou S, Diamanditis A, Nakas CT.** 2012 Estimating changes in mean population age using the death distributions of live-captured medflies. *Ecological Entomology* **37**, 359-369.
- Carey, JR, Müller H-G, Wang J-L, Papadopoulos NT, Diamantidis A, Kouloussis NA.** 2012 Graphical and demographic synopsis of the captive cohort method for estimating population age structure in the wild. *Experimental Gerontology* **47**, 787-791.
- Zou S, Carey, JR, Liedo P, Ingram DK, Yu B.** 2012 Prolongevity effects of a botanical with oregano and cranberry extracts in Mexican fruit flies: examining interactions of diet restriction and age. *AGE* **34**, 269-279. (doi:10.1007/s11357-011-9230-8).
- Novoseltsev VN, Michalski AI, Novoseltseva JA, Yashin AI, Carey, JR, Ellis AM.** 2012 An age-structured extension to the vectorial capacity model. *PLoS One* **7**, e39479. doi:39410.31371/journal.pone.0039479.
- Molleman F, Kaasik A, Whitaker MR, Carey, JR.** 2012 Partitioning variation in duration of ant feeding bouts can offer insights into the palatability of insects: Experiments on African fruit-feeding butterflies. *Journal of Research on Lepidoptera* **45**, 65-75.
- Liedo P, Carey, JR, Ingram DK, Zou S.** 2012 The interplay among dietary fat, sugar, protein and acai (*Euterpe oleracea* Mart.) pulp in modulating lifespan and reproduction in a Tephritid fruit fly. *Experimental Gerontology* **47**, 536-539.
- Duyck P-F, Kouloussis N, Papadopoulos NT, Quilici S, Carey, JR.** 2012 Exceptional longevity in the tephritid, *Ceratitis rosa*, a close relative of the Mediterranean fruit fly. *Journal of Economic Entomology* **105**, 371-373.

2011

- Carey, J.R.,** 2011. Biodemography of the medfly: Aging, longevity, and adaptation in the wild. *Experimental Gerontology* **46**, 404-411.
- Carey, J.R.,** 2011. Sleeper medflies bring serious quarantine risks to California growers, Western Farm Press, San Diego.
- Diamantidis, A.D., Carey, J.R., Nakas, C.T., Papadopoulos, N.T.,** 2011. Ancestral populations perform better in a novel environment: Domestication of Mediterranean fruit fly populations from five global regions. *Biological Journal of the Linnean Society* **102**, 334-345.
- Diamantidis, A.D., Carey, J.R., Nakas, C.T., Papadopoulos, N.T.,** 2011. Population-specific demography and invasion potential in the medfly. *Ecology and Evolution* **4**, 479-488.
- Kaasik, A., Molleman, F., Isbell, L., Carey, J.R., Mänd, R.,** 2011. Social factors increase fecal testosterone levels in wild male gray-cheeked mangabeys (*Lophocebus albigena*). *Hormones and Behavior* **59**, 605-611.
- Kouloussis, N., Katsoyannos, B., Müller, H.-G., Wang, J.-L., Su, Y.-R., Carey, J.R.,** 2011. Seasonal trends in *Ceratitis capitata* reproductive potential derived from live-caught adult females in Greece. *Entomologia Experimentalis et Applicata* **140**, 181-188.

- Mason, J.B., Cargill, S.L., Griffey, S., Reader, J., Anderson, G.B., **Carey, J.R.**, 2011. Transplantation of young ovaries restored cardioprotective influence in postreproductive-aged mice. *Aging Cell* 10, 448-456.
- Papadopoulos, N.T., Papanastasiou, S., Müller, H.G., Wang, J.-L., Yang, W., **Carey, J.R.**, 2011. Dietary effects on sex-specific health dynamics of the medfly: Support for the dynamic equilibrium model of aging. *Experimental Gerontology* 46, 1026-1030.
- Papanastasiou, S.A., Diamantidis, A.D., Nakas, C.T., **Carey, J.R.**, Papadopoulos, N.T., 2011. Dual reproductive cost of aging in male medflies: dramatic decrease in mating competitiveness and gradual reduction in mating performance. *Journal of Insect Physiology* 57, 1368-1374.
- Zou, S., Liedo, P., Altamirano-Robles, L., Cruz-Enriquez, J., Morice, A., Ingram, D.K., Kaub, K., Papadopoulos, N., **Carey, J.R.**, 2011. Recording lifetime behavior and movement in an invertebrate model. *PLoS One* 6, e18151.

2010

- Boyden, N.B., **Carey, J.R.**, 2010. From one-and-done to seasoned veterans: A demographic analysis of individual career length in Major League Soccer. *Journal of Quantitative Analysis in Sports* 6, DOI: 10.2202/1559-0410.1261.
- Carey, J.R.**, 2010. Book Review: *Supercentenarians* by H. Maier, J. Gampe, B. Jeune, J.-M. Robine, and J. W. Vaupel. *Population and Development Review* 36, 846-847.
- Carey, J.R.**, 2010. The Mediterranean fruit fly (*Ceratitidis capitata*) invasion of California deepens: Response to an alternative explanation for recurring outbreaks. *American Entomologist* 56: 158-163.
- Carey, J.R.**, Laursen, J., Glaser, S., Raphael, S., Miller, G., Crawford, J., Lane, T., LiWang, P., Hammond, K., Groves, T., Pittet, J.-F., Stuart, D., Kolaitis, P., Serwer, L., Chen, M., Feer, K., 2010. University of California research seminar network: A prospectus. *PLoS Biology* 8, e1000289.doi:10.1371/journal.pbio.1000289.
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- Duyck, P.-F., Kouloussis, N., Papadopoulos, N.T., Quilici, S., Wang, J.-L., Jiang, C.-R., Müller, H.-G., **Carey, J.R.**, 2010. Lifespan of a *Ceratitidis* fruit fly increases with higher altitude. *Biological Journal of the Linnean Society* 101, 345-350.
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- Molleman, F., Whitaker, M.R., **Carey, J.R.**, 2010. Rating palatability of butterflies by measuring ant feeding behavior. *Entomologische Berichten* 70, 52-62.
- Papadopoulos, N.T., Liedo, P., Müller, H.-G., Wang, J.-L., Molleman, F., **Carey, J.R.**, 2010. Cost of reproduction in male medflies: The primacy of sexual courting in extreme longevity reduction. *Journal of Insect Physiology* 56, 283-287.

2009

- Arlet, M.E., **Carey, J.R.**, Molleman, F., 2009. Species, age and sex differences in type and frequencies of injuries and impairment among four arboreal primate species in Kibale National Park, Uganda. *Primates* 50, 65-73.

- Arlet, M.E., Grote, M.N., Molleman, F., Isbell, L.A., **Carey, J.R.**, 2009. Reproductive tactics influence cortisol levels in individual male gray-cheeked mangabeys (*Lophocebus albigena*). *Hormones and Behavior* 55, 210-216.
- Carey, J.R.**, 2009. Book review: *Mortal Coil: A Short History of Living Longer* by David Boyd Haycock. *Population and Development Review* 35, 828.
- Carey, J.R.**, Liedo, P., Müller, H.-G., Wang, J.-L., Yang, W., Molleman, F., 2009. Leg impairments elicit graded, sex-specific demographic response of the tephritid fruit fly *Anastrepha ludens*. *Experimental Gerontology* 44, 541-545.
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- Diamantidis, A.D., Papadopoulos, N.T., Nakas, C.T., Wu, S., Müller, H.-G., **Carey, J.R.**, 2009. Life history evolution in a globally-invading tephritid: Patterns of survival and reproduction in medflies from six world regions. *Biological Journal of the Linnean Society* 97, 106-117.
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- Papadopoulos, N.T., **Carey, J.R.**, Liedo, P., Müller, H.G., Sentürk, D., 2009. Virgin medfly females compete for mates. *Physiological Entomology* 34, 238-245.
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2008

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2007

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2005

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