First online course on the use of camera trapping for monitoring wildlife and density estimation in the framework of the EOW

Database processing for analysis

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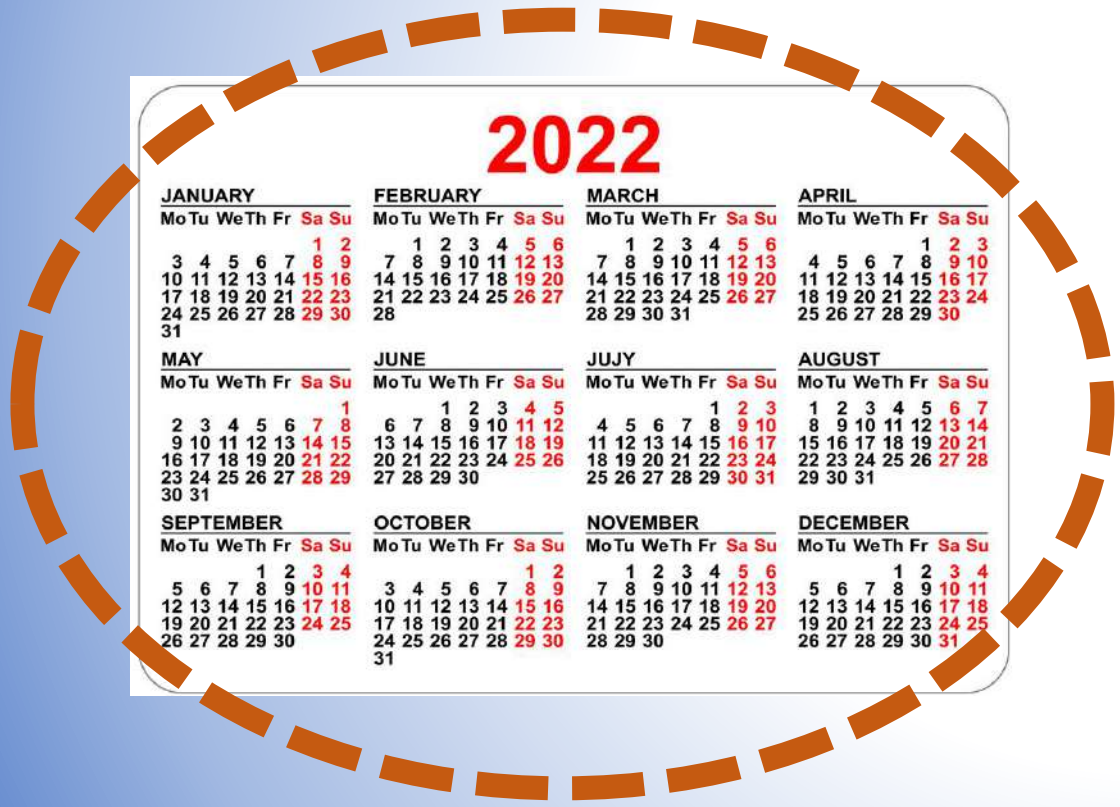
Present



Future

Encounter rate:
Number of animals detected per sampling unit (animals·(cam·day)$^{-1}$)

Density:
Number of individuals per unit area (individuals·km^{-2})

$$D = \frac{y}{t} \cdot \frac{\pi}{v \cdot r \cdot (2+\alpha)}$$

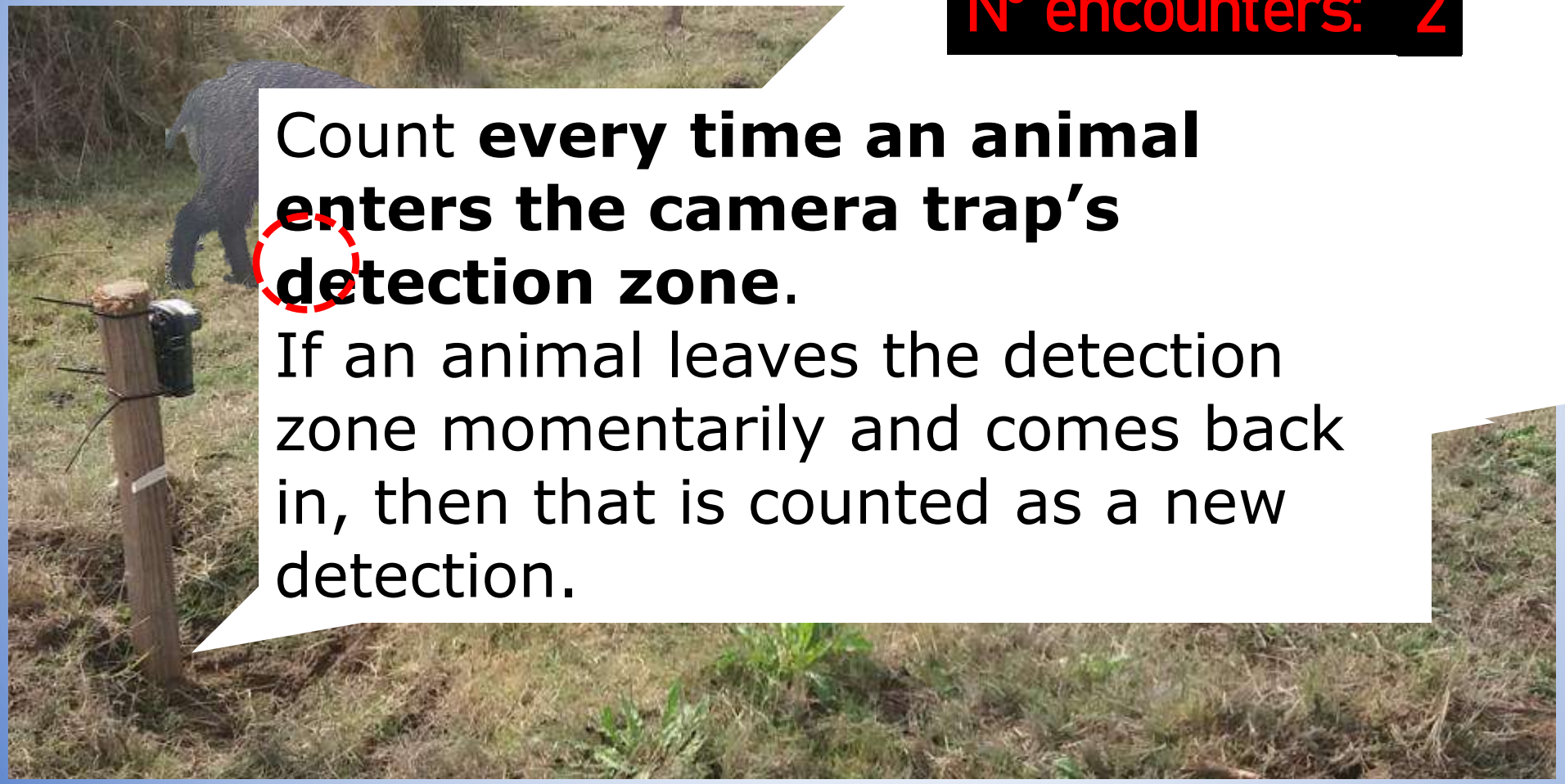
Day range:
distance travelled by an individual during the day (km·day^{-1})

Detection zone:
Area in which the cameras effectively detect animals. Radius (km) and angle (radians)

Rowcliffe *et al.*, 2008 – J. Appl. Ecol.

Encounter rate

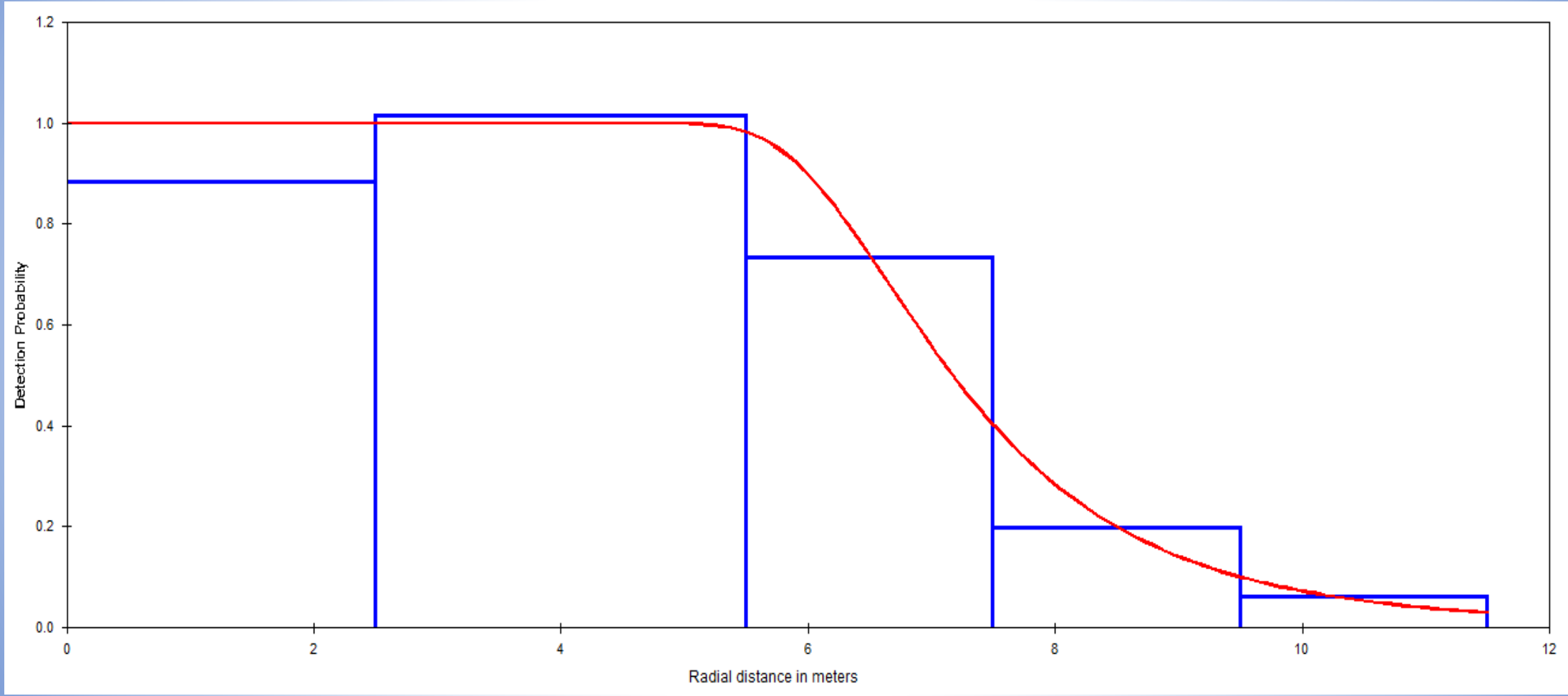
Nº encounters: 2



Count **every time an animal enters the camera trap's detection zone**.
If an animal leaves the detection zone momentarily and comes back in, then that is counted as a new detection.

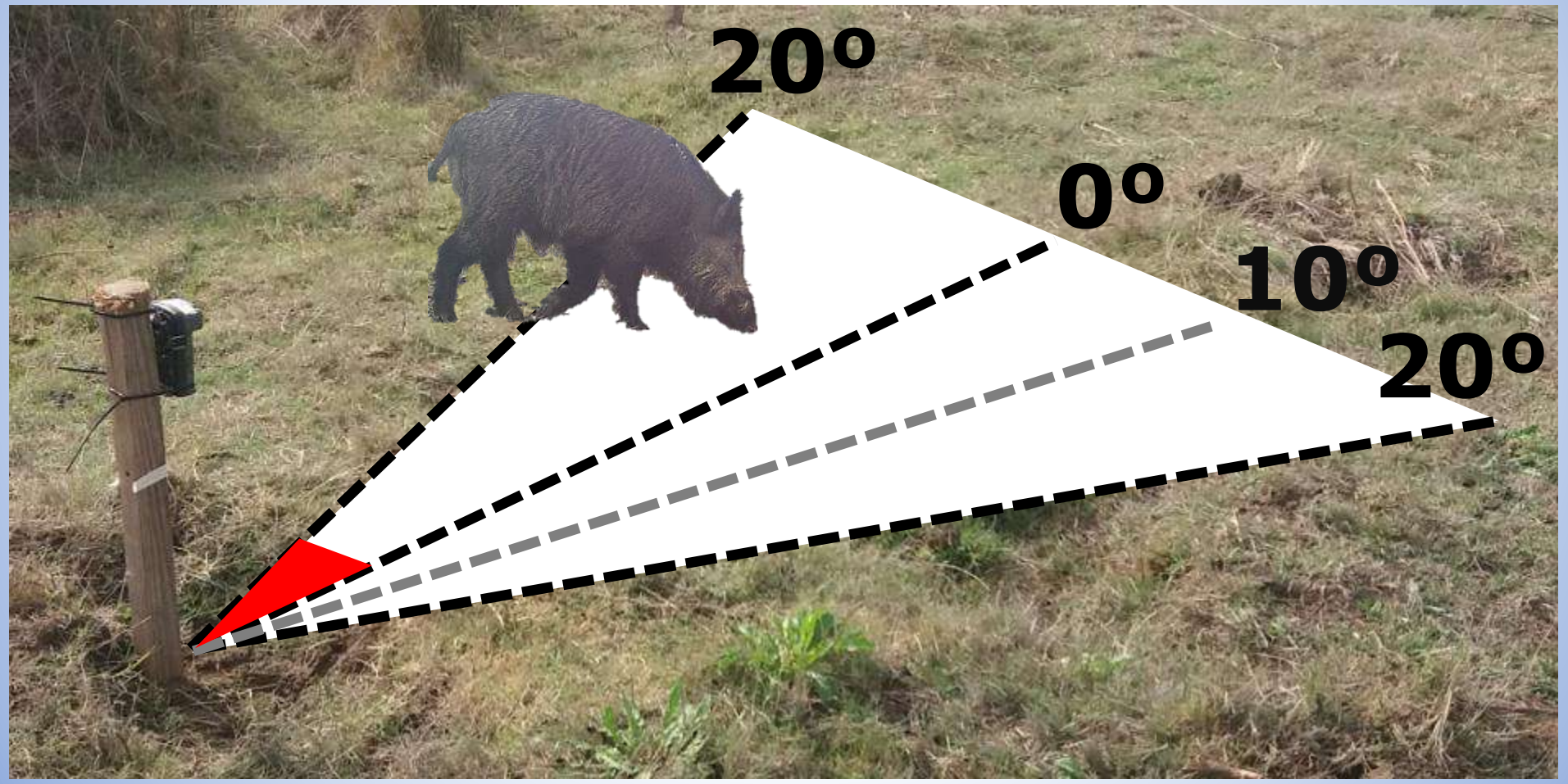
Detection zone: radius

*First photo of each group of animals

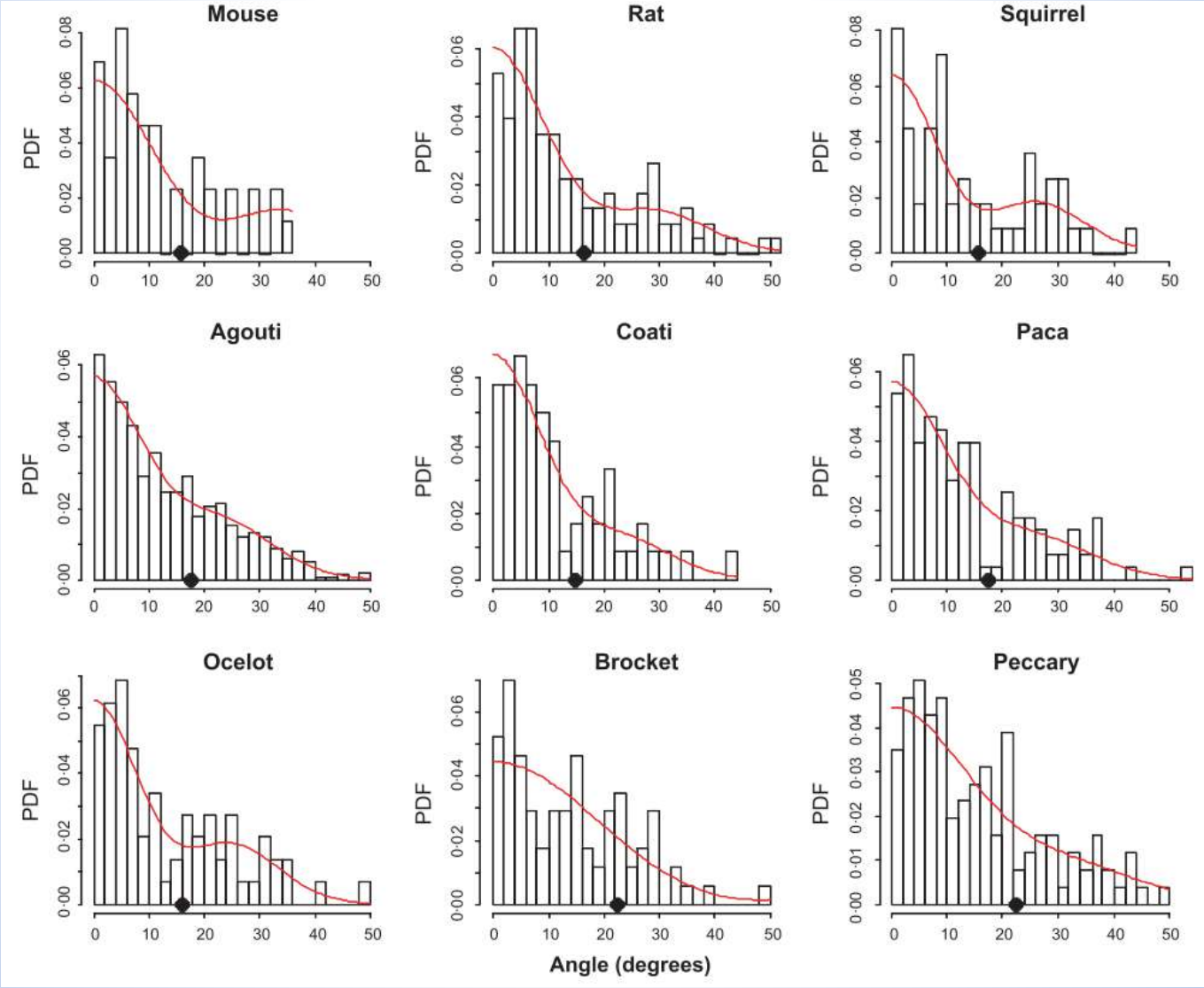

1.2
1.0
0.8
0.6
0.4
0.2
0.0
Detection Probability
0
2
4
6
8
10
12
Radial distance in meters

Detection zone: angle

CT angle: 40º

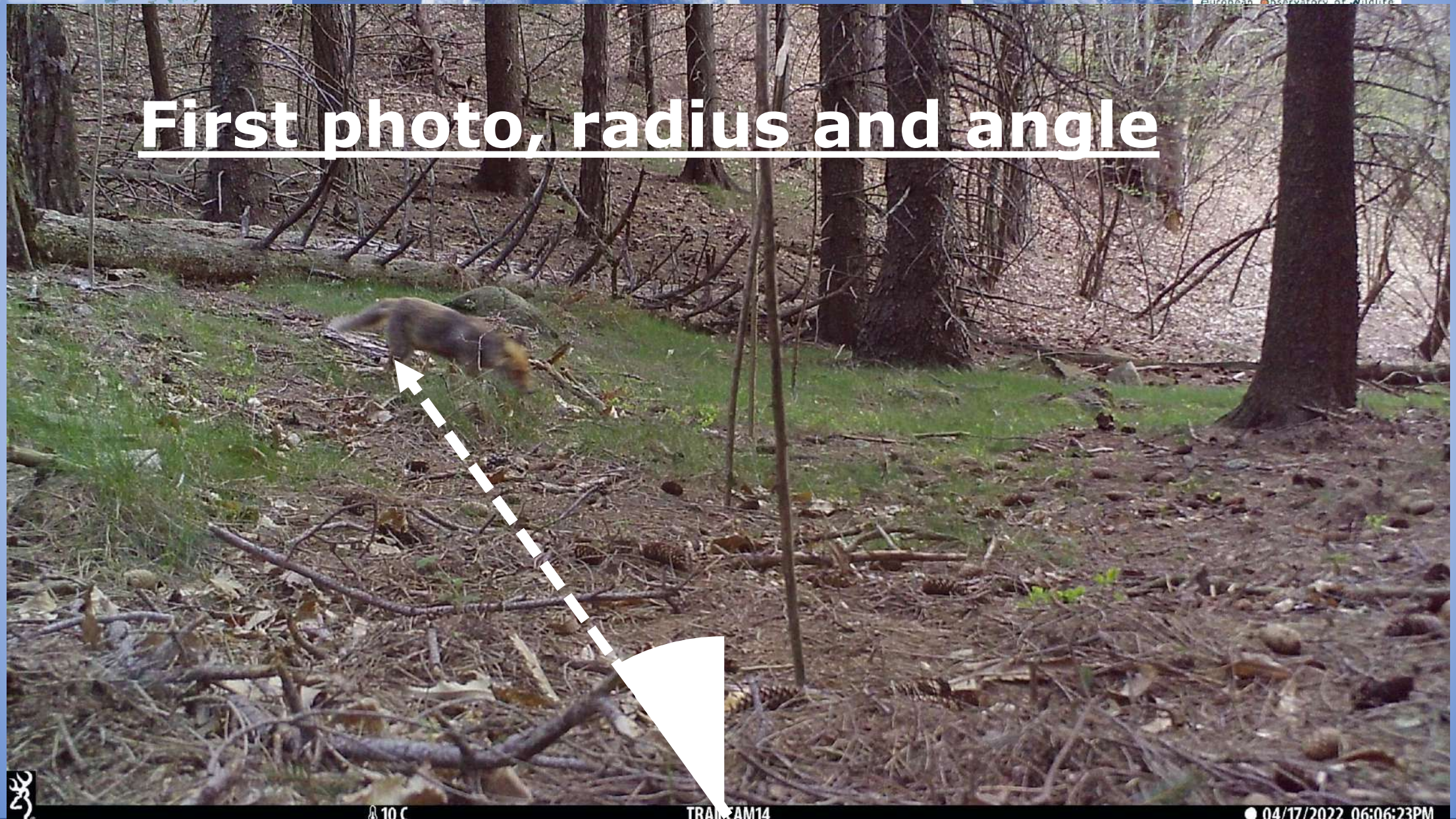


*First photo of each group of animals

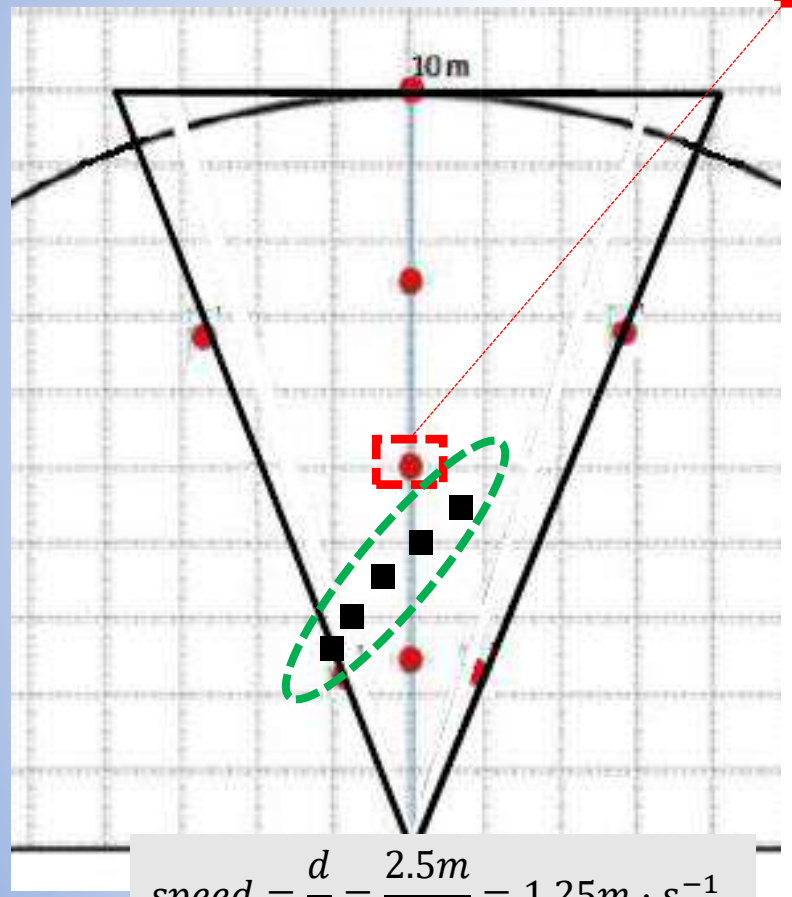


Rowcliffe *et al*., 2011 – Methods Ecol. Evol.

First photo, radius and angle



Day range: speed



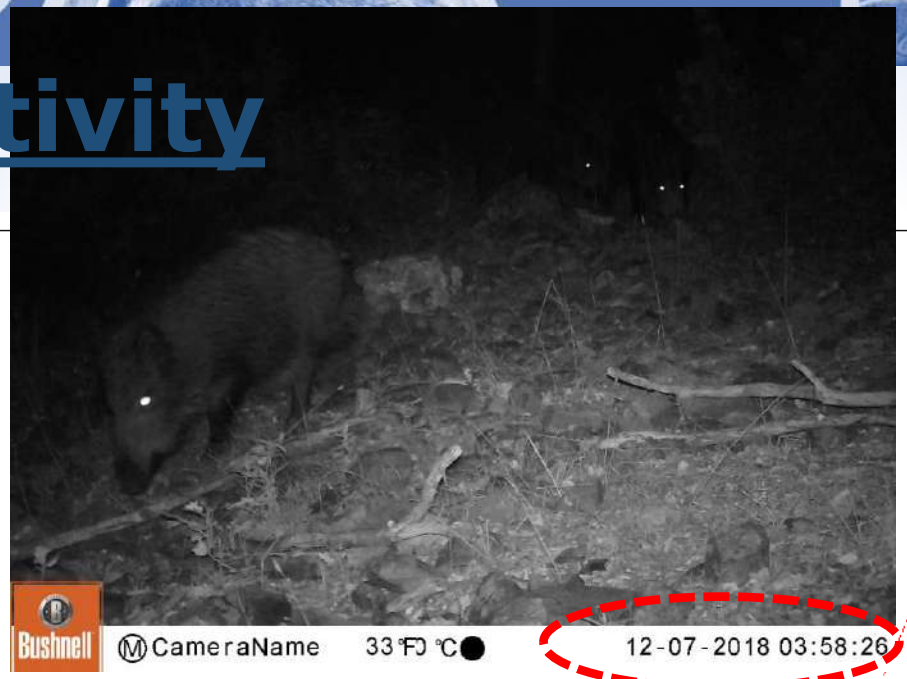
5m

$$speed = \frac{d}{t} = \frac{2.5m}{2s} = 1.25m \cdot s^{-1}$$

Rowcliffe *et al.*, 2016 – RSEC
Palencia *et al.*, 2019 – J. Zool.
Palencia *et al.*, 2021 – Methods Ecol. Evol.

Day range: activity

Frequency plot: all animals captured in all cameras from 00:00 to 00:59



trappingmotion

R package to integrate movement and behaviour ecology from camera-trapping

Despite a wide range of sensors and biologging devices have been used to monitor movement parameters, camera-traps have been scarcely applied for this purpose. Camera-trapping is a non-invasive methodology with the potential to enlarge the set of species and situations to monitor these parameters. This package includes functions to estimate movement parameters (e.g. day range) from camera-traps data.

Installation

```
devtools::install_github("PabloPalencia/trappingmotion")
```

R package to estimate day range from CT data available in github
https://github.com/PabloPalencia

Palencia *et al.*, 2021 – Methods Ecol. Evol.

Encounter rate

Camera	Sequences	Days
1	20	21
2	7	21
3	52	14
4	0	21
…	…	…
N	3	21

Detection zone

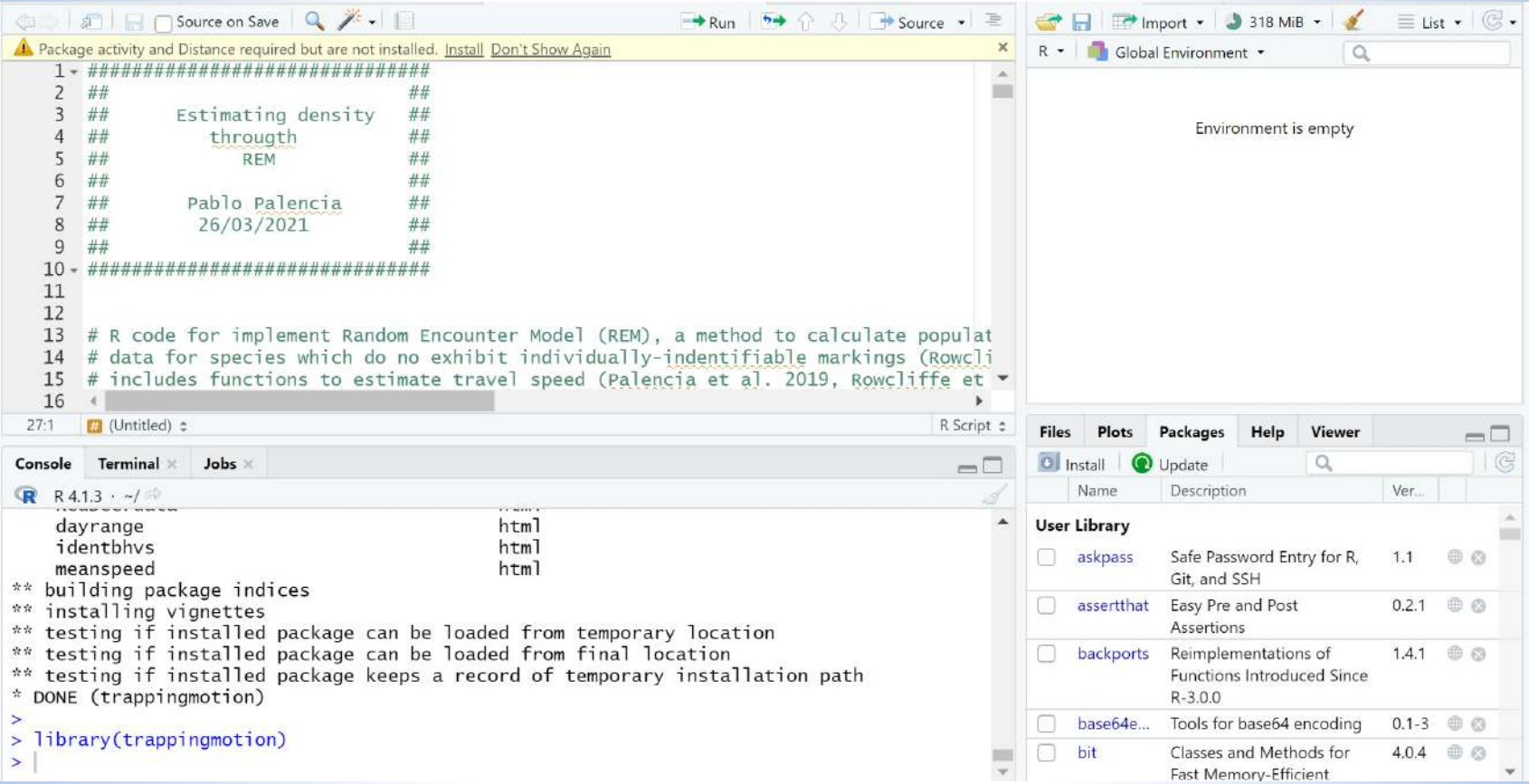
SequenceID	Radius (m)	Angle (º)
1	2.3	20
2	7	17
3	4	14
4	2.8	18
…	…	…
N	3	0

Day range

SequenceID	Time	Speed (m/s)
1	23:30:02	1.3
2	06:43:50	2.1
3	08:01:45	0.3
4	22:12:00	0.4
…	…	…
N	03:40:56	1.8

$$D = \frac{y \cdot \pi}{t \cdot v \cdot r \cdot (2 + \alpha)}$$

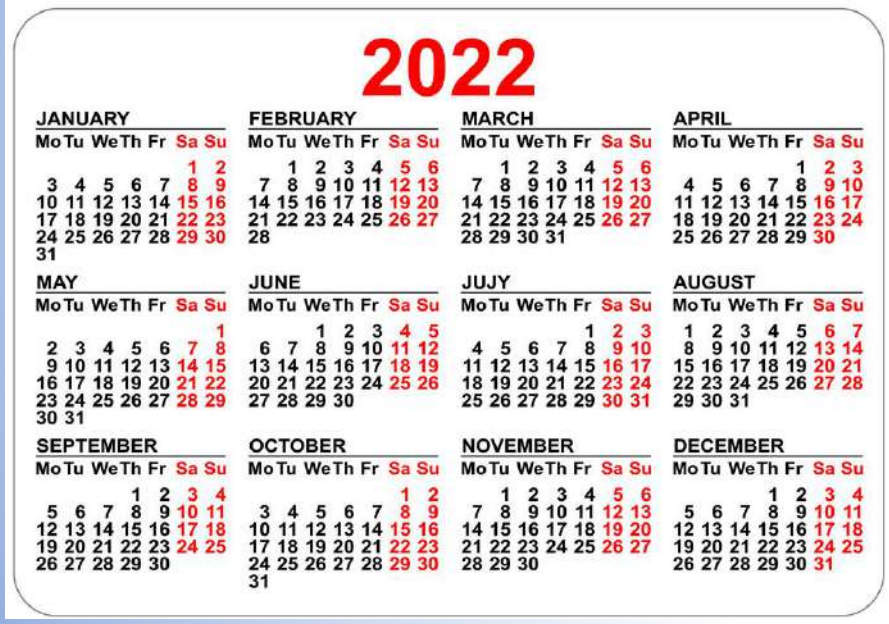
Have to been analysed in R enviroment



A vignette, working data and code are available on:
[CameraTrappingAnalysis/REM at main · PabloPalencia/CameraTrappingAnalysis · GitHub]

...future EOW course (after summer)

Present



Future

ENETWILD

eOW european observatory of wildlife

AGOUTI

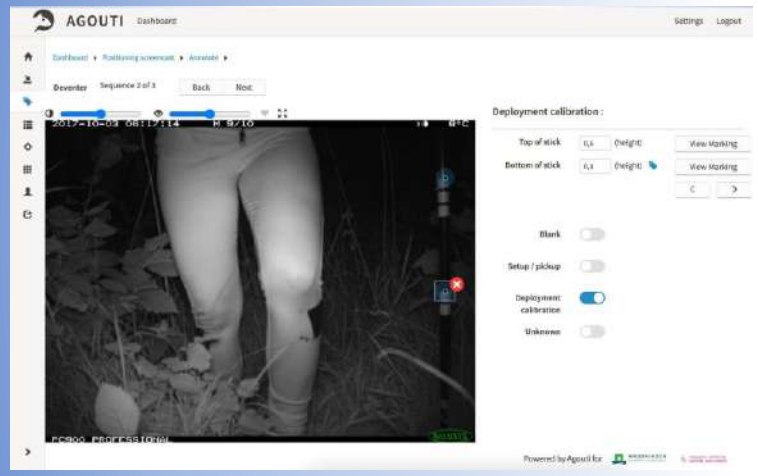
English ▾ Register

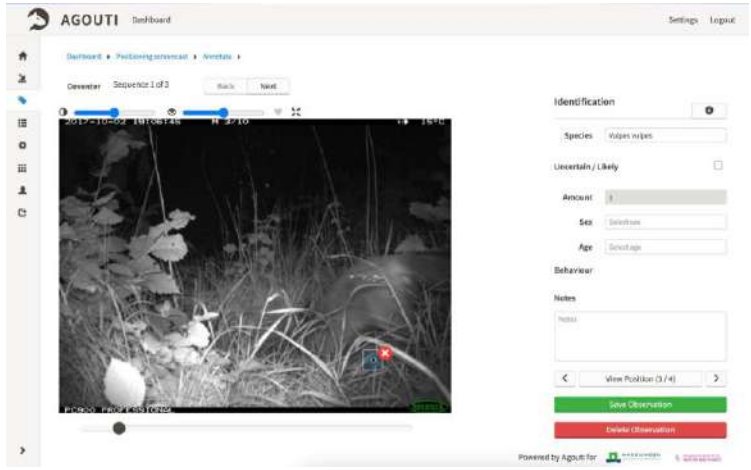
What is Agouti?

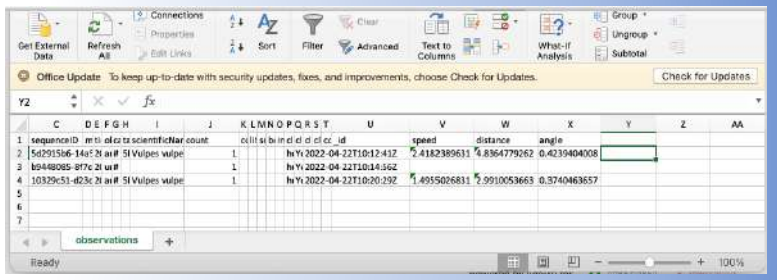
Agouti is a web platform designed to support the specific local projects within each pilot country where the aim is to use the recorded mammal sightings to estimate the number and distribution of different species.

This is generally done by professionals, advanced naturalists, and trained volunteers who have access to a number of cameras. If the cameras are set up according to ENETWILD protocols, the data can be used to systematically estimate mammal densities.

(J. Casaer lecture)


AGOUTI
Dashboard
Settings
Logout
Deverder
Back
Next
Deployment calibration :
Top of stick
Bottom of stick
View Marking
Blank
Setup / pickup
Deployment calibration
Unknown


AGOUTI
Dashboard
Settings
Logout
Identification
Species
Uncertain / Likely
Amount
Sex
Age
Behaviour
Notes
Save Observation
Delete Observation


Office Update
To keep up-to-date with security updates, fixes, and improvements, choose Check for Updates.
Check for Updates
observations
Ready

Questions??

Database processing for analysis

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