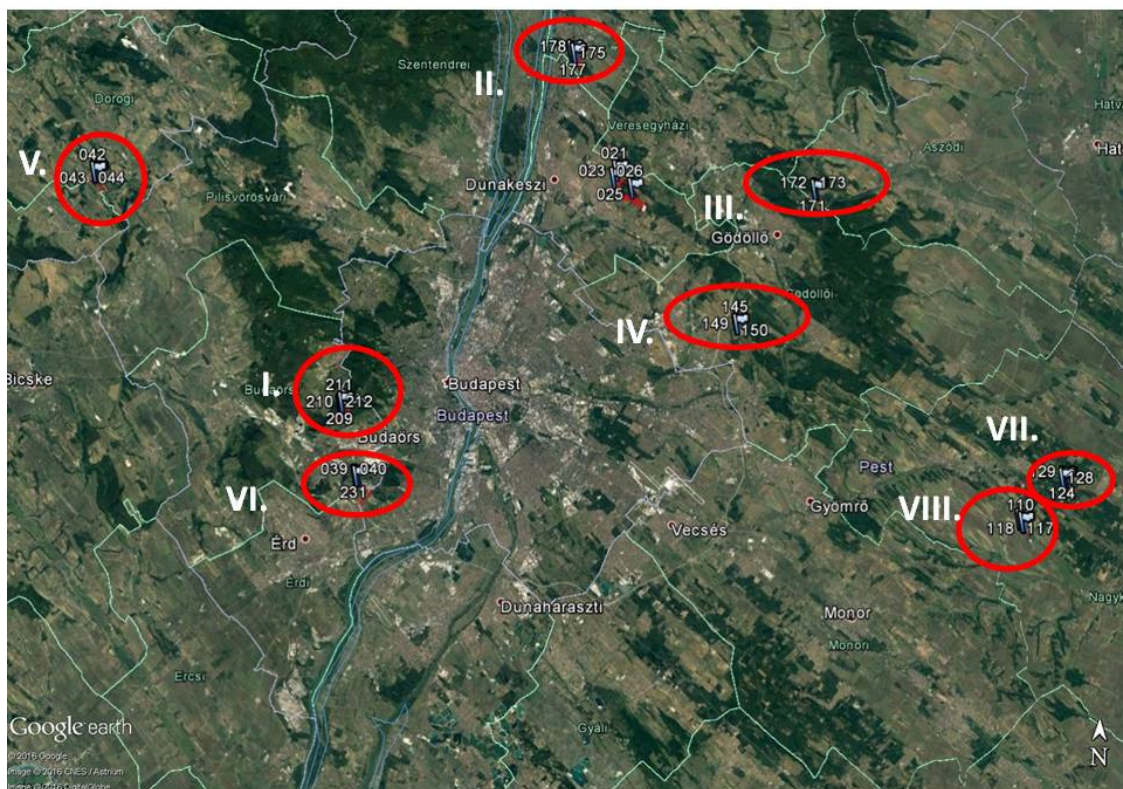


## Részjelentés

a „Szárazgyepek megőrzése Közép-Magyarországon” - LIFE12 NAT/HU/001028  
számú Life+ Nature pályázatban vállalt természetvédelmi célú kezelések talajfelszíni  
pókokra és hangyákra gyakorolt hatásának vizsgálatáról



### Talajfelszíni ízeltlábúak közösségének vizsgálata

(Pókok, Hangyák) II.

2016 évi gyűjtések

A 2016-os vizsgálatok helyszínei

A felmérések módszerei

A 2016-os talajfelszíni gyűjtések arachnológiai és myrmekológiai  
eredményei és azok értékelése.

2016

## ***Summary***

### ***Conservation of Dry Grasslands in Central-Hungary LIFE12 NAT/HU/001028, HUGRASSLANDSLIFE project***

#### **A Study on Groundwelling Arthropods II. (Spiders (Araneae), Ants (Formicidae))**

There are nine different project locations in Duna Ipoly National Park that are important for the conservation of three high priority endangered dry grassland habitats types: Sub-Pannonic steppic grasslands (6240), - Pannonic loess steppic grasslands (6250), - Pannonic sand steppes (6260). In 2016 (2016.04.16-05.15.) the collecting has been carried out on 16 study sites at 8 locations.

#### **Survey methods**

Using pitfall traps is a widespread sampling method for the standardized collecting and monitoring of groundwelling arthropods (spiders, bugs, ants). In case of this study we used a modified, double-cup pitfall trap method for sampling. Please see appendix 2. for the exact location of the pitfall traps.

#### **Spiders**

In the samples collected in 2016 1098 spider specimen (459 male, 283 female, 356 juvenile) from 85 species have been identified. This combined with the results of the collecting in 2014 sums up in 120 as the total number of identified spider species. A few examples with outstanding faunistical meaning: (*Jaksoniella falconeri* (Jackson, 1908), *Haplodrassus kulczynskii* Lohmander, 1942, *Pelecopsis loksai* Szinetár & Samu, 2003, *Eresus hermani* Kovács et al., 2015, *Argiope lobata* (Pallas, 1772), *Alopecosa psammophila* Buchar, 2001, *Araneus grossus* (C. L. Koch, 1844), *Nemesia pannonica* Herman, 1879, *Atypus muralis* Bertkau, 1890). Each location (project area) is generally in a good environmental state. So far the Tétényi-plateau and the Máriahalom (Lőrincz-dűlő) seem to be the most valuable. The fauna of the project locations consists of the characteristic species of the Central European dry grasslands and shrubs. Most species are common in various open and dry habitats (e. g. *Zelotes electus*, *Phrurolithus festivus*, *Alopecosa cuneata*, *Alopecosa pulverulenta*, *Hahnina nava*, *Ozyptila clavata*, *Zelotes longipes*).

#### **Ants**

31548 specimen of 37 ant species have been collected by 220 pitfall traps in July-August 2014 and April-May 2016, in 9 geographical places (Fóti Somlyó hill; Budaörs - Farkas-mountain; Sződ - Debegió hill; Domony - Domonyvölgy; Pécel - Küdői hill; Máriahalom -

Lőrincz-dűlő; Diósd - Tétényi plateau; former military shooting range of Szentmártonkáta; earth fort near Tápióság), on 22 study sites. Although the collecting method was not really intensive, the total number of detected species living in these - generally - close to natural habitats almost reached the third of the Hungarian checklist. The diversity of the communities studied is among the highest in Hungary, since one of the diversity highlights of myrmecofauna of Carpathian Basin is found in the mosaic encountering zones of dry grasslands, shrubs and open forests of warmer slopes of hill-lines and low mountains. Moreover, two protected species were detected on the study sites: *Formica pratensis* and *Formica polyctena*. The most important ant community types classified by data analysis are (with transitions, of course): a) community of rather open and dry sandy grasslands dominated - in terms of abundance - by *Lasius psammophilus* and with high constancy of *Plagiolepis taurica*; b) the most frequent community living in xerotherm rock grasslands and slope steppes with lower vegetation height was dominated by eurytop, aggressive *Lasius* species (mainly *Lasius paralienus*, more rarely *Lasius niger*) and also characterised with the occurrence of oligotop steppe / forest steppe species (e.g. *Camponotus aethiops*, *C. piceus*, *F. gagates*); c) community dominated by *Camponotus aethiops*, *Tetramorium caespitum*, *Tapinoma* and *Plagiolepis* species, characterised by fairly smooth species abundance distribution and low abundance of *Lasius* species, occurred in rock grasslands and loess slope steppes.

### **Most important results of this study with respect to nature conservation:**

1. Eradicating woody plants (expanding *Crataegus* shrubs, open pine plantations mixed with grassland patches), as habitat management is aiming to protect rock grasslands and slope steppes or to enlarge them to their former extent, have not disturbed ant communities to a great extent. Their adverse effects, such as the temporary decreasing of community diversity, species number and total abundance of populations could be observed, but not much after the intervention the types, the ecological characters of affected communities corresponded fairly well with those of control communities occurring in nearby natural grassland habitat patches, and presumably it will not be different between them in a few years. Thus habitat management without considerable soil disturbance does not result in strong destruction of community structures, and its moderate effect seems to be not a great price for the ecological and conservational advantages of the intervention, which emerges in a short time, on various levels of the whole biocoenosis.
2. In a mosaic area consisting of grassland, shrub and forest patches, an intervention aiming at a certain patch type can not be implemented without some effects on the biocoenosis of other adjacent habitat parts. For example, most ant populations use not only one type of habitat

patches but the whole mosaic or the majority of it. They collect food in habitat parts quite different from patches optimal for building nests, and especially species of big stature could extend the boundaries of their feeding area beyond 100 metres from the nest.

3. Mosaics of grasslands, shrubs and forests rich in ecotone habitat patches have higher ant diversity than grasslands without woody plants. Protected *Formica pratensis* that occurs on some of the study sites also prefers such mosaic areas. This – demonstrated well by the habitat of *Nemesia pannonica* and *Araneus grossus* - holds the truth for the spider community as well. The majority of the valuable species prefer open and moderately shaded shrubs habitats, and their mosaic.

4. The grassland restoration area (at “Tápiósági földvár” (HUDI20050) is currently dominated by the disturbance tolerant agrobiont species, and the number of spider species is higher than in the reference area, but this is just a temporary phase.