

Downward trend

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- Class: Gyg19, Erasmus+ Project



Study results

- 75% total mass of flying insects in parts of Germany disappeared
- Data, published in 2017, of the study Entomologische Association Krefeld, show research occurrence of flying insects at 60 locations in 27 years
- Mostly protected areas NRW, but also collected in different federal states
- Criticism due to methodological deficiencies, but nevertheless first long-form data collection on stock development
- All data series show significant decline in species diversity, in some cases dramatic population decrease



Species extinction

- Butterflies have a permanent loss of over 70%, in several regions
- Wild bees: at about 561 species, a decline of about half, due to habitat loss, but also to insecticides
- Narrow bee species nests, within 46 years, loss of 95% in Swabian alpine pastures.
- within 1-decade 3/4 of wild bees have disappeared in isarauns



National and statewide extent of insect mortality

- Agriculture: on grassland areas the number of insects decreases by $\frac{2}{3}$.
- forests show losses of 40% of biomass to insects





- Endangerment status of different species
- Specifies development 15,000 species
- results show almost every second species declines
- only 2% increase
- some species now taken under protection

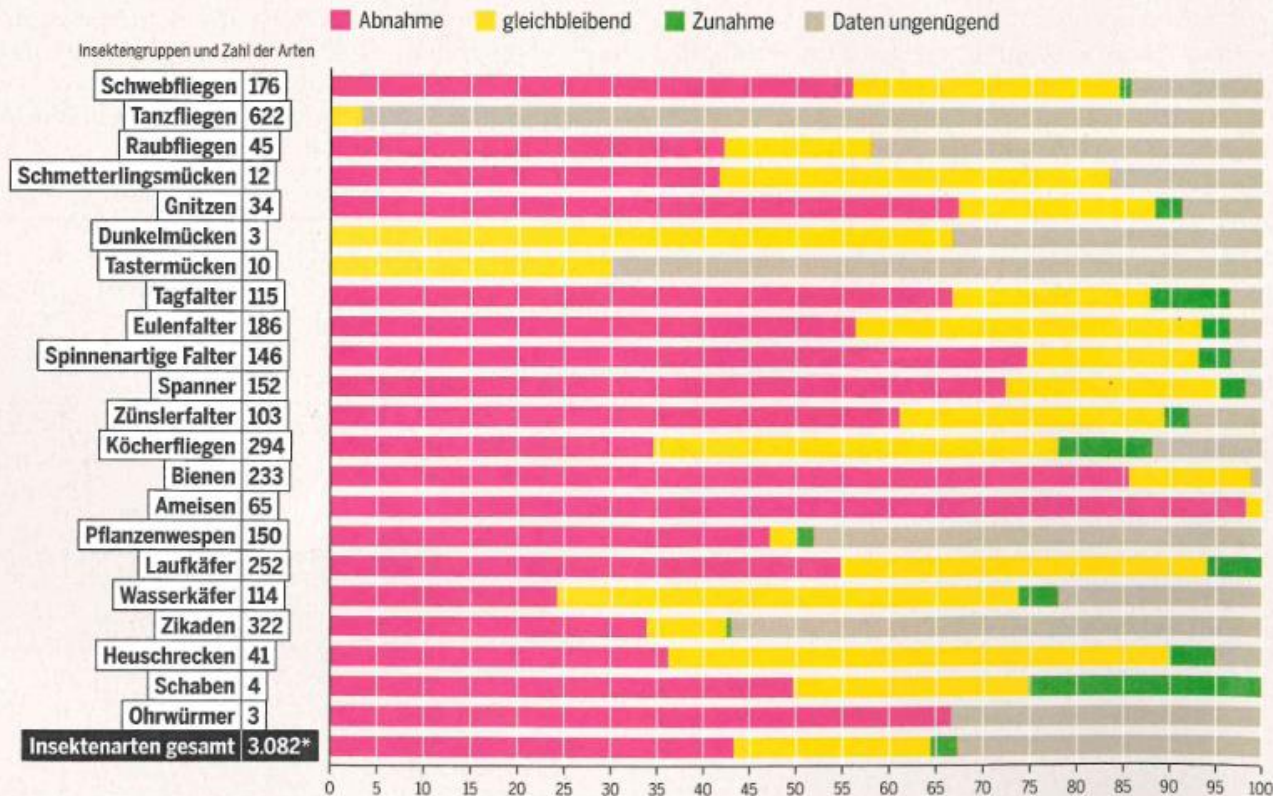


Red list of the insects

Red List of Germany (in german)

FAST ÜBERALL VERLUSTE

Rote Listen der Insekten in Deutschland, akute Trends bei den langfristig rückläufigen Insektengruppen, Verteilung in Prozent der Arten

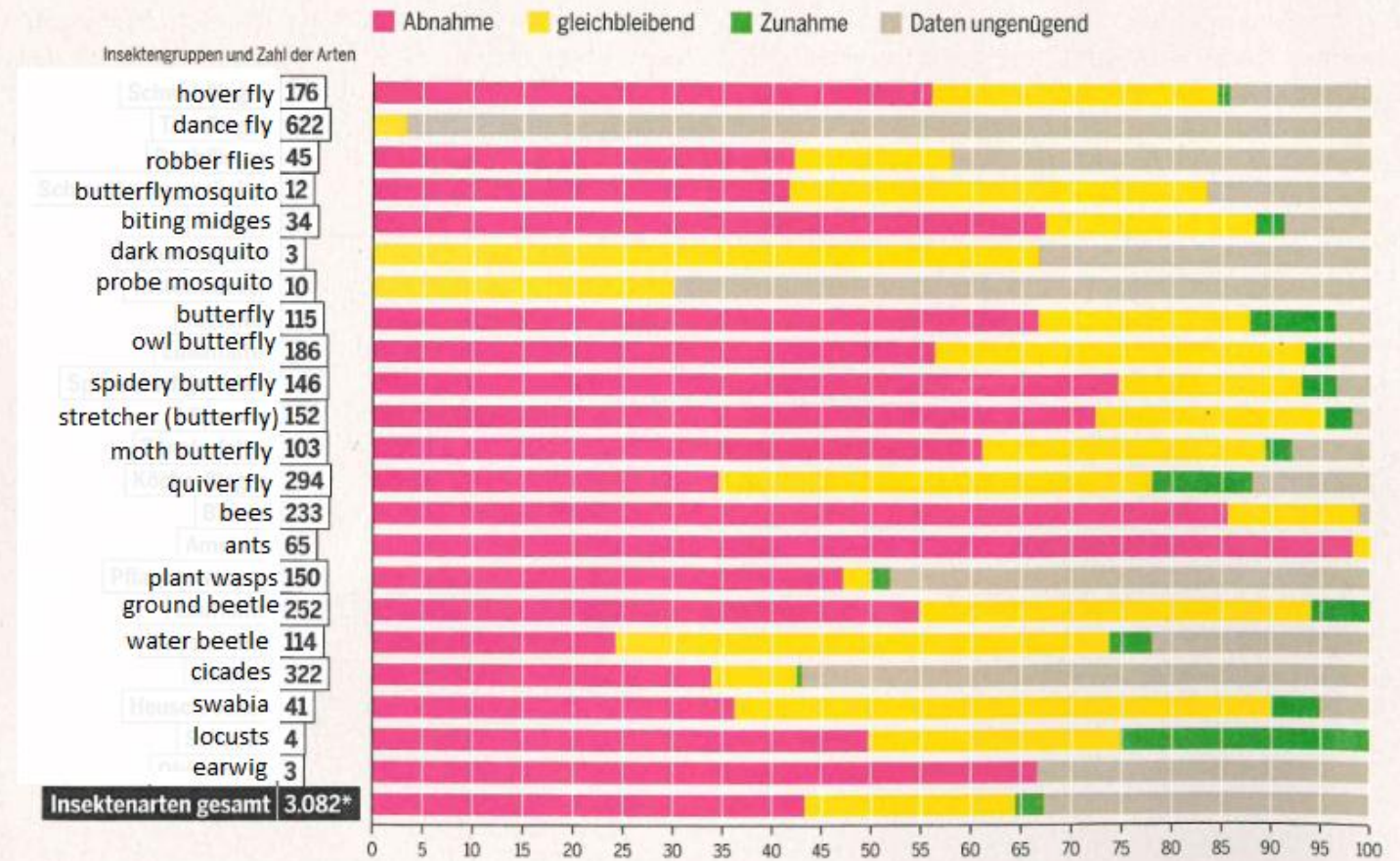


Red list of Germany (in english)

Pink: decrease, yellow: constant, green: increase, grey: insufficient data

FAST ÜBERALL VERLUSTE

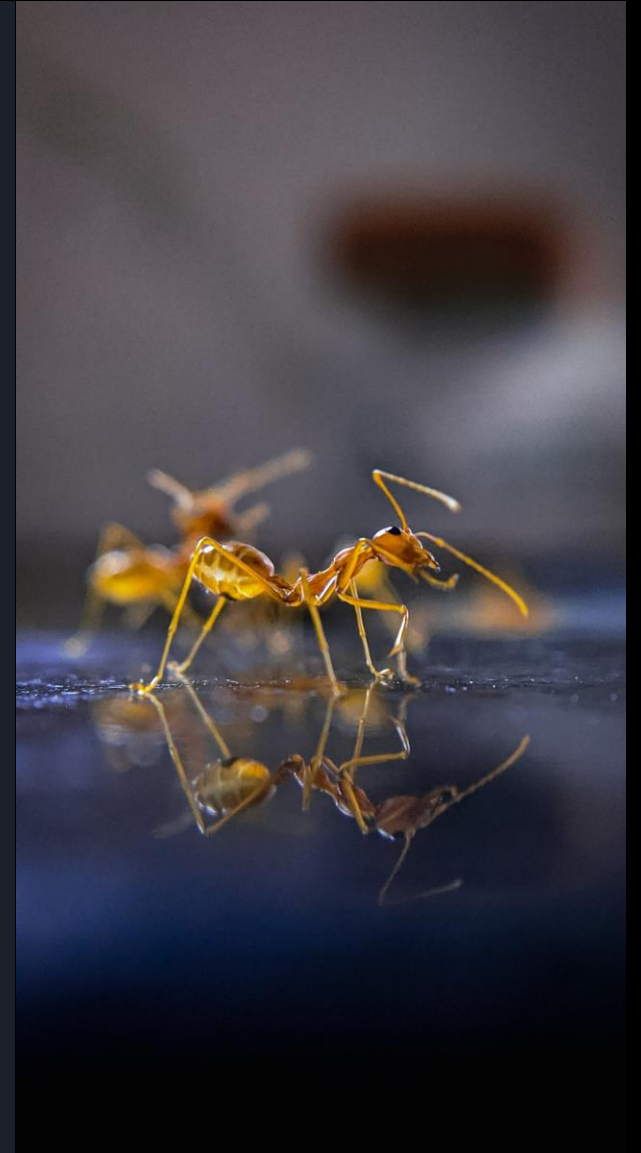
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Reasons for insect mortality

- Insecticides
- Pesticides
- Overfertilization
- New study is taken place since 2019,for research what factors are also reasons for insect mortality



Sources

- <https://unsplash.com/photos/oZafvr9-nVE>
- <https://unsplash.com/photos/CK7rdTauhDE>
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- https://unsplash.com/photos/gghk_hGjor8
- <https://unsplash.com/photos/u4CyLbDHLpE>
- Insect atlas p.16-17 (from Mrs. McNelis)