

## Project Update: September 2017

### Field observations

From July-September 2017 I organised eight expeditions to Gorgany Mts. during which 22 localities with aconites were revealed and analysed. As a result of the first field investigations, the protocol of sampling has been updated and new measuring techniques were introduced. In particular, precise measuring of soil moisture and illumination was changed on more confident gradual analysis based on Ellenberg's indicator values. The new soil characteristic, fertility, was also introduced in my investigations and gradually analysed by Ellenberg's scale. Introduction of Ellenberg's indicator values will help to better evaluate environmental condition without dependence from local weather conditions (rain or fog) and time of measuring (morning, noon, evening).

Currently field data are being analysed. However, already today I can conclude that Gorgany Mts. present very specific region subdivided onto several separate massifs with poor representation of genus *Aconitum*. The most frequently there are represented *Aconitum* taxa from lower and middle altitudes, i.e. *A. moldavicum* (subg. *Lycoctonum*), *A. × gayeri* and *A. degenii* (subg. *Aconitum* sect. *Cammarum*). Most of them grow along roadsides and in unstable riparian communities, and are out of conservation interests.

High-mountain taxa from sect. *Aconitum* were found only in few very isolated localities and certainly represent the most important outcome of my work. In mesoregion of Torunsko-Bertianski Gorgany I have found several huge subpopulations of *A. × czarnohorensis* growing together with *A. firmum* and *A. × nanum*, and spreading to unusually low altitudes of 1300 m a.s.l. (these subalpine-alpine taxa usually grow starting from 1600 m a.s.l.). Moreover, in surroundings of Kolochava village, both the frequency of occurrence and taxa diversity of aconites were the highest, what can indicate that there is located one of the important centers of *Aconitum* distribution in Ukrainian Carpathians in general. Unfortunately, aconites in Kolochava are actively destroyed by locals, who believe that these poisonous plants are danger for cattle.



Me in work (photos of M. Sup-Novikova).



*Aconitum degenii* near Komarnyky waterfall.



A. × *gayeri* pollinated by *Eristalis tenax* near the Gorgan Ilemskiy Mt. A. × *nanum* near the Strymba Mt.

