Spatial use of an agrarian landscape by linnets (*Linaria cannabina*) in late summer in Central Europe

Carlos Gutiérrez-Expósito[1], Benedikt Giessing[1], Jörg Hahne[2], Carmen Vives-Ferrándiz[1], Christian Wolf[1]

tier3 solutions

BAYER

STUDY GOALS

- **Assess the daily activity pattern and habitat use by linnets**
- **Identify the habitat preferences of linnets in a farmland landscape in late summer**

METHODS

Radio-tracking

- 21 linnets were equipped with BioTrack PicoPip tags
- Continuous tracking for one entire day

Analysis

- Time spent in each habitat
- Proportion of habitat available in the home range
- Jacobs´ habitat selectivity index
- Significance by paired samples Wilcoxon test

STUDY AREA

Lüchow-Dannenberg
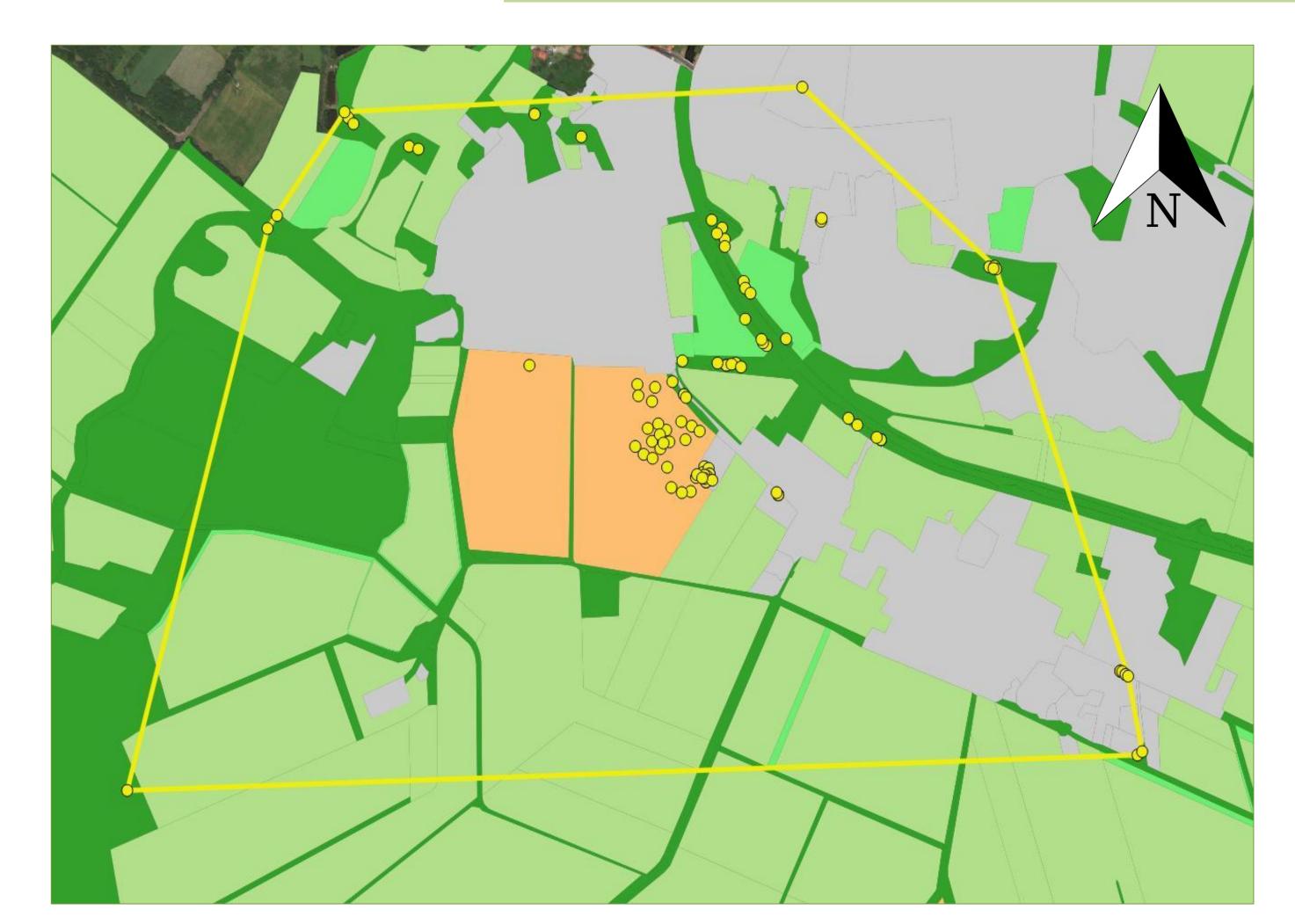Lower Saxony
NE Germany

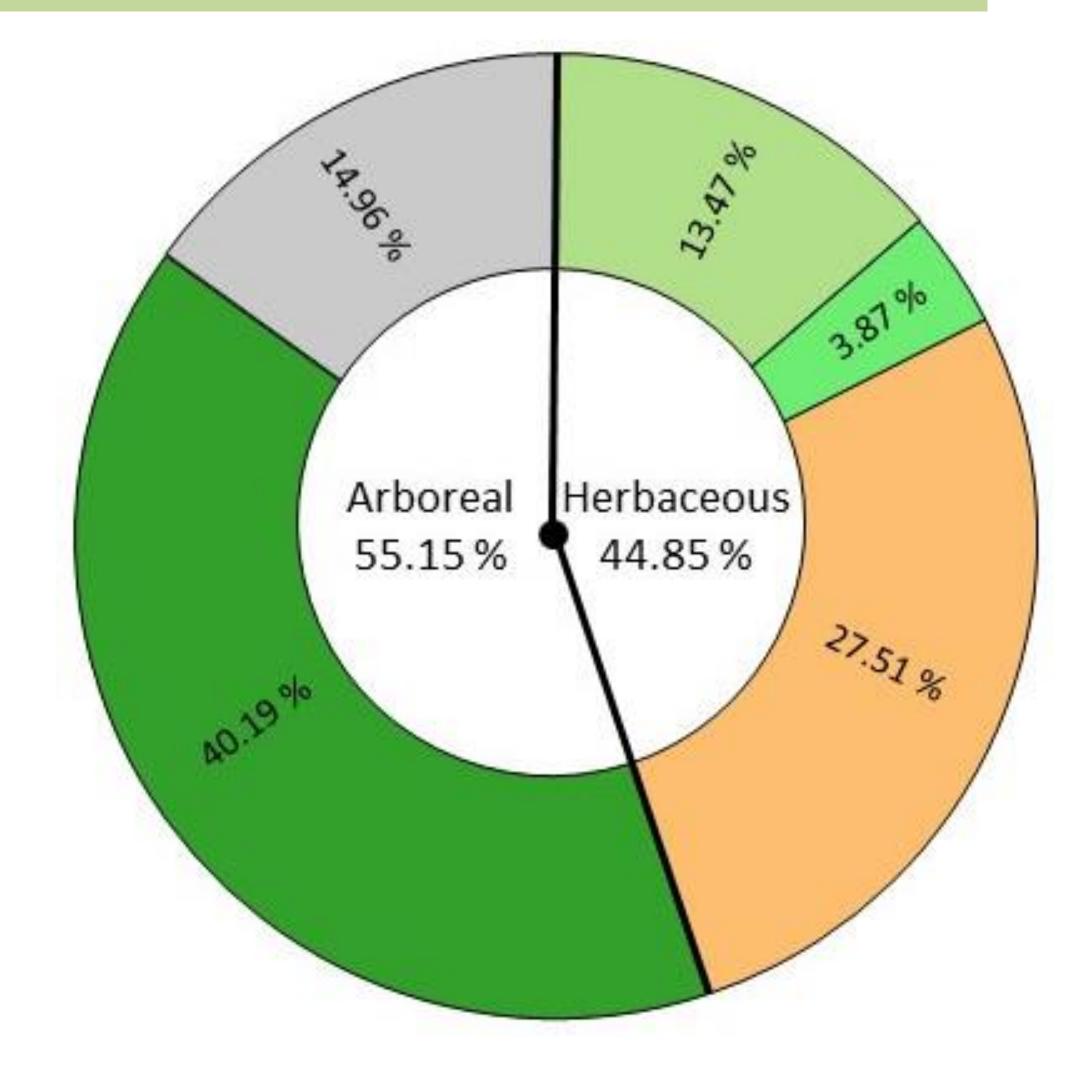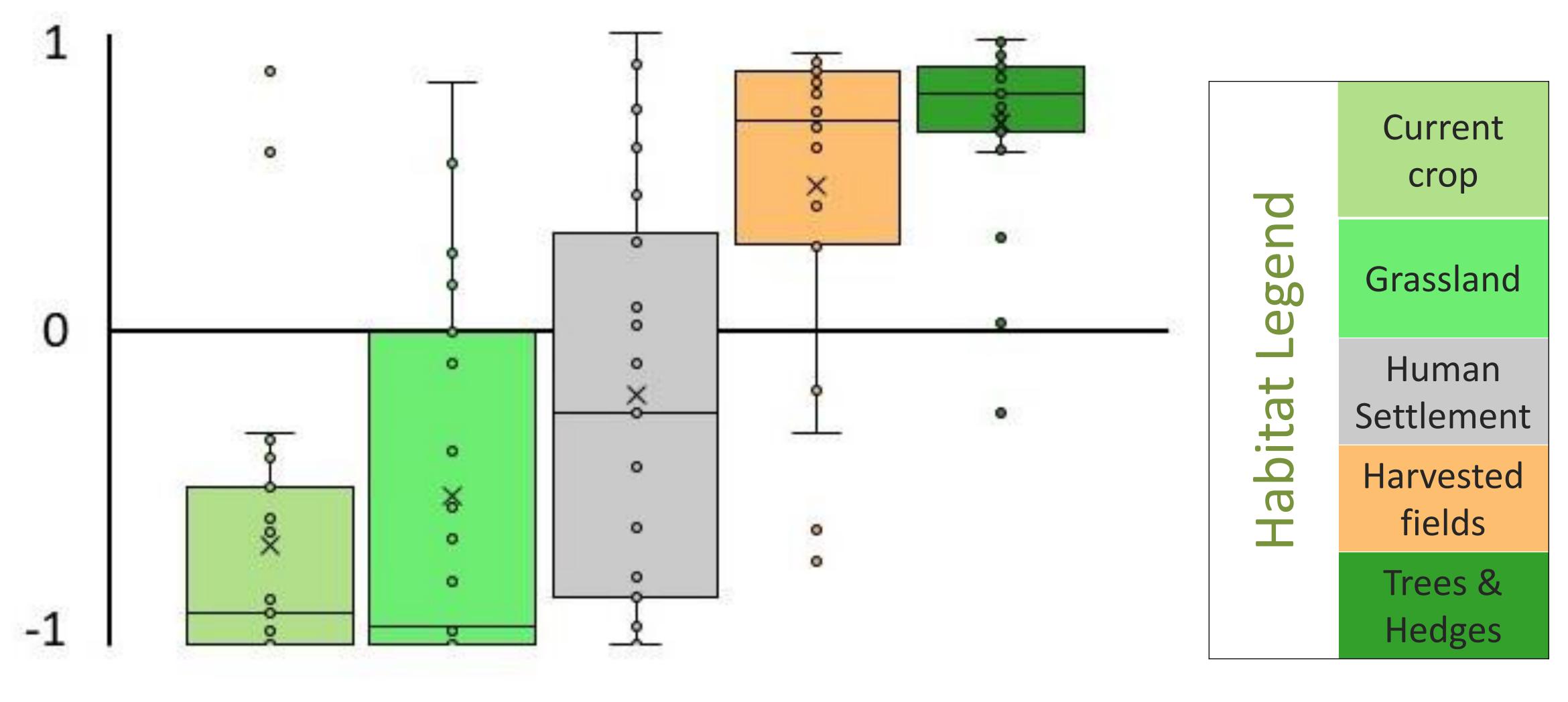Figure 1. Example of the positions of one of the tracked Linnet and the resulting Minimum Convex Polygon (MCP)

Figure 2. Proportion of time spent in the different habitats

Arboreal 55.15 %   Herbaceous 44.85 %

14.96 %   13.47 %   3.87 %   40.19 %   27.51 %

Figure 3. Linnet´s habitat Jacobs´ selectivity index (+1 = highly selected; -1 = completely avoided)

Habitat Legend

- Current crop
- Grassland
- Human Settlement
- Harvested fields
- Trees & Hedges

CONCLUSIONS

- **No differences in time spent in arboreal vs. herbaceous habitats (W=188 p<0.05)**
- **Among arboreal habitats, tree patches were preferred over human settlement (W=460, p<0.005)**
- **Harvested fields were highly selected, while drilled or growing crops were avoided (W=57, p<0.005)**

[1] tier3 solutions GmbH, Kolberger Str. 61-63, Leverkusen, Germany, e-mail: christian.wolf@tier3.de

[2] Bayer AG – Crop Science Division, BAG-CS-RD-Rs-EnSa Alfred Nobel Str. 50, 40789 Monheim am Rhein, Germany