

# EDGG Fellowships 2012 - the first two fellows report

*Anna Kuzemko<sup>1</sup> and Hristo Pedashenko<sup>2</sup>*

1) National Dendrological Park "Sofiyvka", National Academy of Sciences of Ukraine, Kyivska Street, 12a, 20300 Uman', Ukraine, anya\_meadow@mail.ru

2) Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, 23 Acad. Georgi Bonchev str., 1113 Sofia, Bulgaria, hristo\_pedashenko@yahoo.com

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**Abstract:** *Two young researchers from East and South-East Europe were awarded with first EDGG fellowships. They spent about a month in Division Biodiversity, Evolution and Ecology of Plants at Biocentre Klein Flottbek and Botanical Garden, University of Hamburg, where worked on preparation of papers for journals in the Web of Science under the supervision of experienced EDGG researchers. Except for the pure scientific work, fellows were able to visit several protected areas and experience some of North German cultural, historical and architectural landmarks.*

**Keywords:** EDGG Research Expedition, IAVS, Ukraine, Bulgaria

## Introduction

The EDGG Executive Committee has decided to use part of the financial support received from its mother organisation IAVS to establish EDGG Fellowships. They cover the costs of research stays of young scientists from Eastern Europe in the group of an experienced EDGG member to work on data from EDGG Research Expeditions or EDGG-related vegetation-plot databases in order to prepare them for publication in international journals.

The first EDGG fellowships were awarded to Anna Kuzemko from the National Dendrological Park "Sofiyvka" National Academy of Sciences of Ukraine and to Hristo Pedashenko from Institute of Biodiversity and Ecosystem Research Bulgarian Academy of Sciences. They spent 22 and 37 days respectively at the Division BEE (Biodiversity, Evolution and Ecology of Plants), Biocentre Klein Flottbek and Botanical Garden,



*View of a part of the Linné Building of the Biocentre Klein Flottbek and Botanical Garden of the University of Hamburg. Photo: authors*

University of Hamburg, Germany. They were supervised for the duration by Dr. Jürgen Dengler, private docent at BEE. The two main aims of the EDGG Fellowships were (a) analysis and preparation of data sampled during EDGG Research Expeditions and (b) capacity building by giving young EDGG members from Eastern and Southeastern Europe the chance to learn modern techniques of data preparation, data analysis, planning and writing up papers for journals in the Web of Science under the supervision of experienced EDGG researchers. The fellowship focused on the analysis and publication of the scale-dependent biodiversity patterns in dry grasslands of Central Podolia, sampled during the 2nd EDGG Research Expedition in 2010 (Dengler et al. 2010) and dry grasslands of Western Bulgaria from 3rd EDGG Expedition in 2011 (Apostolova et al. 2011). The planned outcomes of the cooperation are joint papers in the Web of Science journal *Tuexenia*.

## Working process

In the case of Ukraine, most of the work on the preparation of the data collected for analysis was done during the fellowship stay. At the same time, questions of taxonomy and nomenclature of some taxa of plants were hotly debated, since the concept of species in different European countries are not always compatible. Considerable work was done to clarify the header data of



*Both fellows during the visit to nature reserve "Kalkberg" with basiphilous dry grasslands amidst Lüneburg. Photo: J. Dengler*

the relevés as well as improvement and polishing of originally collected information. Data were analyzed using modified TWINSpan (Roleček et al. 2009) implemented in JUICE (Tichý 2002), combined with a subsequent small-scale resorting in order to maximise phi values in the clusters (Chytrý et al. 2002, Becker et al. 2012, Luther-Mosebach et al. 2012). A clear view of the sampled vegetation was obtained after clustering it into nine vegetation units which have been interpreted as syntaxa of different rank. It was planned that at least two papers based on the data collected during the 2nd EDGG Expedition should be prepared. During a joint discussion it was agreed to dedicate the first paper purely to survey



Heathland in the nature reserve "Boberger Niederung" in Hamburg. Photo: authors



During the field trip to the nature reserve "Boberger Niederung". Photo: authors



Jürgen Dengler explains a lichen species in the nature reserve "Boberger Niederung". Photo: authors

of syntaxonomy of the Central Podolian dry grasslands, which will address a number of problems associated with a mismatch of dry grasslands syntaxonomy of Ukraine to the general concept adopted in the Western and Central Europe. By working together, a preliminary version of the first paper was prepared and presented at the weekly paper writing seminar in BEE. The paper sparked the interest of the participants of the seminar, who made valuable comments and suggestions, and also allowed us to gain valuable experience and new ideas.

The preparation of the data from the 3rd EDGG Expedition in Bulgaria was in more initial stage. Therefore, the first task during the fellowship stay was entering the remaining data from field forms into electronic tables and compiling header-data file and relevé data file. Meanwhile, all soil sample analyses were performed in the soil lab of BEE, and a first draft of the planned paper was elaborated and presented at the paper writing seminar. First results were obtained at the end of the fellowship after applying modified TWINSpan to the relevé data. The result was 10 clusters, well defined by diagnostic species groups belonging to three vegetation classes. Additional analyses will be performed in the following weeks in order to bring more light on vegetation – environmental conditions relationship and receive better ecological characteristic of detected vegetation units.

### Combining work with pleasure

The Fellows had the opportunity to visit the herbarium collection of the Biocentre (Herbarium Hamburgense) and were acquainted with the peculiarities of scientific work, organization and management in the herbarium. They also visited the botanical garden and the greenhouses, where they were particularly interested in the so-called botanical and geographical parts of the garden containing collections of the most typical representatives of both the forest vegetation in different regions of the globe, and dry grasslands, in particular Central European steppes, deserts of Central Asia, the American prairie.

During the Fellowship, a small field trip to the nature reserve "Boberger Niederung" was organized by the supervisor Jürgen Dengler. The site, located in the old Elbe floodplain due to the peculiarities of geomorphology perfectly illustrated the historical development and the genesis of the landscape. The Fellows had the opportunity to see the typical northern German vegetation of sand dunes and in heathlands represented by communities of the *Koelerio-Corynephoretea* and *Calluno-Ulicetea*. In addition, late autumn was a very appropriate time to observe cryptogamic plants. Another highlight in the program was the visit to the "Kalkberg" nature reserve just in the heart of Lüneburg, where the Fellows were introduced to a very atypical vegetation for Northern Germany, that on gypsum outcrops.

In addition to purely scientific work, we were able to see the highlights of Hamburg – one of the largest port cities in Europe, which is often called the "Venice of the North". Indelible impressions were left by a walk along the central part of Hamburg, with its countless bridges and channels, a boat trip on the Elbe, a visit to the



*Sandy dry grasslands (mainly *Corniculario-Corynephoetum*) in the nature reserve "Boberger Niederung". Photo: authors*

museum of miniatures, the tropical aquarium in Hagenbeck's zoo and pleasant conversations with the hospitable local people. Furthermore, Jürgen Dengler invited both Fellows and colleagues from BEE to a picture presentation about the 2nd and 3rd EDGG Expeditions at his home in extraordinarily beautiful medieval town of Lüneburg with its original architecture, as if appearing straight from the pages of fairy tales. There, we prepared jointly our meal and spent a lovely evening sharing moments from both expeditions.

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We sincerely hope that the practice of EDGG Fellowship will become a tradition and many young scientists will be able to participate in them.

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*The fellows at the flat of the supervisor, Jürgen Dengler, in Lüneburg. Photo: J. Dengler*



*Impressions from the weekly assembly of the Division BEE in the Biocentre Klein Flottbek. Photo: authors*



*The supervisor Jürgen Dengler during the sightseeing tour in Lüneburg. Photo: authors*



*View of the Botanical Garden in Klein Flottbek. Photo: authors*



*View of Hamburg from the River Elbe. Photo: authors*



*View from the Kalkberg over the roofs of Lüneburg. Photo: authors*



*Old sailing boat at the river Elbe in Hamburg. Photo: authors*