

PLANTS FROM ILFOV COUNTY PRESENT IN "ALEXANDRU BELDIE" HERBARIUM

DINCĂ LUCIAN CONSTANTIN¹, CRIȘAN VLAD^{1*}, DINCĂ MARIA¹

¹ "Marin Drăcea" National Institute for Research and Development in Forestry, Brasov, Romania

* author correspondence, e-mail: vlad_crsn@yahoo.com

ABSTRACT

The present article describes the plants collected from Ilfov County area and presented in "Alexandru Beldie" Herbarium from "Marin Drăcea" National Institute for Research and Development in Forestry. The article presents the studied material, the number of vouchers with species harvested from this area as well as some characteristics of the plant collections. The most important species collected from Ilfov County are also mentioned, with an analysis of their characteristics: the collection's creation period and the plant's harvesting periods. The found genera were systematized, with an emphasis on the most representative ones. Furthermore, the specialists that had an important contribution for the representation of county area within the herbarium are also mentioned and honored.

Keywords: Dolj County, plants, "Alexandru Beldie" Herbarium.

INTRODUCTION

Ilfov County is situated in the southern part of Romania, in the center of the Valahian Plain. The county surrounds the city of București which is the capital of Romania. It covers an area of 1564 km², being the smallest county in the country. Being situated in the plain, the county has an altitude between 50 and 120 m and the climate is temperate continental with hot and dry summers and cold winters, and strong winds that blow the snow. The average multiannual amount of precipitation oscillates around 500 mm (in Brănești and Vidra). The wind regime is characterized by the predominance of winds from the NE (21.6%) and E (19.7%) that blow with average annual speeds of 2-2.5 m/s, with maximums in winter that can exceed 125 km/h. (insse.ro).

Due to its position in the Valahian Plain, Ilfov County has an exceptional flora that attracts numerous Romanian and foreign botanists who have collected

over time plants from the entire county's surface (figure 1).

The result of their work can be found in the "Alexandru Beldie" Herbarium. The "Alexandru Beldie" Herbarium was created in 1929 and is inscribed in Index Herbariorum, having the international BUCF code. With more than 40.000 vouchers, the herbarium is owned by „Marin Drăcea” National Institute for Research and Development in Forestry from Bucharest and contains numerous plants belonging from different genus such as: the 21 species of *Agrostis* genus (Cântar et al., 2019), the 42 species of *Alnus* genus (Dincă et al., 2019), the 25 species of *Asperula* genus (Plesca et al., 2019), the 36 species of *Bronus* genus (Tudor et al., 2019) the 17 species of *Amaranthus* genus (Dincă et al., 2018), the 7 species of *Lycopodium* genus (Vechiu et al., 2018), the 58 species of *Cornus* genus (Vechiu et al., 2019), and the 130 species of *Campanula* genus (Dincă et al., 2020).

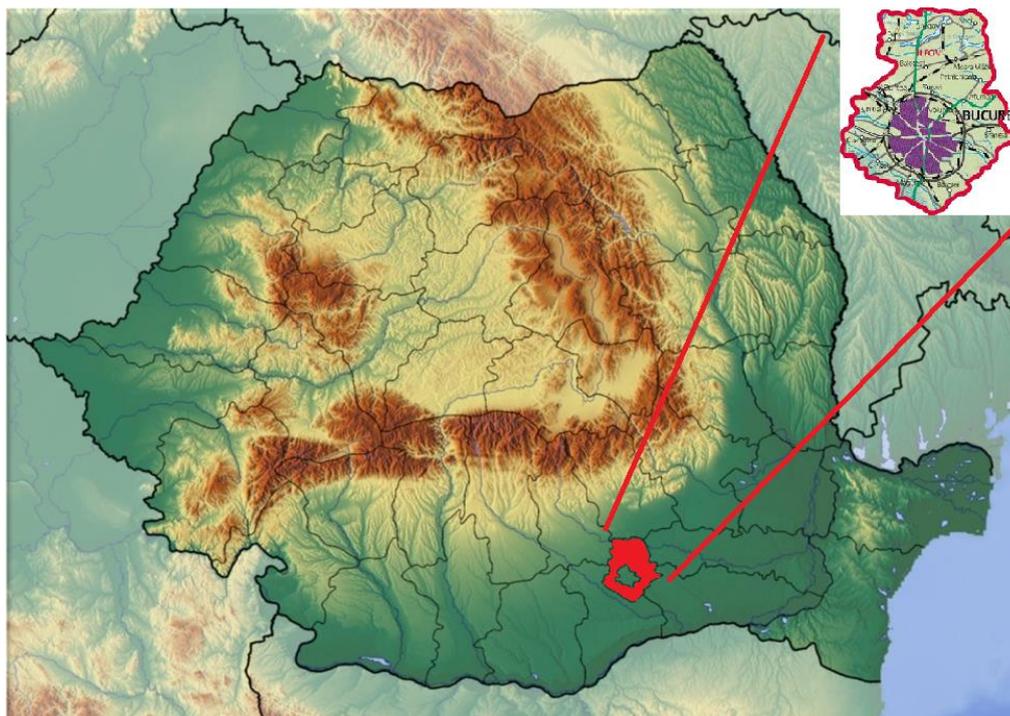


Fig. 1. The map of Ilfov County

This herbarium contains plant species collected from different parts of Romania including Bazoș arboretum (Chisăliță et al., 2017), area of the former Vlașca County (Ciontu et al., 2019) or even from the neighboring country of Moldova (Vasile et al., 2019).

MATERIAL AND METHOD

The research material from “Alexandru Beldie” Herbarium that was used for the present article is composed of 293 vouchers belonging to different genera from the studied area. The database was created with the information inscribed on the identification labels of each voucher. As such, the following data was taken from the labels: drawer number, voucher number, plant’s scientific name, collection name, harvesting date, harvesting place, the name of the person who has collected or identified the plant. Due to the fact that the creation of the database has involved the analysis of each voucher, another characteristic was also added, namely the conservation degree of each specimen (Table 1). In this way, a grade from 1 to 4

was given to each specimen as follows: 1 for an entire plant, correctly attached to the voucher and well conserved; 2 for the plant detached from the voucher with existent but detached parts; 3 for plant detached from the voucher with missing parts and 4 for plant detached and fragmented, with over 50% of its parts missing. The next step was to verify if their scientific name is accepted at an international level followed by their update based on *The Plant List* (www.theplantlist.org).

RESULTS AND DISCUSSIONS

After the vouchers from “Alexandru Beldie” Herbarium were analysed and systematized, 293 vouchers were identified as containing plants collected from Buzau County. The vouchers belong to 113 genera, with the most representative plants from this area belonging to: *Bromus* (17 samples from 8 species), *Ranunculus* (15 samples belonging to 7 species), *Carex* (11 samples from 7 species), *Poa* (10 samples from 2 species), *Galium* (10 samples from 5 species).

An excerpt concerning the vouchers that contain plants collected from Ilfov

County is rendered in Table number 1.

Plants harvested from Ilfov County and presented in the “Alexandru Beldie” Herbarium from “Marin Drăcea” National Institute for Research and Development in Forestry - excerpt

Table 1

Drawer number	Voucher number	Herbarium/ Botanic Collection / Institution (from the voucher's label)	Species	Harvesting Date	Harvesting Place	Collected/ Determined by	Conservation Degree (1...4)
30	35	Herbarul Politehnicei Bucuresti	Amaranthus hybridus L.	1942.09.19	Chitila Ilfov	I.Morariu	1
39	18	Museum Botanicum Universitatis, Cluj/Flora Romaniae exsiccata	Arctium lappa L.	1942.10.14	Muntenia, distr. Ilfov, 80 m alt	G. P.Grițescu	1
61	35	A Museo Botanico Universitatis Clusienis (in Timisoara) edita	Bromus hordeaceus L.	1940.05.25	Pantelimon, 85 m	P. Cretzoiu, I. Morariu	1
76	53	Museum Botanicum Universitatis, Cluj/Flora Romaniae Exsiccata	Carex michelii Host	1937.06.05	distr. Ilfov, Cozieni 70 m	R. Zitti, S. Forstner	1
155	98	Herbarium Al. Beldie Bucuresti	Galium palustre L.	1935.05.16	Ilfov, Chitila	Al. Beldie	1
91	74	ICEF, Institutul de Cercetări și Experimentație Forestieră	Ranunculus cassubicus L.	1946.04.17	distr. Ilfov, grădina dendrologică Ciolpani Tâncăbești	I. Morar, M. Ciucă	1
93	62	Museum Botanicum Universitatis, Cluj/ Flora Romaniae Exsiccata	Ranunculus polyphyllus W. Et K.	1923.05.10	Muntenia, distr. Ilfov alt 90 m	T. Săvulescu, M.Iacob	2

Bromus Genus contains a lot of grasses, classified in the *Bromeae* Family. They have a lot of names during the history and some of them are commonly known as brome grasses, bromes, cheat grasses or chess grasses. In the scientific literature the estimation containing the number of species have grown from 100 to 400, but, the taxonomists recognise from this number, only 160-170 plants (Tudor and Dincă, 2019). In “Alexandru Beldie” Herbarium it can be found 17 samples of 8 different *Bromus* species from Ilfov County like:

Bromus commutatus Schrad., *Bromus hordeaceus* L., *Bromus inermis* Leyss., *Bromus japonicus* Thunb. found also with an synonym name *Bromus patulus* Mert. & W.D.J.Koch, *Bromus ramosus* Huds., *Bromus squarrosus* L., *Bromus sterilis* L., *Bromus tectorum* L..

In figure 2 there is a voucher with *Bromus japonicus* harvested from Cernica Forest, Ilfov County and a voucher with *Galium palustre* harvested from Chitila Forest, Ilfov County.



Bromus japonicus



Galium palustre

Fig. 2. Vouchers with plants from Ilfov County present in “Alexandru Beldie” Herbarium, “Marin Drăcea” National Institute for Research and Development in Forestry (*Bromus japonicus* – left, *Galium palustre* – right)

Genus *Ranunculus* comprises about 600 herbaceous species with a very large world distribution. The genus occupies various habitats, ranging from semi-deserts to temperate forests and grassland, from mountain rain forests to anthropogenic habitats (Tamura, 1995 in Hörandl and Emadzade, 2012). In “Alexandru Beldie” Herbarium there are 15 samples of 7 different *Ranunculus* species from Ilfov County such as: *Ranunculus auricomus* L., *Ranunculus cassubicus* L., *Ranunculus constantinopolitanus*,

lateriflorus DC., *Ranunculus lingua* L., *Ranunculus sardous*, *Ranunculus polyphyllus* Waldst. & Kit. ex Willd..

Arctium nemorosum Lej. (1 sample) and *Asperula taurina* L. (1 samples) can also be found amongst the vouchers present in “Alexandru Beldie” Herbarium (fig. 3). *Arctium nemorosum* Lej. presented in figure 2 was harvested from Ilfov County at an altitude of 85 m, while *Equisetum ramossissimum* was harvested from a forest in Ilfov County near Brănești in 1982.



Arctium nemorosum Lej.



Asperula taurina L.

Fig. 3. Vouchers with plants from Ilfov County present in “Alexandru Beldie” Herbarium, “Marin Drăcea” National Institute for Research and Development in Forestry (*Arctium nemorosum* Lej. – left, *Asperula taurina* L. - right)

The plants gathered from Ilfov County and presented in the “Alexandru Beldie” Herbarium were systematized based on their harvesting year beginning with 1903 until 1983. The peak was registered for the first time between 1935 and 1937 and the second time between 1941 and 1942. These were the most important periods in which the Ilfov County area was an important area for the herbarium’s development.

The plants from Ilfov County were collected by renowned botanists such as G.P. Grințescu, C.C. Georgescu, Al. Beldie, M. Ciuca, P. Cretzoiu or S. Pașcovschi. By far, Iuliu Morariu is the botanists that has collected the most plants from Ilfov area, contributing with over 85 vouchers for “Alexandru Beldie” Herbarium. He was an university professor and the founder of the Scientific Herbarium from Brasov’s Silviculture Faculty (Parascan, 2014).

CONCLUSIONS

Ilfov County represents a territory with a rich biodiversity and has represented in the past as well as in the present, an important source for the development and enrichment of herbariums from all over the country.

The plants collected from this area belong to 113 different genera. Most of them belong to *Bromus* and *Ranunculus* genera and were collected during the first half of the past century, having 2 periods of numerous harvesting vouchers, first registered between 1935 and 1937, and furthermore registered between 1941 and 1942.

Even though more than 85 vouchers were collected by the famous botanist Iuliu Morariu, approximately 23 Romanian and foreign specialists have covered the forests, meadows and pastures from Ilfov County in order to collect plants that have extended the collections from the “Alexandru Beldie” Herbarium.

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