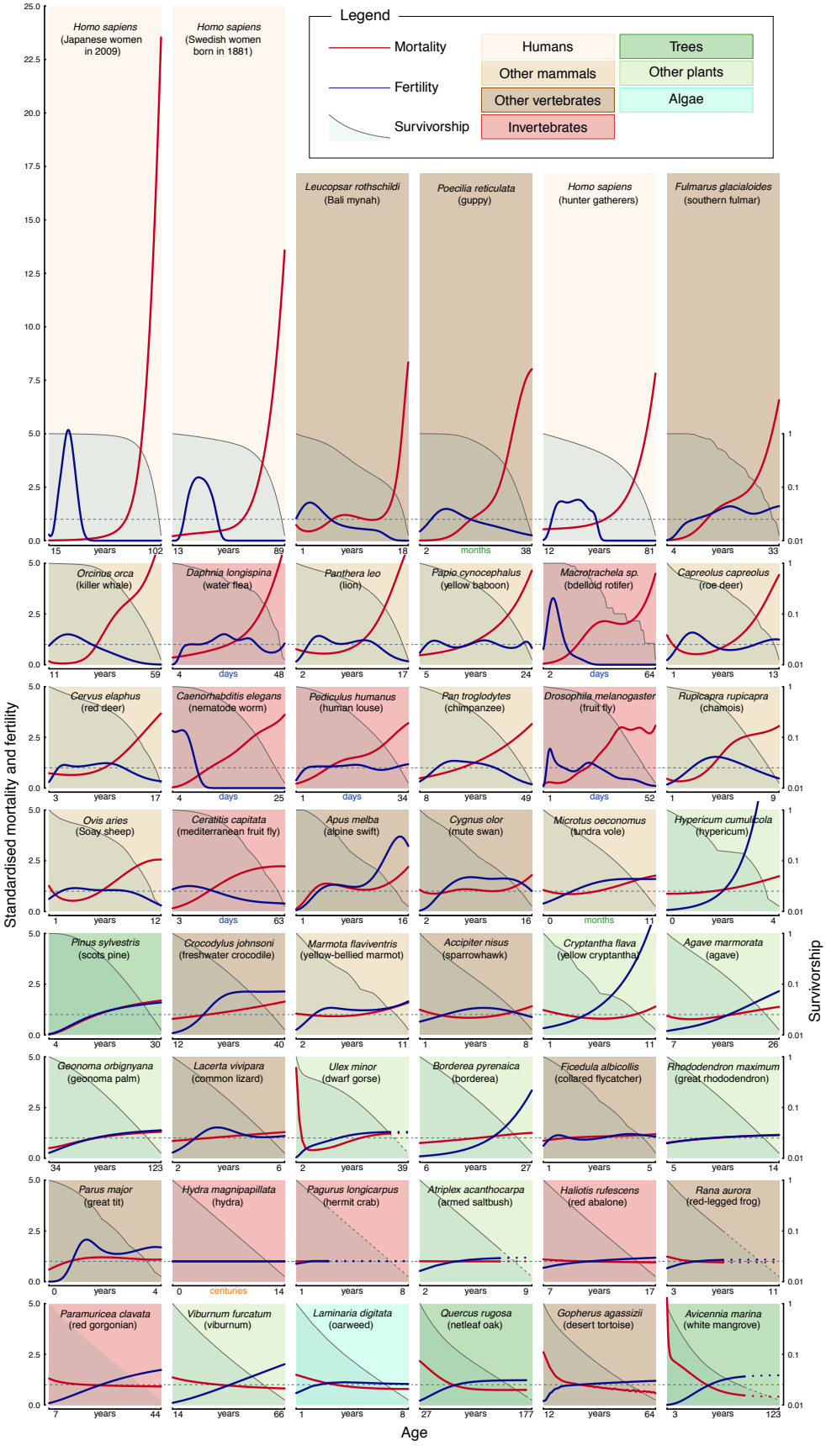

This mosaic of graphs is part of the press release "Aging out of bounds" issued by the Max Planck Institute for Demographic Research (MPIDR) in Rostock, Germany, and the Max-Planck Odense Center on the Biodemography of Aging (MaxO) in Odense, Denmark.

Explanation of demographic curves and values

The mosaic contains 48 graphs for 46 different species. The background color indicates which group (taxonomic category) the organism belongs to (see legend for color codes).

All curves depict how demographic values (mortality, fertility and survivorship) change over age, which is shown on the X-axis.

X-Axes: Age
X-axes start at the left with the species' age of maturity and end at a terminal age when 95 percent of adults have already died. The range of X- labels varies from days to centuries.

Demographic curves:

1. Mortality (red curves, Y-axes on the left)
Mortality (death rate) is the risk of dying at a given age. It is often viewed as the probability of dying before reaching the next birthday.

For the plot mortality is standardized. The original age-specific values for every species have been divided by the lifetime average (average mortality for all adults alive from maturity to the terminal age). Thus, it is not possible to see the absolute probability of mortality for a given age. But one can see the level of mortality at that age compared to the lifetime average. The average is marked by the dashed gray line.

Example for Japanese women: When modern Japanese women are 40 years old, their probability of dying is still below one tenth of their lifetime average. When they are 90 the risk has grown to the tenfold of the average.

2. Fertility (blue curves, Y-axes on the left):
Fertility indicates how much a species reproduces at a given age. For humans fertility is expressed by the birth rate, the average number of children per woman. For other organisms the number of offspring or eggs per individual were counted.

Fertility curves are standardized. The original age-specific values for a given species were divided by lifetime average fertility (average of fertility for all adults alive from maturity to the terminal age). Thus, it is not possible to see the absolute level of fertility at a given age. But one can see the level of fertility at that age compared to the lifetime average. This average is marked by the dashed gray line.

Example for Japanese women: When modern Japanese women are about 30 years old their birth rate is largest and approximately the fivefold of the lifetime average. Women older than 50 don't give birth anymore and fertility is zero.

3. Survivorship (gray curves, Y-axes on the right, logarithmic):

Survivorship gives the proportion of the whole population of one species that is still alive at a given age in relation to the number of individuals alive at maturity. The Y-axis for the survival rate (on the right) is compressed (logarithmic): The 10% mark lies at about the middle of the axis.

Example for modern Japanese women: Up to age 50 almost all Japanese women are still alive. At 99 approximately ten percent are still alive.

Note on species:

Among the 46 species in the mosaic are 11 mammals (including humans), 12 other vertebrates, 10 invertebrates, 12 plants, and one alga.

There are three graphs with humans:

- Japanese women in the year 2009 (Japan continues to be the country with highest life expectancy in the world)
- Swedish women born in 1881
- Hunter gatherers: These data have been collected in this day and age from the Aché people in the Paraguayan rainforest. The tribe still lives similarly to how our hunter gatherer ancestors did. Its demographic curves may be typical of humans over most of their existence.

The **press release** to which this mosaic of graphs belongs can be found online at www.demogr.mpg.de/go/tree-of-life

Original Paper:
Owen R. Jones, Alexander Scheuerlein, Roberto Salguero-Gómez, Carlo Giovanni Camarda, Ralf Schaible, Brenda B. Casper, Johan P. Dahlgren, Johan Ehrlén, María B. García, Eric Menges, Pedro F. Quintana-Ascencio, Hal Caswell, Annette Baudisch, James W. Vaupel: Diversity of ageing across the tree of life, Nature 2013, DOI: 10.1038/nature12789
http://dx.doi.org/10.1038/nature12789