Seeking the “Big5” of St.Gallen

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Background & Methodology

“Big5” is a term commonly used to describe five large African mammals that are seeked out on every safari trip – lion, African elephant, cape buffalo, leopard & rhinoceros. Similarly, the Big5 of Switzerland are species that are eye-catching & especially easy to recognise & to distinguish: red squirrel, roe deer, badger, red fox & hedgehog.

“Big5 gesucht” (“Seeking the Big5”) is a programme of StadtWildTiere, a Swiss & Austrian Citizen Science project that aims to assess the occurrence & distribution of wild mammals in urban landscapes. Therefore, citizen's observations of the Big5 are collected on the website www.stadtwildtiere.ch. The project is complemented by the installation of camera traps (Cuddeback Digital C2, IR) in private gardens throughout the city of St.Gallen (May-September, 1-2 weeks/garden).

Preliminary Results & Discussion

Presented data are for the time period from the start of the project in St.Gallen in January 2015 until August 2016.

- All five Big5 species can be observed within the city of St.Gallen (*Fig. 1-4*).
- 173 observations of the Big5 in the city of St.Gallen uploaded to www.stadtwildtiere.ch (*Fig. 1-4*).
- Camera traps: 46 locations & 35 observations of the Big5 (*Fig. 5-8*).
- Camera traps are valuable instruments for systematically monitoring the whole settlement area & to complement the random observations of the citizens.
- Detection of the red squirrel with camera traps is difficult (*Fig. 9*): red squirrels are diurnal & arboreal, unlike the other Big5, which are nocturnal & terrestrial
- Badgers & hedgehogs are co-occurring in some areas of the city (*Fig. 4*): it seems as if there is no strong regulation of populations due to intraguild predation in St.Gallen, such as observed by Doncaster (1992) in the Oxfordshire, England (farm & woodland).

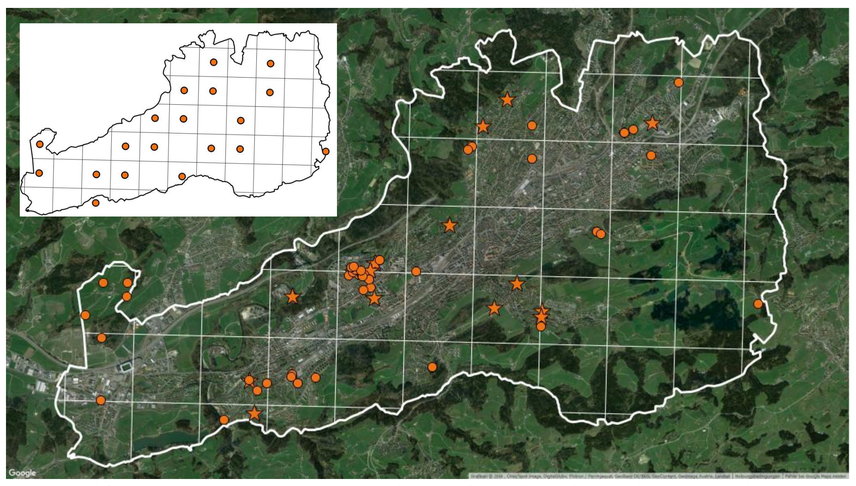

Fig. 1: Red fox observations (orange points) in the city of St.Gallen (white outline). Stars indicate observations by camera traps. Grid cells are 1 square km. Map on top left summarises red fox observations per grid cell.

Red fox (*Vulpes vulpes*)

55 observations
(16 by means of camera traps)

Fig. 5: Red fox in St.Gallen, photographed by a camera trap.

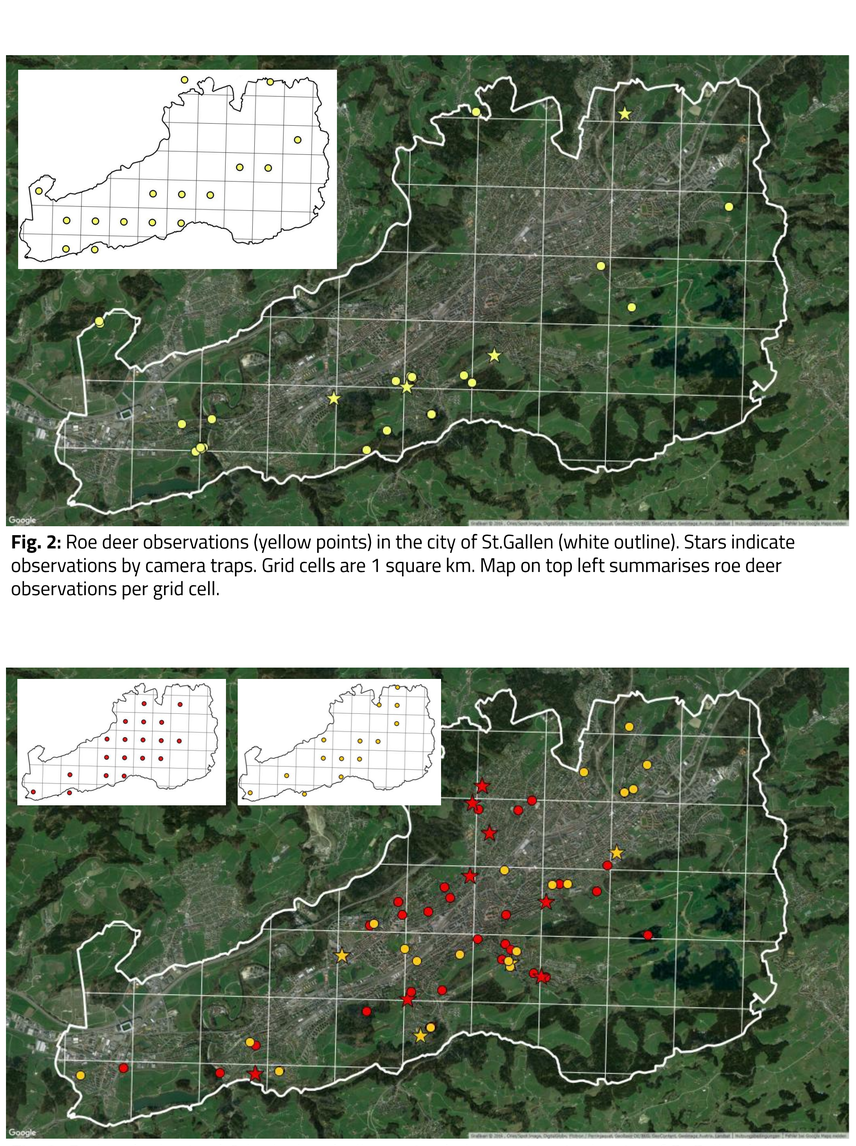

Fig. 2: Roe deer observations (yellow points) in the city of St.Gallen (white outline). Stars indicate observations by camera traps. Grid cells are 1 square km. Map on top left summarises roe deer observations per grid cell.

Roe deer (*Capreolus capreolus*)

32 observations
(4 by means of camera traps)

Fig. 6: Roe deer in St.Gallen, photographed by a camera trap.

Fig. 3: Badger (red points) & hedgehog (yellow points) observations in the city of St.Gallen (white outline). Stars indicate observations by camera traps. Grid cells are 1 square km. Maps on top left summarise badger & hedgehog observations per grid cell.

Badger (*Meles meles*)

41 observations
(11 by means of camera traps)

Fig. 7: Badger in St.Gallen, photographed by a camera trap.

Hedgehog (*Erinaceus europaeus*)

24 observations
(4 by means of camera traps)

Fig. 8: Hedgehog in St.Gallen, photographed by a camera trap.

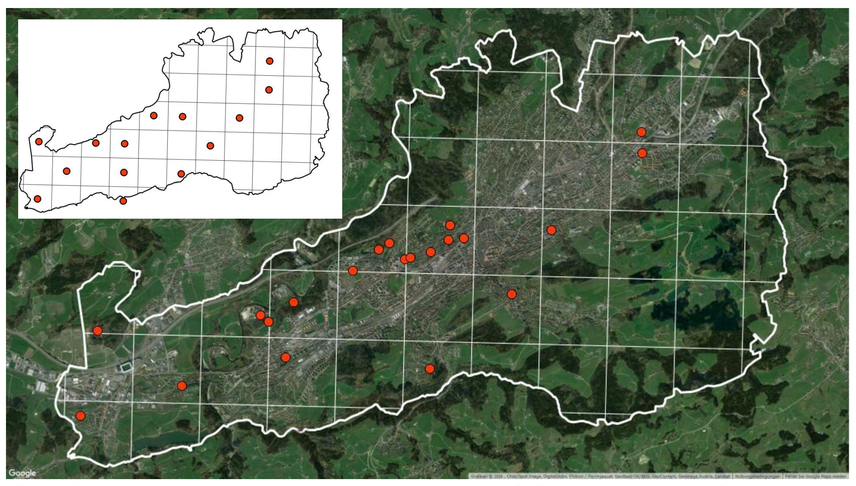

Fig. 4: Red squirrel observations (orange points) in the city of St.Gallen (white outline). Grid cells are 1 square km. Map on top left summarises red squirrel observations per grid cell.

Red squirrel (*Sciurus vulgaris*)

21 observations
(none by means of camera traps)

Fig. 9: Red squirrel, uploaded to www.stadtwildtiere.ch by Céline Gouillod. So far, no red squirrels could be photographed by camera traps in St.Gallen.

Reference: Doncaster, C. Patrick. 1992. Testing the role of intraguild predation in regulating hedgehog populations. *Proceedings of the Royal Society of London B: Biological Sciences* 249.1324: 113-117

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