



# CaveLife

App for (bio)speleological  
assessment

# Outline

- App Idea
- Data Recording
  - General Data
  - Taxa
  - Rating (Habitat Type 8310)
- Result Protocol
- Technical Features
- Data Security & Data Usage

# App Idea

- Counting bats in winter roosts
- Data transmission
- Monitoring according to the EU Habitats Directive  
Habitat type 8310 - Caves not open to the public

**Standardised digital recording!**



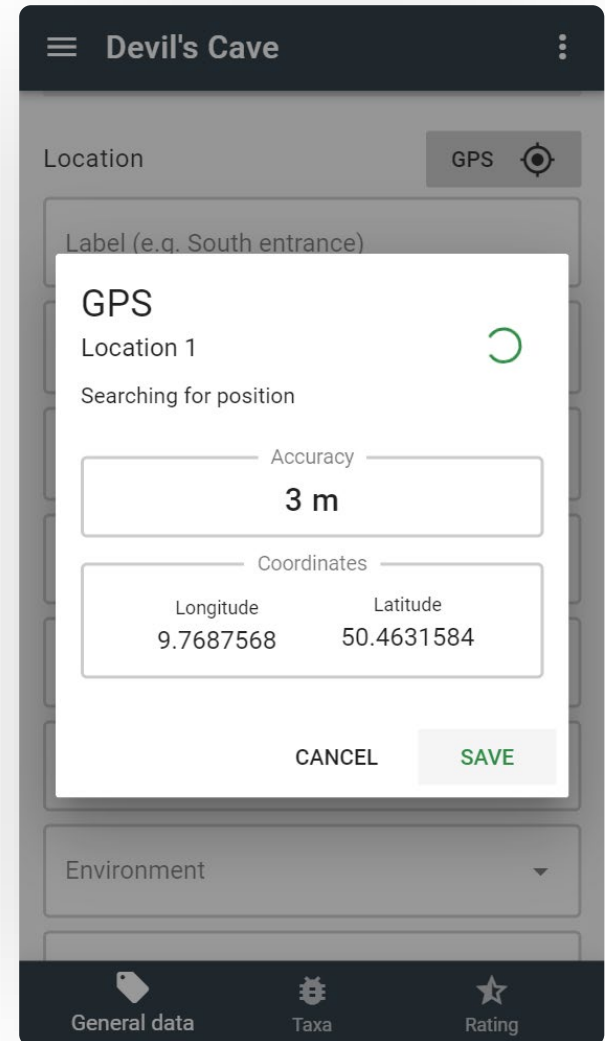
# Data Recording – General Data

The screenshot shows a mobile application interface for recording general data. At the top, there is a dark blue header with a hamburger menu icon, the text "New object", and a vertical ellipsis icon. Below the header, the section is titled "General data". There is a checkbox labeled "Test object" which is currently unchecked. Below this are several input fields: "Register No." (empty), "Object name \*" (containing a red 'x' error icon), "Date \*" (containing "2021-09-12" and a green checkmark), "Participants" (containing "Stefan Zaenker" and a green checkmark), and "Sample label" (empty). A note "\* Mandatory" is positioned below the "Date" and "Participants" fields. At the bottom of the form area, there is a grey button labeled "ADDITIONAL DATA" with a downward arrow. The bottom of the screen features a dark blue navigation bar with three icons: a tag icon labeled "General data", a gear icon labeled "Taxa", and a star icon labeled "Rating".

- Collecting necessary base data
- Object lists available for download
- Mapping of data to taxonomic samples

# Data Recording – General Data

- Automatic location determination
- Multiple entrances can be recorded individually  
Width & height of entrances, environment, closure type, location descriptions
- Avoiding assignments to incorrectly selected objects



# Data Recording – General Data

The screenshot shows a mobile application interface for recording survey data. The title bar at the top is dark blue with the text 'Devil's Cave' and a hamburger menu icon on the left, and a three-dot menu icon on the right. Below the title bar, the word 'Survey' is displayed. The main content area contains several input fields, each with a trash can icon and a green checkmark on the right side, indicating that the data has been successfully recorded. The fields are: 'Type of survey' with the value 'Lengths and depths estimated'; 'Total length [m]' with the value '25'; 'Length (max. horizontal) [m]' with the value '20'; and 'Depth (max. vertical) [m]' with the value '2,5'. Below these fields, the text 'Additional general data' is displayed. This section contains three more input fields: 'Type of object' with the value 'Cave'; 'Cave type' with the value 'Horizontal cave'; and 'Rocks' with a dropdown arrow. At the bottom of the screen, there is a dark blue navigation bar with three icons: a tag icon labeled 'General data', a bug icon labeled 'Taxa', and a star icon labeled 'Rating'.

Survey

Type of survey  
Lengths and depths estimated

Total length [m]  
25

Length (max. horizontal) [m]  
20

Depth (max. vertical) [m]  
2,5

Additional general data

Type of object  
Cave

Cave type  
Horizontal cave

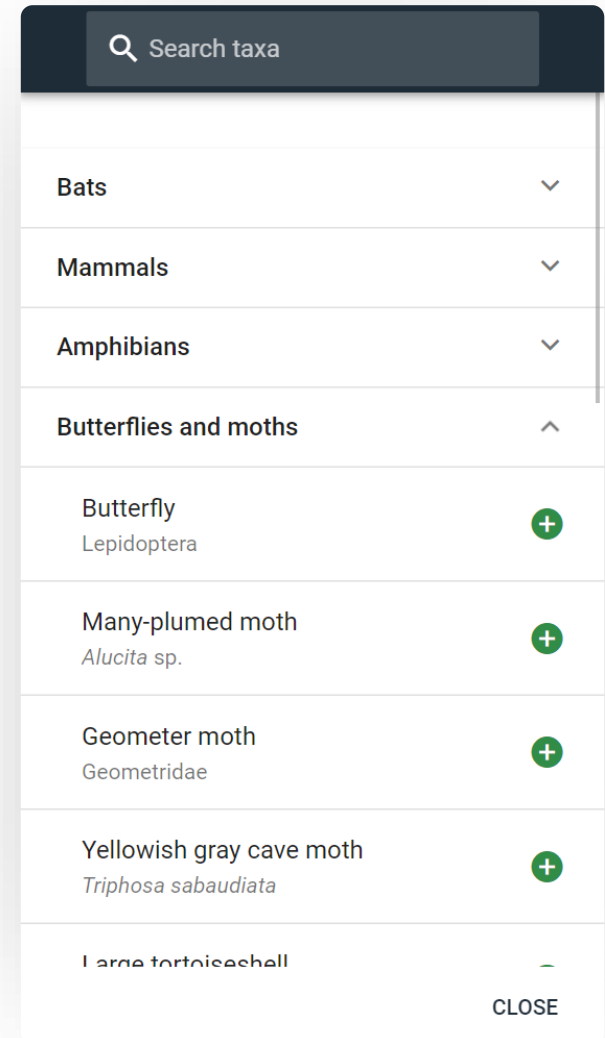
Rocks

General data Taxa Rating

- Simple survey data
- Type of object  
Cave, mine, rock-cut cellar, ...
- Detailed recording of the cave type

# Data Recording - Taxa

- Taxa grouped by major categories
- Intelligent search
- Only taxa determinable on site can be selected
- Taxa above species level can also be recorded



# Data Recording - Taxa

Devil's Cave

Bats (6)

1 Bechstein's bat  
*Myotis bechsteinii*

5 Serotine bat  
*Eptesicus serotinus*

Count

5

several (up to 20) numerous (> 20)

Light regions  
Entrance zone, Transition zone

Finding sites  
Wall, Ceiling

Notes  
One ringed specimen

General data Taxa Rating

- Fast counting of animal finds
- Additional information on the place of discovery  
Light regions, finding sites
- Text field for additional notes
- Verification of data completion

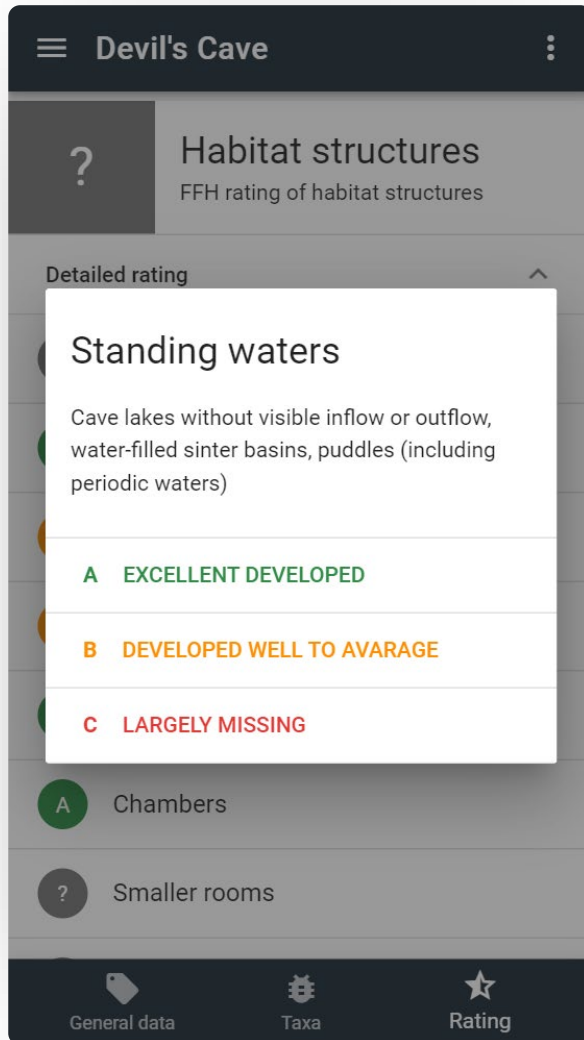


# Data Recording - Rating

- Rating according to EU Habitats Directive  
Habitat type 8310 – Caves not open to the public
- Only habitat structures and threats
- Assessment of the species inventory in the database (time period)

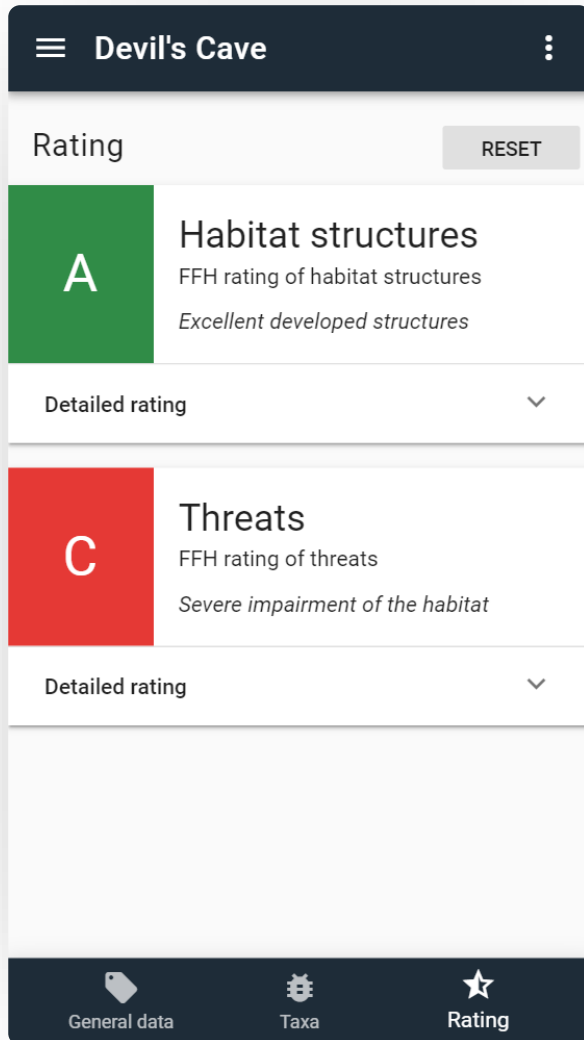
The screenshot shows a mobile application interface for 'Devil's Cave'. The top bar is dark blue with a hamburger menu icon on the left, the text 'Devil's Cave' in the center, and a vertical ellipsis icon on the right. Below the top bar, the word 'Rating' is displayed. There are two main sections, each with a dark grey square containing a white question mark on the left. The first section is titled 'Habitat structures' with the subtitle 'FFH rating of habitat structures'. Below it is a 'Detailed rating' label and a downward-pointing chevron icon. The second section is titled 'Threats' with the subtitle 'FFH rating of threats'. Below it is also a 'Detailed rating' label and a downward-pointing chevron icon. At the bottom of the screen is a dark blue navigation bar with three icons: a tag icon labeled 'General data', a bug icon labeled 'Taxa', and a star icon labeled 'Rating'.

# Data Recording - Rating



- Individual assessments A/B/C
- Definition of each individual assessment
- Always related to the "cave as a habitat"

# Data Recording - Rating



- Automatic overall rating of the object
- Evaluations in the context of the date and author
- Trend analysis

# Result Protocol

- Finishing the recording
- PDF document of all recorded data
- Alternative file formats  
JSON, CSV
- Supplementation with site-specific geodata
  - Geography
  - Geology
  - Hydrology
  - Protected areas

CaveLife Protocol - Devil's Cave

## Devil's Cave

### General data

Register No.:	DC 1
Object name:	Devil's Cave
Date:	2021-10-24
Author:	Christian Zaenker
Participants:	Christian Zaenker, St
Sample label:	DevCave

### Additional data

#### Location 1

Coordinate determination:	GPS
Coordinate system:	WGS84 / WGS 84
Longitude / Easting:	9.7517568
Latitude / Northing:	50.6691584
Accuracy [m]:	3996
Environment:	Forest
Width of entrance [m]:	5
Height of entrance [m]:	10
	No closure

# Technical Features

- Progressive Web App  
Address: <https://cavelife.app/>
- Independent of operating system & device  
Android, iOS, Windows, Linux
- Usable on all display sizes
- Offline recording possible
- No user account necessary



# Data Security & Data Usage

- Not for commercial use
- Automatic data transmission in the background
- Server of the German Speleological Federation
- Evaluation for scientific purposes
- Passing on to nature conservation authorities **ONLY** for the purpose of nature conservation and cave protection

The use of the app is based exclusively on a voluntary basis!

# Thank you for the attention!



 German

 English

 French

<https://cavelife.app/>