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PRELIMINARY DATA CONCERNING SOME INVERTEBRATE BIODIVERSITY COMPONENT FOR PREDELUȚ- BRAN REGION - AN EXAMPLE OF INTERDISCIPLINARY TEAM IN BIOLOGICAL PRACTICE

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Abstract

During the biological practice developed in Predeluț-Bran region (Brasov County) in the summer of 2009 by second-year students of Faculty of Agriculture, Biology Specialization from UASVM Bucharest, were collected specimens of terrestrial and aquatic invertebrates, belonging to the macro-taxa: Gastropoda, Arachnida, Crustacea, Myriapoda and Insecta.

Some of the samples were sorted and identified directly in the Predeluț Practice Centre, the rest of the material being properly preserved and transported to laboratories in Bucharest in order to examine it. Collection, preservation and identification of invertebrates species, were due to sustained work of a team composed of 23 students, three teachers and three researchers with experience. At some stages of future practice, we whole picture on local invertebrate biodiversity potential, completing concomitantly the collections of invertebrate zoology laboratories from UASVM Bucharest.

INTRODUCTION

At 25 km West of Braşov, on the road that goes through the old neighborhood Bartolomeu and links for centuries the great city at the foot of Mount Tâmpa with Câmpulung Muscel, where Piatra Craiului separates by Bucegi Massif, the villages of Bran lines up. They were born together with Bran old legend, the one who had several sons and gave them to the eternal possession the 15 villages and hamlets of today, namely: Poarta, Sohodol, Predeluț, Simon, Moieciul De Jos, Moieciul De Sus, Cheia, Peştera, Coacăza, Măgura, Drumul Carului, Şirnea, Fundata, Fundățica. They are placed at an altitude between 750 and 1200 m, are scattered along the old ways of connection between Transylvania and Wallachia, the Bran Pass [1].

Since the summer of 2009, second-year students of the Biology specialization, performs work practices within the Practice Center in Food Services and

Agroturism from Predeluț village, provided by the Faculty of Management, Economic Engineering in Agriculture and Sustainable Development in Bucharest.

Professional practice is a compulsory discipline in the curricula of biologist students, to main aim followed being the assimilation of knowledge gained in the field, and also setting concepts previously taught in school (Figure 1).

The objectives set during practice were identifying and describing the family taxa character for various specimens from endemic flora and collecting of a significant number of local macro invertebrates, for study. Some animal samples have been preserved in alcohol and brought to Bucharest for the expanding collection of invertebrate zoology laboratory.

Fig. 1. Second-year Biology students in Predeluț (July 2009)

MATERIAL AND METHODS

Each student has noted daily in the field books, theoretical concepts and actions carried on. The categories of collected invertebrates were systematic described using keys determinants [14], in parallel with some microscopy sessions.

Fig. 2. Sampling of aquatic insect larvae in a brook of Predeluț

The required equipment for research activities in the field or in laboratory, included: binocular microscopes, kidney dishes, Petri dishes, Eppendorf micro tubes, other sterile containers, disposable bags, tweezers, entomology needles, paper tracing, graph paper, calipers, surgical gloves, medical alcohol, alcohol 70%, 5% formaldehyde, adhesive labels, writing tools.

In order to sampling, were undertaken field trips in the Predeluț neighborhood, near Bran Castle, and also in the Râşnoava Keys. The biotopes of interest were both terrestrial (myriapods, insects, araneids, isopods, gastropods), and aquatic (insects) (Figure 2).

Fig. 3. Student Iulia Crețu identifying invertebrates in Predeluț Practice Center

A part of biological material was sorted out and determined even in Predeluț Practice Center (Figure 3). The remaining samples were properly preserved and transported for study in laboratories from Bucharest, to the specialists of the Agriculture Faculty (Minodora Gutue, insects), "Emil Racoviță" Institute of Speology Bucharest (Andrei Giurgincă, isopods and myriapods), but also in the National Museum of Natural History "Grigore Antipa" Bucharest (Oana Paula Popa, gastropods, Costică Adam, spiders).

RESULTS AND DISCUSSION

Examination the collected invertebrates from the perimeter of Predeluț-Bran region, led to the identification of the following macro taxa categories: *Mollusca* (*Gastropoda*) [4, 5, 6], *Arachnida* (*Araneae*) [2, 3, 7, 12, 15], *Crustacea* (*Isopoda*) *Myriapoda* (*Diplopoda, Chilopoda*), *Insecta* [11] (Table 1).

Table 1

Invertebrate list identified so far, showing the biodiversity potential in Predeluț-Bran region

Mollusca (Gastropoda)	**Arachnida** (Araneae)	**Crustacea** (Isopoda)	**Myriapoda** (Diplopoda/Chilopoda)	**Insecta**
Chilostoma faustina Rossmässler, 1835 *Cochlodina laminata* Montagu, 1803	*Enoplognatha ovata* Clerck, 1757 *Tetragnatha pinicola* L. Koch, 1870 *Pardosa amentata* Clerck, 1757 *Tegenaria domestica* Clerck, 1757	*Porcellio scaber* Latreille, 1804	*Cylindroiulus luridus* C. L. Koch, 1847 *Dorypetalum degenerans* Latzel, 1884 *Lithobius nodulipes* Latzel, 1880 *Strigamia crassipes* C. L. Koch, 1835	*Baetis* sp. *Dociostaurus maroccanus* Thunb., 1815 *Philaenus spumarius* L. *Andrena* sp. *Formica rufa* L., 1758 *Carabus violaceus* L., 1758 *Philonthus politus* L., 1758 *Amphimallon solstitialis* L., 1758 *Pentodon idiota* Hrbst., 1789 *Arpedum* sp. *Harmonia 4-punctata* Pontop. *Halyzia 16-guttata* (L.) Mulsant, 1846 *Altica tamaricis* Schrank., 1785

The *Oniscidea* are represented by only one species, *Porcellio scaber*, a common and widespread species not only in Europe but also introduced to many parts of the world [13]. The *Diplopoda* are represented by *Cylindroiulus luridus* and *Dorypetalum degenerans*, the first species was found in Central and East Europe (from Germany and Switzerland to Romania, Italy and Poland but also Serbia, Slovenia, Bulgaria and the Republic of Macedonia), the second species being found in Romania, Sebia, Bosnia and Herzegovina, the Republic of Macedonia and

Hungary [8]. Like the *Diplopoda*, the *Chilopoda* are represented by only two species, namely *Lithobius nodulipes* (a species found in Central Europe and the north-western part of the Balkans) and *Strigamia crassipes* (a species spread in the entire Europe) [10].

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CONCLUSIONS

1. The present paper presents some preliminary data concerning the estimating of biodiversity invertebrate component in Predeluț-Bran region.
2. The main macro invertebrate categories, collected during the biological practice with second-year student of Faculty of Agriculture in the summer of 2009, are: *Mollusca, Arachnida, Crustacea, Myriapoda, Insecta*.
3. Collection, preservation and identification of biological material were possible due to some laboratory and field activities carried out by an interdisciplinary team consisting of students, teachers and researchers with experience.
4. A more complete picture of the invertebrate biodiversity of Predeluț area will be made during the future practice stages.

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