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#### **MEDICINAL PLANTS CONSERVATION IN THE PROTECTED STEPPE AREAS OF MOLDOVA**

Medicinal plants are both a source of income and a source of affordable healthcare. In some areas of Moldova local healthcare needs are satisfied primarily by using raw materials on the basis of medicinal plants. The collection of medicinal plants must be guided by an accurate knowledge of the biology of the species concerned, and steps must be taken to avoid over-exploitation of the collection of rare and endangered species [1].

The conservation status of plants is one of widely used indicators for assessing the condition of ecosystems and their biodiversity. It also provides an important tool in establishing priorities for species conservation. According to the global scale, the best source of information on the conservation status of plants is the *IUCN Red List of Threatened Species*. The Red List is designed to determine the relative risk of extinction, with the main purpose of cataloguing and highlighting those species that face a higher risk of extinction. It provides taxonomic, conservation status and distribution information on taxa that have been evaluated using IUCN Red List Categories and Criteria: Version 3.1 [2, 3].

Present research was conducted during 2007-2017 on the basis of the investigation of the spontaneous higher vascular flora in protected steppe areas of Moldova. The areas of research included: Scientific reservation "Iagorlîc" and five Representative steppe vegetation areas – "Bugeac", "Dezghingea", "Ciumai", "Andriașevca Nouă", "Vrănești". The total surface of the studied area is 1040 hectares. The higher vascular flora comprises 920 species, belonging to 391 genera and 83 families. The most representative families are *Asteraceae* (146 species), *Poaceae* (74 sp.), *Fabaceae* (66), *Lamiaceae* (55), *Brassicaceae* (53), *Rosaceae* and *Caryophyllaceae* (with 45 each) and *Apiaceae* (31 species).

The field investigations and the survey of the scientific references allowed to identify 385 plant species in the area that contains a wide variety of chemical compounds making them very important from pharmacological point of view. Most of them are herbaceous, mainly perennial plants. The raw materials are used in many different forms such as fresh, powdered, infusions, decoctions, tincture etc. In the most of the cases the vegetal matter is used as infusion. The most important medicinal properties of species in the area are anti-

inflammatory, astringent, expectorant, diuretic, cholagogue, hypotensive, cicatrizing. The vast majority of them are mainly used for the diseases related to digestive system followed by urinary and respiratory disorders. The results of field investigation made it possible to conclude that biological indicators of populations of some plants with medicinal properties are increasingly deteriorating and all these taxa became threatened with extinction.

The calculation on the total number of species in each of the studied protected area is presented, number of medicinal plants and their inclusion in the national and international legislation acts (taxa that are listed in accordance with Environmental legislation of the Republic of Moldova (1996-1998) [4]; The Red Book of the Republic of Moldova (3<sup>rd</sup> edition) [5]; Red Data Book of Ukraine [6]; Red Book of vascular plants of Romania [7]; under The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) [8]; Habitats Directive 92/43/EEC [9] and Bern Convention [10])

**Scientific reservation “Iagorlic”.** Surface is 836 ha. Total number of species is 744. There are 334 medicinal plant resources, 14 of them are protected by state [4], six ones of the rarest and the most valuable species are included in the Red Book of the Republic of Moldova, 3<sup>rd</sup> edition [5]. The species *Genista tetragona* Bess is included in the IUCN Red List for Europe as Vulnerable VU – B1ab(iii) [11]; *Colchicum arenarium* Waldst. et Kit. *Genista tetragona* Bess. and *Fritillaria montana* Hoppe Habitats Directive and Bern Convention [10] and *Adonis vernalis* L. is included in CITES [8].

**Representative steppe vegetation area “Bugeac”.** Surface is 60 ha. Total number of species is 342. There are 136 medicinal plant resources, 10 of them are protected by state [4], five are included in the Red Book of the Republic of Moldova [5]. The species *Crambe tataria* Sebeok is included in the Habitats Directive and Bern Convention [10] and *Adonis vernalis* is included in CITES [8].

**Representative steppe vegetation area “Dezghingea”.** Surface is 15 ha. Total number of species is 284. There are 118 medicinal plant resources, 8 of them are protected by state [4], four are included in the Red Book of the Republic of Moldova [5]. The species *Crambe tataria* Sebeok is included in the Habitats Directive and Bern Convention [10] and *Adonis vernalis* is protected by CITES [8].

**Representative steppe vegetation area “Ciumai”.** Surface is 50 ha. Total number of species is 452. There are 185 medicinal plant resources, 9 of them are protected by state [4], two are included in the Red Book of the Republic of Moldova [5]. The species *Sternbergia colchiciflora* Waldst. et Kit. and *Adonis vernalis* is protected by CITES [8].

**Representative steppe vegetation area “Andriașevca Nouă”.** Surface is 71 ha. Total number of species is 444. There are 198 medicinal plant resources, 13 of them are protected by state [4], five are included in the Red Book of the Republic of Moldova [5]. The species *Crambe tataria* Sebeok is included in the Habitats Directive and Bern Convention [10] and *Adonis vernalis* is protected by CITES [8].

**Representative steppe vegetation area “Vrănești”.** Surface is 8 ha. Total number of species are 236. There are medicinal plant resources is 93, 4 of them are protected by state [4], two are included in the Red Book of the Republic of Moldova [5] and *Adonis vernalis* is protected by CITES [8].

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## УПРАВЛІННЯ ЗЕМЕЛЬНИМИ РЕСУРСАМИ В УМОВАХ ДЕЦЕНТРАЛІЗАЦІЇ

Земельні ресурси – це не просто компонент навколишнього середовища, територія, на якій проживає населення та проводиться розмежування адміністративного устрою країни, але й, насамперед, економічні ресурси: сільськогосподарські землі, ліси, мінеральні родовища [1].

Управління земельними ресурсами має початок з давніх-давен, тому виникнення й розвиток наукової думки про процеси управління земельними ресурсами мають також багатовікову історію, однак ця наука є відносно “молодою” галуззю й її розвиток необхідно розглядати в загальному контексті соціального та економічного управління [2].