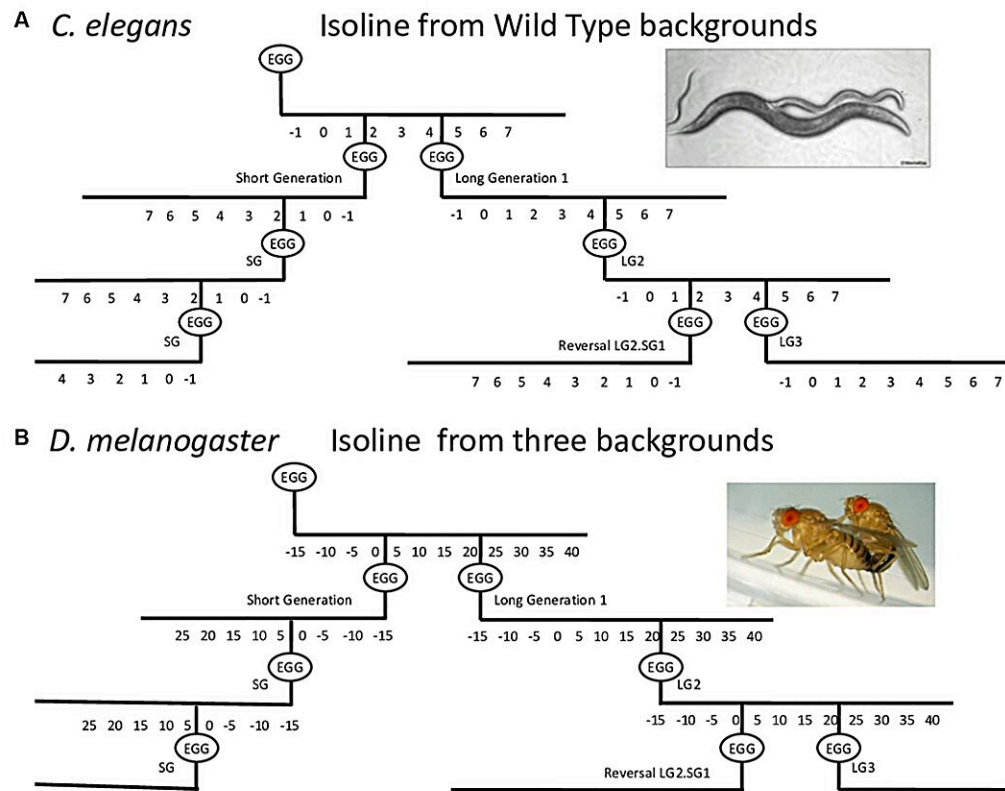


Investigating parental age effect on the longevity and healthspan of flies and worms

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Schematic of the procedure used to establish long and short generation lines with consistent parental age at reproduction. Credit: 2023 Lenzi et al.

A new research paper was published in *Aging*, titled "[Parental age effect on the longevity and healthspan in *Drosophila melanogaster* and](#)

[Caenorhabditis elegans.](#)"

Several studies have investigated the effect of parental age on biological parameters such as reproduction, [lifespan](#), and health; however, the results have been inconclusive, largely due to inter-species variation and/or modest effect sizes.

In their new study, researchers Camille Lenzi, Alexis Piat, Pascal Schlich, Judith Ducau, Jean-Claude Bregliano, Hugo Aguilaniu, and Anne Laurençon from the IM Projet, Caduceum, INRAE, IBDM, Instituto Serrapilheira, and Universite Claude Bernard-Lyon 1 examined the effect of parental age on the lifespan, reproductive capacity, and locomotor activity of genetic isogenic lines of the nematode *Caenorhabditis elegans* and the fruit fly *Drosophila melanogaster*.

"We decided to investigate parental age impact on the lifespan of their [progeny](#) on selected genomes of flies and worms to gain insights on the [molecular mechanisms](#) at work," write the authors.

The researchers found that the progeny of successive generations of old parents had significantly shorter lifespans than the progeny of young parents in both species. Moreover, they investigated the fertility, fecundity, and locomotor activity of *C. elegans*. Interestingly, both the shorter lifespan and deteriorated healthspan of the progeny were significantly improved by switching to only one generation of younger parents.

"Collectively, these data demonstrate that the detrimental effect of older parental age on the longevity of the progeny can be reversed, suggesting the existence of a beneficial non-genetic mechanism," conclude the researchers.

More information: Camille Lenzi et al, Parental age effect on the

longevity and healthspan in *Drosophila melanogaster* and *Caenorhabditis elegans*, *Aging* (2023). [DOI: 10.18632/aging.205098](https://doi.org/10.18632/aging.205098)

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