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Floristic notes from Bessarabia No. 241-276

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Abstract. The paper presents new growing stations for 36 species of rare vascular plants from the spontaneous flora of the Republic of Moldova, highlighted as the result of the new floristic investigations carried out from the spring to the summer of the current year. The species *Valerianella eriocarpa* Desv. was recorded for the first time in the local flora, the presence of 7 rare species, little known previously, was confirmed and they were proposed to be included in *the List of protected species* and in *The Red Book of the Republic of Moldova*, 4th edition: *Carex pseudocyperus* L., *C. strigosa* Huds., *C. vesicaria* L., *Epipactis leptochila* (Godfery) Godfery, *Fraxinus coriariifolia* Scheele, *Linum catharticum* L., *Senecio macrophyllus* M.Bieb., and for the species *Klasea bulgarica* (Acht. & Stoj.) Holub, indicated only for one station in Batîr commune, Cimişlia district, from where it disappeared, another station was registered in the same locality.

Keywords: spontaneous vascular flora, rare species, chorology, Republic of Moldova.

Note floristice din Basarabia Nr. 241-276

Rezumat. În lucrare sunt prezentate noi staţiuni de creştere pentru 36 specii de plante vasculare rare din flora spontană a Republicii Moldova, evidenţiate ca rezultat al noilor investigaţii floristice din primăvara – vara anului curent. Specia *Valerianella eriocarpa* Desv. este înregistrată prima dată în flora locală, a fost confirmată prezenţa a 7 specii rare, puţin cunoscute anterior şi se propun a fi incluse în *Lista speciilor ocrotite* şi în *Cartea Roşie a Republicii Moldova*, ediţia a 4-a: *Carex pseudocyperus* L., *C. strigosa* Huds., *C. vesicaria* L., *Epipactis leptochila* (Godfery) Godfery, *Fraxinus coriariifolia* Scheele, *Linum catharticum* L. *Senecio macrophyllus* M.Bieb., iar pentru specia *Klasea bulgarica* (Acht. & Stoj.) Holub, indicată numai pentru o singură staţiune din comuna Batîr, raionul Cimişlia, de unde a dispărut, a fost înregistrată o altă staţiune în aceeaşi localitate.

Cuvinte-cheie: flora vasculară spontană, specii rare, corologie, Republica Moldova.

1. Introduction

In accordance with the release of the new scientific research project for the assessment of the plant species state and the elaboration of the rare species list, and with its algorithm for presenting them in the 4th edition of *The Red Book of the Republic of Moldova*,

new expeditions were organized on the territory of the Republic. The new floristic data highlighted in the current vegetation year is also the subject of continuity for the work "*Floristic Notes from Bessarabia*" No. 217-240 [14].

2. Materials and Methods

The floristic and phytocenological investigations were carried out on the field in the districts from the north to the south of the Republic of Moldova such as: Ocniţa, Briceni, Edineţ, Donduşeni, Rîşcani, Glodeni, Floreşti, Şoldăneşti, Făleşti, Ungheni, Călăraşi, Orhei, Străseni, Hînceşti, Criuleni, Cimişlia, Taraclia and Cahul. Determining species was carried out according to the classical comparative-morphological method. Species nomenclature corresponds to the monograph "*Vascular flora of the Republic of Moldova (species list and ecology)*" [12]. In order to identify new growth characteristics of the plant species, there were consulted such sources as the bibliographic information and the dried collections from the Herbariums of the National Botanical Garden "Al. Ciubotaru" (CHGB) and of "Ion Creangă" State Pedagogical University of Chisinau (CH-HBPP), overlapping them with the field study results. The rarity category was established according to the criteria of the International Union for the Conservation of Nature (IUCN) [32]. The collected and herborized plants are kept in the CH-HBPP and CHIS herbarium collections in Chisinau. Phytocenological research was carried out by applying the methods of the Central European School [1].

The presence of the species is indicated by + RAR – rare species, /A -adventive species, + RM – new species for the flora of the Republic of Moldova, +TN – new species for a geographical sector.

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3. Results and Discussions

As a result of the new floristic and phytocenological investigations in the field, of the analysis of dried specimens from the Herbarium collections (CHGB and CH-HBPP) and of the study of bibliographic references, new places of growth were found for 36 species of spontaneous vascular plants, out of which 1 new species for the flora of the Republic of Moldova (*Valerianella eriocarpa* Desv.) and 7 rare species, little known previously, were confirmed, which are proposed to be included in the *List of protected species* and in *The Red Book of the Republic of Moldova*, 4th edition: *Carex pseudocyperus* L., *C. strigosa* Huds., *C. vesicaria* L., *Epipactis leptochila* (Godfery) Godfery, *Fraxinus coriariifolia*

Scheele, *Linum catharticum* L., *Senecio macrophyllus* M.Bieb. For the first time in the flora of the "Pădurea Domnească" Scientific Reserve there are recorded 8 new species (*Androsace elongata* L., *Bromus ramosus* Huds., *Draba nemorosa* L., *Carex vesicaria* L., *Carex strigosa* Huds., *Ornithogalum umbellatum* L., *Scleranthus uncinatus* Schur, *Serratula coronata* L.) and 2 new species in the flora of the "Plaiul Fagului" Scientific Reserve (*Carex strigosa* Huds. and *Bromus ramosus* Huds.). Following, new chorological data for the researched species are presented.

PÎNZARU P.

241. ***Androsace elongata*** L. 1763, Sp. Pl., ed. 2: 1663 (Primulaceae).

+ TN: the species is recorded for the first time in the flora of the Scientific Reserve "Pădurea Domnească", Vasileuţi forest body, outskirts of the forest, on sandy soil, collected by P. Pînzaru, 15.06.2024 (CH-HBPP 9125). Eurasian species, annual, therophytic, xeromesophilic, steppe, sporadic throughout the territory of the republic [23].

PÎNZARU P.

242. ***Draba nemorosa*** L. 1753, Sp. Pl.: 643 (Brassicaceae).

+ TN: the species is recorded for the first time in the flora of the "Pădurea Domnească" Scientific Reserve, the "Vasileuţi forest stand, outskirts of the forest, on sandy soil, collected by P. Pînzaru, 15.06.2024 (CH-HBPP 9126). Circumpolar species, annual, therophytic, mesophyllous. rare in the Republic of Moldova [10].

PÎNZARU P.

243. ***Euphrasia pectinata*** Ten. 1811, Prodr. Fl. Napol: 36 (Orobanchaceae).

+ RAR: Bumbota commune, Ungheni district, grows sporadically on a sandy hill with northern exposure, in phytocenoses dominated by *Anthericum ramosum* L., collected by P. Pînzaru, 29.07.2024 (CH-HBPP 9121; CHGB). Eurasian species, annual, therophytic, mesophilic, rare on the territory of the Republic of Moldova.

PÎNZARU P.

244. ***Fraxinus coriariifolia*** Scheele, 1843, Linnaea 17: 350 (Oleaceae).

+ RAR: Baurci village from Chircăiestii Noi commune, Căuşeni district, collected by P. Pînzaru, 23.05.2024, grows sporadically in phytocoenoses from the association *Iridio variegatae-Quercetum pubescentis* Pînzaru et al. 2022 (CH-HBPP 8750, 8751; CHGB), the trees are 8-10 m tall, fruiting. A species insufficiently known for the local flora it was cited on the basis of a single dried specimen (CHGB), collected by T. Gheideman, in the forest near Cioburciu commune, Slobozia district. [6]. Ponto-Caucasian species, micromagnerophyte-megaphanerophyte (can reach a height of up to 20 m), xeromesophilous, characteristic for the *Quercetalia pubescenti-petraeae* Klika 1933 order vegetation [19]. Very rare species it is proposed to be included in the *List*

of protected species of the Republic of Moldova and in the *Red Book of the Republic of Moldova*, 4th edition, Endangered category (EN).

PÎNZARU P.

245. *Linum catharticum* L. 1753, Sp. Pl.: 281 (Linaceae).

+ RAR: Bumbota commune, Ungheni district, grows sporadically on a sandy hill with northern exposure, in phytocenoses dominated by *Anthericum ramosum* L., collected by P. Pînzaru, 29.07.2024 (CH-HBPP 9096-9099; CHGB). This species was recorded in the glades of the northern districts of the Republic of Moldova: Ocniţa (Ocniţa and Mihălăşeni communes), Donduşeni (Donduşeni town [18, 27], and Briceni (Cotiujeni) [7]. European/West-Asian species, therophyte, mesophyll, characteristic for the *Molinietalia caeruleae* Koch 1926 order vegetation [19]. Very rare species it is proposed to be included in the *List of protected species of the Republic of Moldova* and in the *Red Book of the Republic of Moldova*, 4th edition, status Critically Endangered (CR).

PÎNZARU P.

246. *Linum nervosum* Waldst. & Kit. 1803, Descr. Icon. Pl. Hung. 2: 100 (Linaceae).

+ RAR: Baurci village in Chircăiestii Noi commune, Căuşeni district, growing in small groups, in a glade of downy oak (*Quercus pubescens* Willd.) with variegated stilts (*Iris variegata* L.), collected by P. Pînzaru, 23.05.2024 (CH-HBPP 8759, 8760). It is rarely found on the steppe hills of central and southern Bessarabia. Widespread species in South-Eastern and Eastern Europe, Caucasus, Turkey, Ian, Iraq, perennial, hemicryptophyte, xeromesophilous, characteristic for *Festucetalia valesiacae* Soó 1947 order vegetation [19].

PÎNZARU P.

247. *Ornithogalum umbellatum* L. 1753, Sp. Pl.: 307 (Asparagaceae).

+ TN: Cobani commune, Glodeni district, "Pădurea Domneacă" Scientific Reserve, forest borders, 15.06.2024, was recorded by P. Pînzaru. Western and Central European species, perennial plant, geophyte, mesophilous. Species recorded for the first time in the flora of the Scientific Reserve "Pădurea Domnească".

PÎNZARU P.

248. *Valerianella eriocarpa* Desv. 1809, in J.Bot. (Desvaux) 2: 314 (Caprifoliacaeae).

+ RM: Baurci village in Chircăiestii Noi commune, Căuşeni district, collected by P. Pînzaru, 23.05.2024 (CH-HBPP 8790, 8792; CHGB), grows in a glade of downy oak (*Quercus pubescens* Willd.) forest with variegated irises (*Iris variegata* L.), on an area of about 100 m2, with abundance + dominance 1-2. Species recorded in the local flora for the first time. Beyond the country's borders, it is spread in Western, Central, South-Eastern

and Northern Europe (Great Britain), Crimea, Caucasus, Turkey, North Africa. Annual, therophytic, xermesophilic species [34].

PÎNZARU P.

249. *Valerianella rimosa* Bastard 1814, in J.Bot. Agric. 3: 20 (Caprifoliaceae).

Syn.:= *Valerianella auriculata* DC. 1815, Fl. Franç., ed.3, 5: 492. – *V. bessarabica* Lipsky, 1894, Tr. Sanct.-Pet. Bot. Sada 13: 305. – *Valeriana auriculata* (DC.) Tardent, 1841, Essai Hist. Nat. Bessarabie: 65.

+ RAR: Baurci village in Chircăieştii Noi commune, Căuşeni district, collected by P. Pînzaru, on 23.05.2024, 05.06.2024 (CH-HBPP 8791, 8797; 8918; CHGB), grows together with *Valerianella eriocarpa* Desv. in a glade within a downy oak (*Quercus pubescens* Willd.) forest with variegated iris (*Iris variegata* L.), covering an area of about 100 m^2, with an abundance + dominance of 1-2. This species is also known from two other locations: Corneşti commune, Ungheni district [27] and near Tătărăuca Veche commune, Soroca district [11, 29]. A species distributed in Central and Southern Europe, therophyte, xeromesophilic, characteristic of the *Caucalidion* Tx. ex von Rochow 1951 alliance vegetation [18].

PÎNZARU P., CANTEMIR V.

250. *Hypericum tetrapterum* Fr. 1823, in Novit. Fl. Svec.: 94 (Hypericaceae).

+ RAR: Căpriana commune, Străşeni district, was collected by P. Pînzaru, V. Cantemir, 01.08.2024 (CH-HBPP 9127; CHGB) grows in the meadow, about 80 specimens. In the Republic of Moldova it was known only from the Scientific Reserve "Codru" near Lozova commune, Străşeni district, it is included in *The Red Book of Moldova* (2015, status Critically Endangered (CR). A perennial plant, hemicryptophyte, mesohygrophyte. Outside the country it can be met in Western and South-Eastern Europe, Crimea, Caucasus, Asia Minor, and North-Western Africa [36].

PÎNZARU P., CANTEMIR V.

251. *Klasea bulgarica* (Acht. & Stoj.) Holub, 1977, Folia Geobot. Phytotax. 12: 305 (Asteraceae).

Syn.: = *Serratula bulgarica* Acht. & Stoj. 1932, in Izv. Bulg. Bot. Družh. 5: 111. – *S. caput-najae* Zahar. 1946, in Bill. Sect. Sci. Acad. Roumanie, 28: 318.

+ RAR: Batîr commune, Cimişlia district, grows on the side of a forest road, in a phytocenosis of the *Iridio variegatae-Quercetum pubescentis* Pînzaru et al. 2022 association, collected by P. Pînzaru and V. Cantemir, 30.06.2021 (CH-HBPP 9122). 2 small groups of 7 and 21 specimens were recorded. Plants usually reproduce vegetatively, forming underground horizontal rhizomes that produce new plants. In ex situ conditions, they bloom in the 3rd year, reach a height of about 80 cm, form up to 5 anthodia, the

duration of flowering of flowers from an anthodia is 10 days, purple-pink flowers, form few glabrous, blackish achenes. This species was first indicated in Batîr, Cimişlia district by D. Gociu in 1979 (CHGB), where it vegetated in a meadow near a well [26], from where it later disappeared.

Rare species, a Balkan subendemyte, spread only in Bulgaria (north-eastern), Romania (south-eastern) and the Republic of Moldova (Batîr commune, Cimişlia district). A perennial plant, hemicryptophyte, mesophyllous (xeromesophylos), included in: *The Red Book of Moldova* (2015, Critically Endangered (CR), *The Red Book of vascular plants Romania* (2009, Vulnerable (VU) [2], *The Red Book of Bulgaria* (2011, Critically Endangered (CR) [25]. It is proposed to avoid collections for the herbarium in the known resort.

PÎNZARU P., CANTEMIR V., SLIVCA V.

252. ***Carex alba*** Scop. 1772, Fl. Carn. Ed. 2, 2: 216 (Cyperaceae).

+ RAR: Naslavcea commune, Ocniţa district, "La 33 de vaduri" Landscape Reserve, acorn on the rock, collected by P. Pînzaru, V. Cantemir, V. Slivca, determined by P. Pînzaru, 15.06.2024, (CH-HBPP 8953); Arioneşti commune, Donduşeni district, sessile oak forest with white sedge, collected by P. Pînzaru, V. Cantemir, V. Slivca, determined by P. Pînzaru, 17.06.2024 (CH-HBPP 8954). Eurasian species, perennial, hemicryptophyte, chalcephy, xerophilous. In the Republic of Moldova, it is also nfound in the rocky forests surrounding the village of Verejeni, Ocniţa district, Saharna commune, Rezina district, Trebujeni commune, Orhei district, Beloci and Molochişul Mare communes in Rîbniţa district [5].

PÎNZARU P., CANTEMIR V., SLIVCA V.

253. ***Carex vesicaria*** L. 1753, Sp. Pl.: 979 (Cyperaceae).

+ RAR: Cobani commune, Glodeni district, Scientific Reserve "Pădurea Domnească", in "La Fontal" meadow, collected by P. Pînzaru, 19.06.2023 (CH-HBPP 6917); Balatina commune, Glodeni district, Scientific Reserve "Pădurea Domnească", on the edge of "Potcoava" lake, collected by P. Pînzaru, V. Cantemir, V. Slivca, determined by P. Pînzaru, 11.06.2024, (CH-HBPP 8898, 8932; CHGB), other collections are not from the territory of the Republic of Moldova, although it is cited in 1841 by Ch. Tardent [23] from Chisinau, Orhei, Bălţi and in 1924 by T. Săvulescu and T. Rayss [16] from Corneşti, Ungheni district, from the last station disappeared, following the drying of the land. Circumpolar species, perennial, hemicryptophyte, mesohydrophilic, rare on the territory of the Republic of Moldova, it is proposed to be included in the *List of protected species* and *The Red Book of the Republic of Moldova*, 4th edition, status Endangered (EN).

PÎNZARU P., CANTEMIR V., SLIVCA, V.

254. ***Crambe tataria*** Sebeök, 1779, Diss. Tatar.: 7 (Brassicaceae).

+ RAR: Pietrosu commune, Făleşti district, grows on a steppe-like hill, collected by P. Pînzaru, V. Cantemir, V. Slivca on 10.06.2024 (CH-HBPP 8856). A Pannonian-Pontic-Sarmatian species, perennial, hemicryptophyte, xeromesophilic, included in *The Red Book of the Republic of Moldova* (2015), Endangered category (EN).

PÎNZARU P., CANTEMIR V., SLIVCA V.

255. *Spergula arvensis* L. 1753, Sp. Pl.: 440 (Caryophyllaceae).

+ RAR: Pietrosu commune, Făleşti district, grows sporadically on the edge of a field, collected by P. Pînzaru, V. Cantemir, V. Slivca, determined by P. Pînzaru, on 10.06.2024 (CH-HBPP 9011). A circumpolar species, annual, therophyte, mesophilic, known only from the central districts of the Republic.

PÎNZARU P., CANTEMIR V., SLIVCA V.

256. *Stipa tirsa* Steven, 1857, Bull. Soc. Imp. Naturalistes Moscou 30(II): 115 (Poaceae).

+ RAR: Pietrosu commune, Făleşti district, steppe-like hill, collected by P. Pînzaru, V. Cantemir, V. Slivca, determined by P. Pînzaru, on 14.06.2024 (CH-HBPP 9104). A eurasian species, perennial, hemicryptophyte, xerophilic, included in *The Red Book of the Republic of Moldova* (2015), Endangered category (EN), forms phytocenoses with an abundance + dominance of 2-5.

PÎNZARU P., CANTEMIR V., MANIC Şt.

257. *Carpinus orientalis* Mill. 1768, Gard. Dict., ed. 8: no. 3 (Betulaceae).

+ RAR: Suruceni commune, Ialoveni district, grows rarely in a sessile oak forest (*Quercus petraea* (Matt.) Liebl.), collected by P. Pînzaru, V. Cantemir, Ş. Manic, on 20.05.2024 (CH-HBPP 8721). In the local flora, it is known from the districts of Străşeni (Scoreni), Ialoveni (Cărbuna, Rezeni), and Cimişlia (Zloţi), included in *The Red Book of the Republic of Moldova* (2015), Endangered category (EN). A species distributed in Southeast Europe, Hungary, Crimea, the Caucasus, and Turkey, microphanerophyte, xeromesophilic-mesophilic, characteristic of the *Quercetalia pubescenti-petraeae* Br.-Bl. 1932 order vegetation [19].

PÎNZARU P., CANTEMIR V., SFECLĂ V.

258. *Carex strigosa* Huds. 1778, Fl. Angl., ed. 2: 411 (Cyperaceae).

+ RAR: Căpriana commune, Străşeni district, Căpriana forest district, in a riparian forest, collected by P. Pînzaru, V. Cantemir, determined by P. Pînzaru, on 01.08.2024 (CH-HBPP 9105, 9106; CHGB); Rădenii Vechi commune, Ungheni district, "Plaiul Fagului" Scientific Reserve, plot no. 33, riparian forest, collected by P. Pînzaru, V. Sfeclă, determined by P. Pînzaru (CH-HBPP 9108). This species was also collected by

L. Toderaş from the forest near Scoreni commune, Străşeni district, on 05.05.1976, and Cioreşti, Nisporeni district, on 06.05.1976 (LE) [30]. It is proposed to be included in the *List of protected species* and *The Red Book of the Republic of Moldova*, 4th edition, status Endangered (EN). A West/Central European species, perennial, hemicryptophyte, mesohydrophilic.

PÎNZARU P., CANTEMIR V., TOFAN-DOROFEEV E.

259. ***Serratula coronata*** L. 1763, Sp. Pl., ed. 2: 1144 (Asteraceae.)

+RAR: Horodca village from Draguşenii Noi commune, Hînceşti district, within the "Codru" Scientific Reserve, grows in a floodplain with tall herbaceous vegetation surrounded by forest, collected by P. Pînzaru on 11.09.2020 (CH-HBPP 5154); Moara Domnească commune, Glodeni district, "Pădurea Domnească" Scientific Reserve, on a forest path, a small group of plants, collected by P. Pînzaru, V. Cantemir, E. Tofan-Dorfeev, determined by P. Pînzaru, on 06.08.2024 (CH-HBPP 9109). In the Republic of Moldova, it is known from Caracuşenii Vechi commune, Briceni district, from Stejăreni village, Lozova commune, Străşeni district (in the "Codru" Scientific Reserve, Păunului glades), and from the vicinity of Codreni and Lipoveni communes, Cimişlia district. A Pontic species, perennial, hemicryptophyte, mesophilic, included in *The Red Book of the Republic of Moldova* (2015), Endangered category (EN).

PÎNZARU P., CANTEMIR V., TOFAN-DOROFEEV E., DOROFEEV A.

260. ***Carex pseudocyperus*** L. 1753, Sp. Pl.: 978 (Cyperaceae).

+RAR: Crihana Veche commune, Cahul district, Lake "Manta", grows in a phytocenosis of the association *Telypterido palustris-Phragmitetum australis* Kuper 1957 em. Segal ex Westh. & den Held 1968, collected by P. Pînzaru, V. Cantemir, E. Tofan-Dorofeev, and A. Dorofeev, determined by P. Pînzaru, 17.07.2024 (CH-HBPP 9110, 9111; CHGB). In the Herbarium of the Chisinau Botanical Garden there is only one dried specimen collected by V. Andreev (14.06.1946, along a stream near Peresecina commune, Orhei district) [CHGB]. Very rare species, it is proposed to be included in *The List of protected species of the Republic of Moldova* and in *The Red Book of the Republic of Moldova*, 4th edition, status Critically Endangered (CR). Circumpolar species (subcosmopolitan), helohydatophyte (hemicryptophyte), hygrophilous (mesohygrophilous) [3].

PÎNZARU P., CANTEMIR V., TOFAN-DOROFEEV E., DOROFEEV A.

261. ***Dryopteris filix-mas*** (L.) Schott, 1834, Gen. Fil.: 18 (Dryopteridaceae).

+ RAR: Holercani commune, Criuleni district, rarely grows on the steep slopes of a deep ravine, under the crown of trees, collected by P. Pînzaru, P. Cantemir, E. Tofan-Dorofeev, A. Dorofeev, 12.08.2024 (CH-UBPP 343; CHGB). Circumpolar species, perennial, geophytic, (xeromesophilic) mesophilic (mesohygrophilous), is included in *The Red Bookor of the Republic of Moldova* (2015, status Vulnerable (VU).

PÎNZARU P., CANTEMIR V., TOFAN-DOROFEEV E., STELEA V.

262. ***Elodea nuttallii*** (Planch.) H.St. John, 1920, Rhodora, 22: 29 (Hydrocharitaceae).

+ RAR/A: Moara Domnească commune, Glodeni district, in the Prut riverbed, forms small clumps near the shore, collected by P. Pînzaru, V. Cantemir, E. Tofan-Dorofeev, V. Stelea, 06.08.2024 (CH-HBPP 9123; CHGB) This species was only recorded on the territory of the "Pădurea Domnească" Scientific Reserve, in the Prut riverbed, near Cuhneşti commune, Glodeni district [13]. Adventitious species, native to North America, perennial, helohydatophyte, hydrophilic.

PÎNZARU P., SFECLĂ V.

263. ***Euphorbia maculata*** L. 1753, Sp. Pl.: 455 (Euphorbiaceae).

+RMC/A: Corneşti village from Corneşti commune, Ungheni district, ruderal, near the railway station, abundance + dominance of 1-2, collected by P. Pînzaru and V. Sfeclă, determined by P. Pînzaru, 21.07.2024 (CH-CHPP 9112; CHGB). This species was collected by C. Zahariadi (21.09.1935, from Etulia commune, Vulcăneşti district)[CHGB] and by P. Pînzaru 13.07.2015, near Zloţi Station, Cimişlia district, along the railway, 13.07 .2015 (CH-HBPP 7648) [8]. Adventitious species (native to North America), annual, therophytic, xeromesophilic.

PÎNZARU P., SFECLĂ V.

264. ***Scleranthus uncinatus*** Schur, 1851, Verh. Siebend.Ver. Naturw, 2: 10 (Caryophyllaceae).

+ RAR: Cobani commune, Glodeni district, Scientific Reserve "Pădurea Domnească" Lake "La Fontal", on sandy soil, collected by P. Pînzaru, 17.05.2024 (CH-HBPP 9093); Pietrosu commune, Făleşti district, segetal, collected by P. Pînzaru, 10.06.2024 (CH-HBPP 9013); Albota de Sus commune, Taraclia district, on the edge of a field, collected by P. Pînzauu, V. Sfeclă, determined by P. Pînzaru, 28.06.2024, (CH-HBPP 8975). This species was indicated by Tr. Săvulescu and T. Rayss (1926), from the vicinity of Corpaci commune, Edineţ district [17], considered extinct by T. Izversaia [4]. In the summer of 2023 it was registered in the "Dobruşa" landscape reserve, it grows in the outskirts of the forest, on the edge of fields with alfalfa or corn, near the communes of Chipeşca (CH-HBPP 7265, 7237, 7238; CHGB) and Olişcani, Şoldăneşti district (CH -HBPP 7239) [20,

21]. *Carpatho-Balkan-Anatolian-Caucasian* species, annual, therophytic, mesophyllous, segetal, on sandy soils.

PÎNZARU P., SFECLĂ V.

265. ***Senecio macrophyllus*** M.Bieb. 1808, Fl. Taur.-Cauc. 2: 308 (Asteraceae).

Syn.: = *Senecio schvetzovi* Korsh. 1898, Mém. Acad. Sci. Pétersb. 7, 1: 519.

+RAR: Bumbăta commune, Ungheni district, rarely grows on sandy hills with northern, northeastern exposure, in phytocenoses dominated by *Anthericum ramosum* L. or *Stipa ukrainica* P. Smirn., collected by P. Pînzaru and V. Sfeclă, determined by P. Pînzaru, 02.08.2024 (CH-HBPP 9114). Eurasian species, perennial, hemicryptophyte, mesophilic, rare in the flora of the Republic of Moldova, it is proposed to be included in the *List of protected species* and in the *Red Book of the Republic of Moldova*, 4th edition, status Critically Endangered (CR).

PÎNZARU P., SFECLĂ V., MANOLE S.

266. ***Beta trigyna*** Waldst. & Kit. 1800, Pl. Rar. Hung. 1: 34. (Amaranthaceae).

+ RAR: Vadul lui Isac commune, Cahul district, in *Quercus robur* subsp. *pedunculiflora* (K.Koch) Menitsky, collected by P. Pînzaru, 09 VI 2022, (CH-HBPP 5147); Pelinei commune, Cahul district, registered by P. Pînzaru, V. Sfeclă, and S. Manole 27.06.2024 (CH-HBPP 9115) in the phytocoenoses of the *Iridio variegatae-Quercetum pubescentis* association Pînzaru et al. 2022. Pontic-Mediterranean, perennial, hemicryptophyte, xeromesophilic, rare species, included in the *List of protected species of the Republic of Moldova* [33].

PÎNZARU P., SFECLĂ V., MANOLE S.

267. ***Chaerophyllum nodosum*** (L.) Crantz, 1767, Class. Umbell. Emend.: 76 (Apiaceae).

+ RAR: Frumuşica village from Chioselia Mare commune, Cahul district, grows in small groups under the canopy of *Quercus robur* subsp. *pedunculiflora (*K.Koch) Menitsky, recorded by P. Pînzaru, V. Sfeclă, and S. Manole, 28.06.2024, dry plants, in the dissemination phase. Mediterranean, annual, therophyte, xerophilous species, included in *The Red Book of the Republic of Moldova* (2015), Critically Endangered category (CR).

Note. This species is characteristic for the forests of the *Quercetalia pubescenti-petraeae* Klika 1933 order, in recent years several places of growth have been detected and it is proposed to be excluded from *The Red Book of the Republic of Moldova*, 4th edition, the presence of the given species is not in danger, it forms many seeds.

PÎNZARU P., SFECLĂ V., MANOLE S.

268. ***Dictamnus gymnostylis*** Steven, 1856, Bull. Soc. Nat. Moscou, 29, 1: 333 (Rutaceae).

+ RAR: Frumuşica village from Chioselia Mare commune, Cahul district, grows sporadically in glades and under the canopy of downy oak trees from the association *Iridio variegatae-Quercetum pubescentis* Pînzaru et al. 2022, collected by P. Pînzaru, V. Sfeclă, and S. Manole, determined by P. Pînzaru, 28.07.2024 (CH-HBPP 8979; CHGB). Eurasian species, perennial, hemicryptophyte, xerophilous, included in *The Red Book of the Republic of Moldova*, Endangered category (EN).

PÎNZARU P., SFECLĂ V., MANOLE S.

269. *Gypsophyla glomerata* Pall. ex Adams, 1805, Beitr. Naturk. 1: 54 (Caryophyllaceae).

Syn.: = *Gypsophyla pallasii* Ikonn. 1976, Novosti Sist. Vyssh. Rast. 13: 118, nom. nud.

+ RAR: Dermengi village from Budăi commune, Taraclia district, grows sporadically on a clay, steppe hill, collected by P. Pînzaru, V. Sfeclă, and S. Manole, determined by P. Pînzaru, 27.06.2024 (CH-HBPP 8821; CHGB); Văleni commune, Cahul district, develops on a sandy slope in the Prut river valley, abundance + dominance is 2, on relatively large areas, south-west slope exposure, slope inclination of about 60°, collected by P. Pînzaru, 17.07.2024 (CH -HBPP 9115). Balkan-Pontic species, perennial, (hemicryptophyte) camephyte, xerophilous, included in *The Red Book of the Republic of Moldova* (2015), Vulnerable category (VU).

PÎNZARU P., SFECLĂ V., MANOLE S.

270. *Jurinea multiflora* (L.) B.Fedtsh. 1911, in Consp. Fl. Turkest. 4: 285 (Asteraceae).

+ RAR: Dermengi village from Budăi commune, Taraclia district, rare, grows on steppe clay hill, collected by P. Pînzaru, V. Sfeclă, and S. Manole, determined by Pînzaru, 28.06.2024, (CH-HBPP, 8822). Pontic, perennial, hemicrptophyte, xerophilous, steppe species, rare on the territory of the Republic of Moldova, it is proposed to be included in the *List of protected species*.

PÎNZARU P., SFECLĂ V., MANOLE S.

271. *Pulsatilla grandis* Wend. 1831, Schr. Ges. Beföod. Gessamt. Naturwiss. Marburg, 2: 257 (Ranunculaceae).

+ RAR: Dermengi village from Budăi commune, Taraclia district, very rarely, vegetates on a clay, steppe hill, recorded by P. Pînzaru, V. Sfeclă, and S. Manole, determined by P. Pînzaru, 27.06.2024. European, perennial, hemicryptophyte, xeromesophilic species, included in *The Red Book of the Republic of Moldova* (2015), Endangered category (EN).

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272. ***Quercus* × *rosacea*** Bechst. 1810, Forstbot.: 333 (*Q. petraea* × *Q. robur*) (Fagaceae).

+ RAR: Dermengi village in Budăi commune, Taraclia district, in a forestry plantation, collected by P. Pînzaru, V. Sfeclă, and S. Manole, determined by P. Pînzaru, 27.06.2024, (CH-HBPP 8985, 8986, 8987; CHGB). European hybrid species, megaphanerophytic, xeromesophilic. In the Republic of Moldova, it was first collected by P. Pînzaru on 14.06.2009, in a forestry plantation near the village of Ţipova in Lalova commune, Rezina district, determined by P. Pînzaru on 27.11.2022, (CH-HBPP 4299, 4300) [14]

PÎNZARU P., SFECLĂ V.

273. ***Bromus ramosus*** Huds. 1762, Fl. Angl.: 40 (Poaceae).

+ RAR: this species was indicated only by И. Пачоский (1912) from the forests of Corneşti, Otaci [28] and by Tr. Săvulescu, T. Rayss (1924) from the forests near Corneşti, Bahmut and Rădeni [15], in subsequent publications it was no longer cited. In the current year, this species was recorded in the sessile oak forest, near Chipeşca commune, Şoldăneşti district, collected by V. Sfeclă, 06.08.2024 (CH-HBPP 8944). New collecting activities were carried out in the forests of the northern districts of the republic: Ocniţa (Ocniţa village, Bîrnova, Mihălăşeni, Calaraşovca), Briceni (Cotiujeni), Donduşeni (Arioneşti), Rîşcani (Şaptebani), Făleşti (Pietrosu), Glodeni (Moara Domnească) and from the center of the country: Străseni (Lozova, Căpriana), Ungheni (Rădenii Vechi, Corneşti), Hînceşti (Lăpuşna), Orhei (Lopatna), Călăraşi (Sipoteni & Bahmut). It grows rarely or sporadically in various types of forests from mesohygrophilous to xeromesophilic ones. Widespread species in Europe, Iran, Tibet and India, perennial, hemicryptophyte, xeromesophilic-mesophilic (mesohydrophilic) [35].

SFECLĂ V.

274. ***Iris aphylla*** L. 1753, Sp. Pl.: 38 (Iridaceae).

+ RAR: Dobruşa commune, Şoldăneşti district, growing together with *Hypochaeris maculata* L. in the clearings of the "Dobruşa Mică" forest, plot 14 "N", altitude 265 m, south-west exposure, inclination 20°, recorded by Sfeclă V., 15.04.2024. Central-European/Eastern-European species, perennial, geophyte, xeromesophilic, in the Republic of Moldova it is found more frequently in the downy oak forests on the cliffs, in the phytocoenoses of the *Iridio aphyllae-Quercetum pubescentis* Pînzaru 2019 association [9].

SFECLĂ V.

275. ***Symphytum tuberosum*** **subsp.** ***angustifolium*** (A.Kern.) Nyman, 1881, Consp. Fl. Eur.: 510 (Boraginaceae).

Syn.: = *Symphytum popovii* Dobrocz. 1968, Ukrayins'k. Bot. Zhurn. 25(5): 60. – *S. tuberosum* subsp. *nodosum* (Schur) Soó, 1941, in Acta Geobot. Hung. 4: 192.

+ RAR: Dobruşa commune, Şoldăneşti district, "Dobruşa Mare" forest, plot no. 32, collected by V. Sfeclă V., 09.05.2024, determined by P. Pînzaru P. (CH-HBPP 6765). Widespread species in the Central and South-Eastern Europe, perennial, hemicryptophyte, mesophyllous, little known on the territory of the Republic of Moldova.

SFECLĂ V., PÎNZARU P.

276. *Epipactis leptochila* (Godfery) Godfery 1921, J. Bot. 59: 146 (Orchidaceae).

+ RAR: Rădenii Vechi Commune, Ungheni District, "Plaiul Fagului" Scientific Reserve, plot 26, identified by Sfeclă V., 06.07.2023; Căpriana Commune, Străşeni District, Căpriana Forestry, plot 53, in a meadow forest, identified by P. Pînzaru & V. Sfeclă, 25.07.2024. Given that there were 1-3 specimens in these populations, no herbarium was collected to avoid reducing the population. These locations are new growth points, following the first identification on the territory of the Republic of Moldova, in the "Dobruşa" landscape reserve [22]. Endemic to the European continent, ranging from the west to the North Caucasus, it grows on limestone soils, prefers shaded and moist places, is perennial, geophyte, and mesophytic. Rare in the flora of the Republic of Moldova, it is proposed to be included in the *List of protected species* and in *The Red Book of the Republic of Moldova*, 4th edition, status Critically Endangered (CR).

4. Conclusions

As a result of the floristic research carried out during the vernal-summer period of the current year, new places of growth for 36 species of spontaneous vascular plants were registered, including 12 species included in *The Red Book of the Republic of Moldova* (2015).

7 species of rare plants have been confirmed for the flora of the Republic, which are proposed to be included in the *List of protected species* of *Republic of Moldova* and in *The Red Book of the Republic of Moldova*, 4th edition: *Carex pseudocyperus* L., *C. strigosa* Huds., *C vesicaria* L., *Epipactis leptochila* (Godfery) Godfery., *Fraxinus coriariifolia* Scheele, *Linum catharticum* L. and *Senecio macrophyllus* M. Bieb.

The species *Bromus ramosus* Huds., which was no longer cited for the local flora after T. Săvulescu and T. Rayss (1924) was confirmed, grows sporadically or rarely in the forests of the northern and central districts of the Republic, from mesohydrophilous to xermesophilic ones, it is proposed to be considered as distinctive for the *Querco-Fagetea* Br.-Bl forest class. et Vlieger in Vlieger 1937.

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(2) "Development and implementation of good practices of sustainable agriculture and climate resilience (GREEN)" – 020407.

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