

Data Paper

Spider assemblages (Arachnida: Araneae) in urban grassland patches in Karlsruhe (Baden-Württemberg, Germany)

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Abstract. Grassland patches embedded in an urban matrix can harbour a significant number of spider taxa, including rare and endangered species. To further benefit urban biodiversity, Karlsruhe was one of the first cities in Central Europe that adopted biodiversity friendly mowing regimes. The aim of this study was to investigate the effects of two mowing regimes (1–2 cuts and 3–5 cuts per year) and environmental parameters such as urbanization and soil humidity on arthropod assemblages inhabiting such grassland patches in Karlsruhe, Germany. For this, 27 urban grassland plots (18 with 1–2 cuts, 9 with 3–5 cuts) were selected. Four pitfall traps per site were operated for a total of 48 days in May, June and August/September of 2018. Sweep netting was performed one time in May 2018. In total, 10704 (8973 adult, 1731 juvenile) specimens in 86 species were sampled. Seven species are either endangered or otherwise of conservation concern (cc) in Germany, 18 regionally endangered or otherwise of cc in the federal state of Baden-Württemberg. The majority of species of cc prefers xerothermic conditions. This corresponds to some of the investigated grassland plots that are characterized by sandy soils and vegetation typical for dry conditions. Exceptional records of cross-regional importance are *Pardosa wagleri* (Hahn, 1822) at one plot and *Cheiracanthium campestre* (Lohmander, 1944) at three plots. The record of *P. wagleri* is the northernmost known locality for the species, the records of *Cheiracanthium campestre* are situated at the western distribution limit for this rare species.

Keywords: diversity, dry grassland, endangered species, management, urban habitats

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