

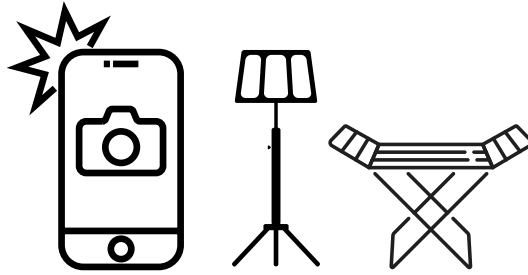
Off to the umbels!

# Photography Aid

## Material planning:

### That's what you need!

- 1 stand for stability (e.g. a music stand from the music room, a discarded clothes horse or something home made)
- 1 smartphone, tablet or camera
- 1 Schedule with responsible persons
- 1 Place where the observations are documented and stored



## Structure: Your recording in 4 Steps

- Set up device stably
- Create a test recording
- Check if it is sharp and close enough. Mark the position (e.g. with sticks) for later.
- Go ahead!

## Dos and Dont's:

### Tips for professionals

#### Keep your distance

- Leave enough distance from the umbel to not disturb the insects.
- Keep the same position on each counting day. This way you can easily compare the images later.

#### Keep it bright & sharp

- Pay attention to the incidence of light and your shadows: dark images are harder to analyze than well-lit ones.
- Sometimes the camera automatically focuses on the objects that are closer. Check directly if your shots turned out well.

#### Keep up the rhythm

- Plan for fixed recording times.
- Ideally record 3 times a day for 5 days in a row. You can use your break times as a guide or take a picture in the morning, at noon and in the evening.
- If you create video recordings with time-lapse, you can easily view and evaluate individual frames of them later.

## Better together:

- Split into recording teams so that you can work at different times. Find substitutes in case you can't work at the same time.
- Number your shots well so that you won't get lost in chaos later: For example: **YYYYMMDD\_HH:MM (Year, Month, Day, Time)**
- Share your experiences with each other, someone always has something exciting to tell!

## Stay Safe & Healthy

- Your devices always need power and storage capacity. Make backups of your recordings from time to time.
- If you're recording in the summer sun stock up on sunscreen!
- You do not necessarily have to take pictures when it rains: Many insects can not fly with wet wings and won't show up on rainy days.



**Off to the umbels!**

# Counting aid



## Allocation of tasks: Everyone joins in!

Our recommendation: split up into teams so that everyone can participate!

- 1 team creates species groups (help is available from the NABU insect summer)
- 1 team takes photos
- 1 team makes circles on the photos (different types are different colors)
- 1 Team counts circles and enters them
- The evaluation will be done by all of you together

## Methods: One for All

Our experts say: You can develop your own system for the counts and evaluations, as long as you stick to it. This way you can compare the results better later on.

## We recommend: The manual count

Whether printed or digital:

- Take a recording, note the number of insects, and move on to the next one. If you created a time-lapse video, you can change the playback speed, fast-forward, rewind, and pause.
- For more security, check your results using the four-eyes principle, where two different people count out the same images and compare their results.

**Expert tip:** To make counting even easier, create a transparent grid, place it over your image and count each square individually. Add them up later.

## Outlook: Counting with Artificial Intelligence

More and more research institutions let artificial intelligence take over the counting process. The intelligent systems are trained beforehand to recognize what an insect actually is, and then proceed to count completely autonomously. Soon you might be able to use this yourself!

## Plan B: Blooming period already over?

No problem! We created a time-lapse recording of our Wild Carrot in Berlin. Follow this link to view the recording and use it as your own. Once you practiced, you can also go out and discover other flowers that are still blooming. Insects are everywhere!

The Teachtoday project office hopes you have fun exploring biodiversity. Off to the umbels!

## Further Information

Interviews with our experts



[https://fb.tipp.fm/4569\\_Dolden\\_Interview\\_Biodiversitaet.htm](https://fb.tipp.fm/4569_Dolden_Interview_Biodiversitaet.htm)

NABU's Insect Summer App



[https://fb.tipp.fm/4673\\_Nabu\\_App.htm](https://fb.tipp.fm/4673_Nabu_App.htm)

Downloadable Counting Template



[https://fb.tipp.fm/4674\\_Zaehlhilfe.htm](https://fb.tipp.fm/4674_Zaehlhilfe.htm)

