The lives of snapdragon flowers

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The hybrid zone

A hybrid zone is an area where two different parental types meet and mate, producing offspring with mixed traits, even if the parental types remain distinct due to natural selection. This makes hybrid zones the perfect resource for understanding evolution in nature.

The studied hybrid zone contains two types of Antirrhinum (snapdragons) which differ in flower color: either magenta or yellow. Genetic and field observations had been made since 2009 with the purpose of estimating the population structure and fitness variation.

Why do we want to know about the lives of individual flowers?

This is part of a larger study, in which we are estimating the overall fitness of individual plants across the season. The conditions and development of flowers are a factor in the reproduction and thus fitness of a given plant

How?

We tracked 274 flowers from 116 different plants for 15 consecutive days. The following variables were recorded:
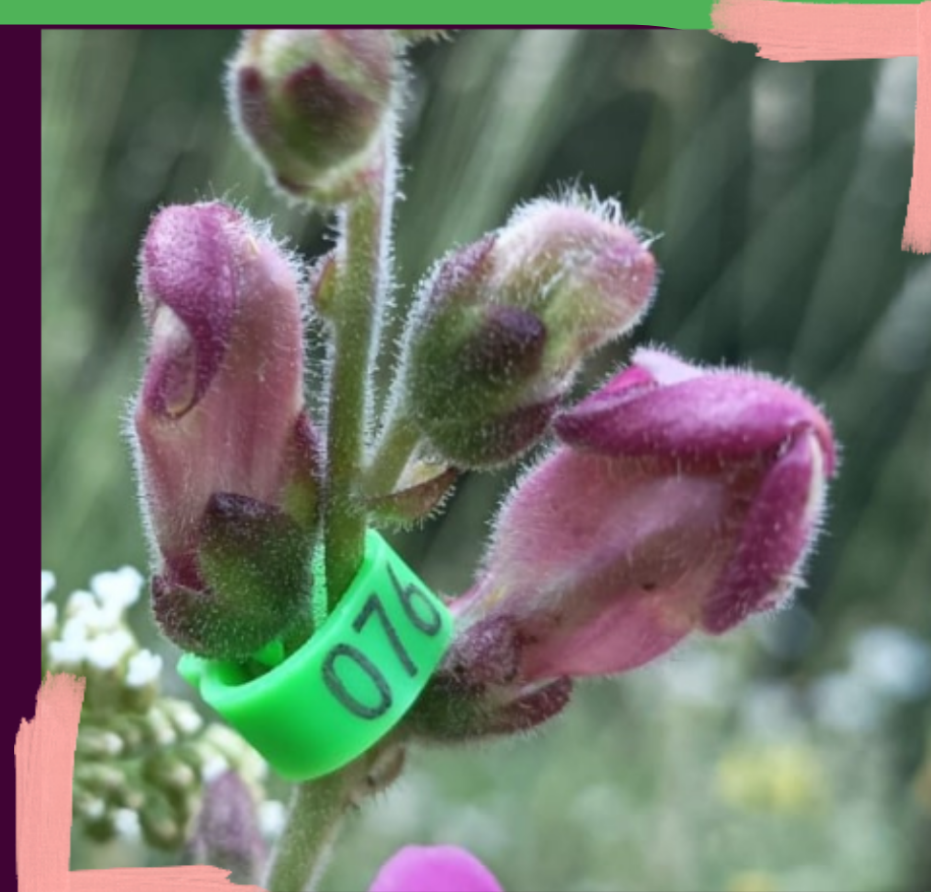
Status:
- Closed: Bud
- Open: Starts to be counted as a flower
- Fallen: The flower fell and stops being counted
- Fruit: The flower developed into a fruit

Perceived age:
In a scale from 1 to 4, at the stage 3 it stops being counted

Damage:
In a scale from 0 to 3, with 0 being undamaged

More information

Questions

1. How many days do we count flowers for?
2. Why do we stop counting flowers?
3. What is the probability that a flower will become a fruit?
4. How long does it take a flower to become a fruit?
5. Do these variables change between plants?
6. How long does it take for flowers to start to look old?
7. Does the perceived age of a flower influence the number of days it is counted for or the days for it to become a fruit?
8. Does the damage in a flower influence these variables?

Answers

1. On average, flowers last for 3.03 days with a standard deviation of 1.04 and a maximum of 7 days.
2. The percentage of flowers that stopped being counted because they fell is 84.73% the remaining 15.27% corresponds to flowers that started to look too old
3. The percentage of flowers that become fruits is 51.15 %
4. The average number of days for a flower to become a fruit is 4.77 days with a standard deviation of 2.32, with some flowers taking up to 13 days.
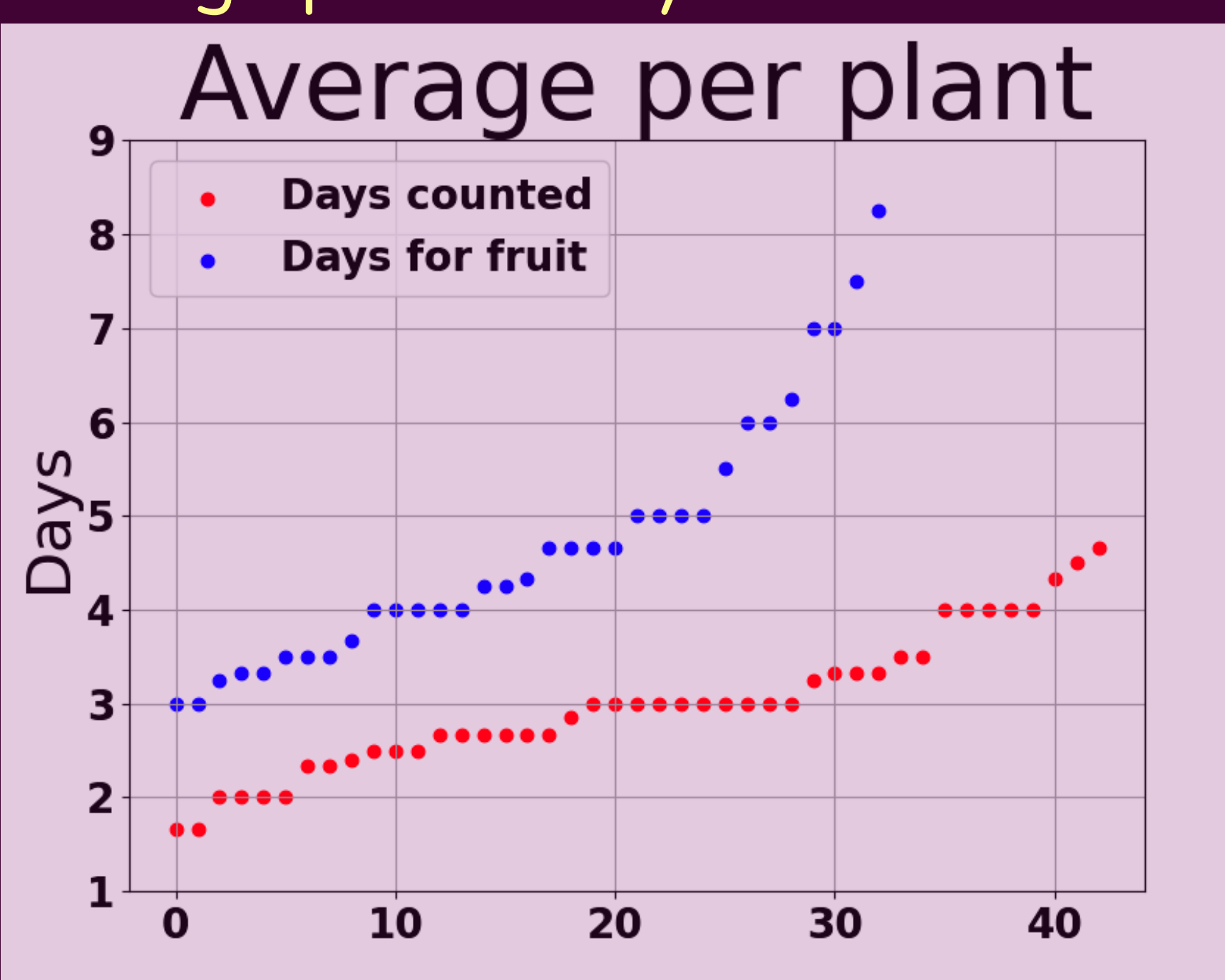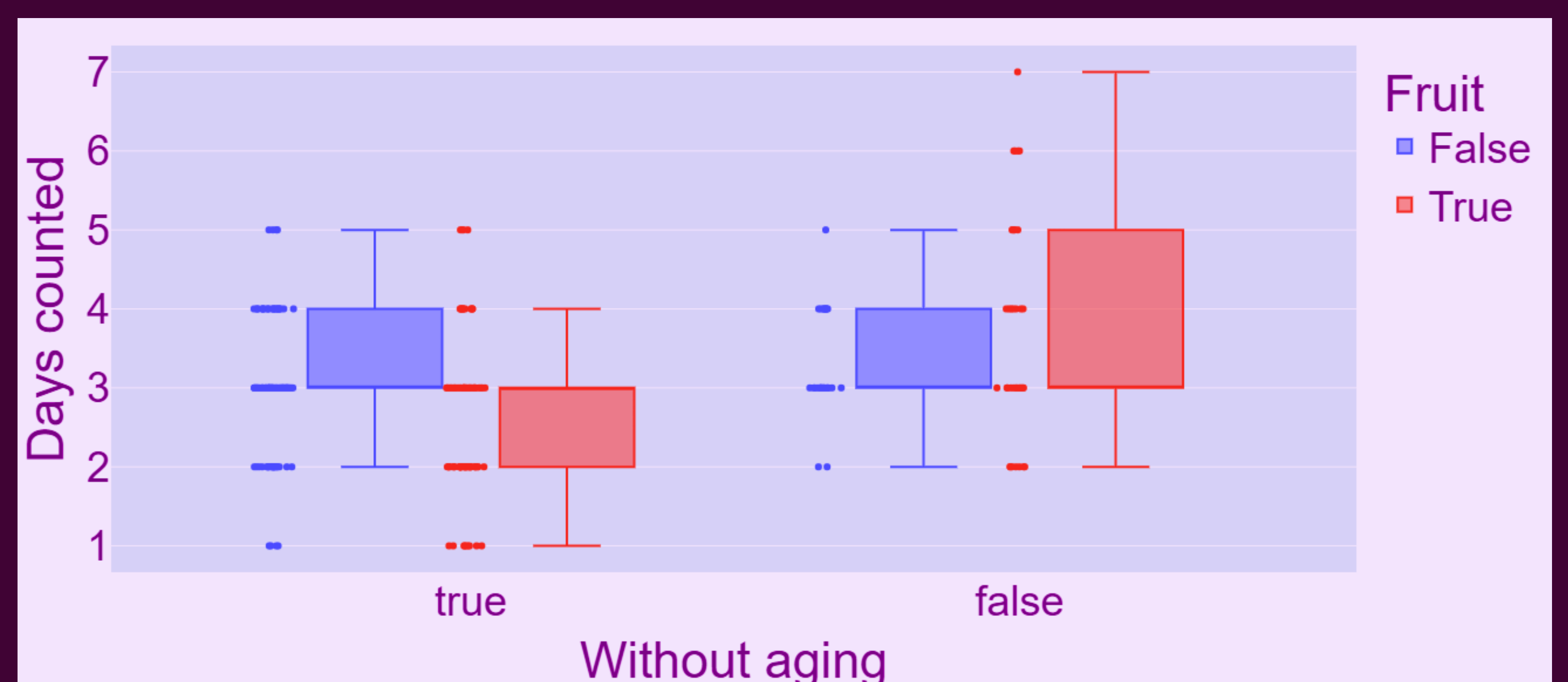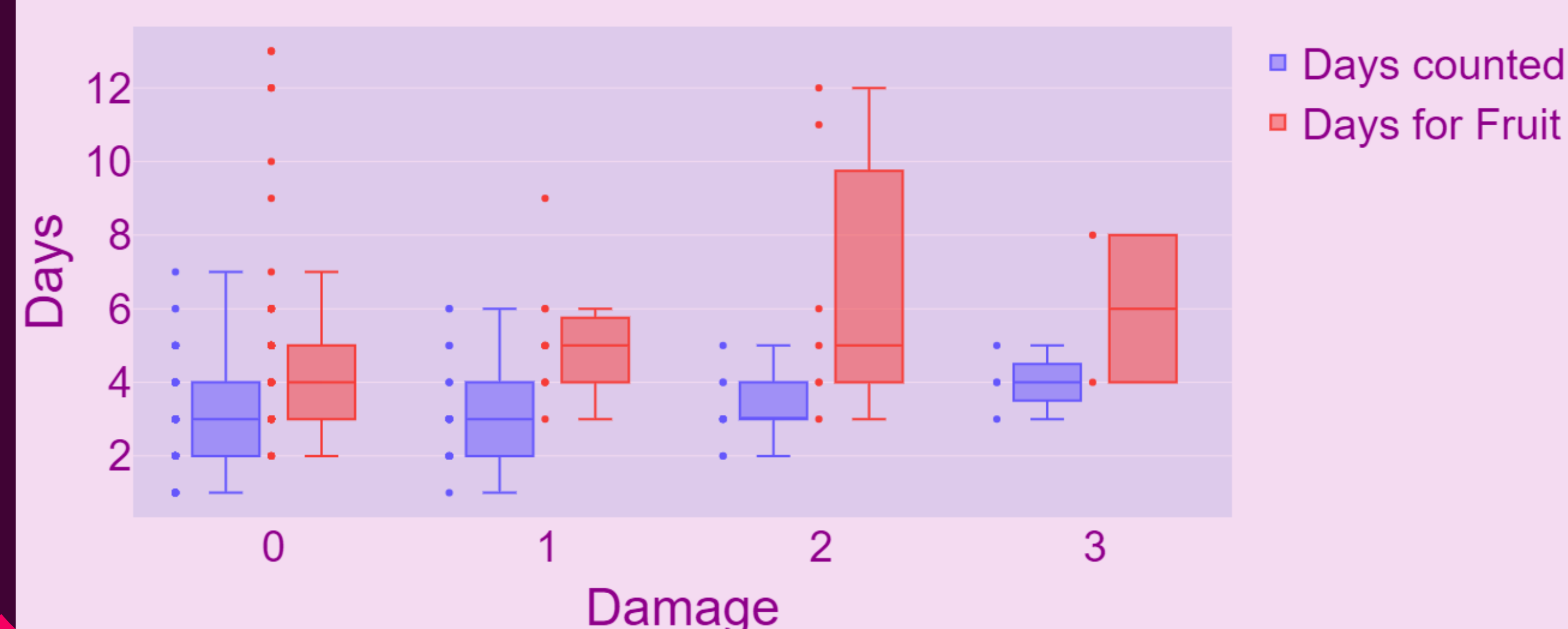
5. There is noticeable variation from plant to plant in the days counted and days to become a fruit

6. Most flowers don't age before falling (74%), for the flowers that do start to look older it takes 2 days to go from 1 to 2 in the scale of perceived age and another 1.5 days for each step in the scale.

7. Flowers that do not present aging and become fruits are counted for less days and become fruits quicker, flowers that do not develop into a fruit are not affected by the aging.

8. The damage in a flower increments the days it is counted for and the days for it to become a fruit

Average per plant (Days counted, Days for fruit)

Damage in flower's development (Days counted, Days for Fruit)

Fruit (False, True) — Without aging

Acknowledgements and References

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