

## OTHER CONTRIBUTIONS TO THE KNOWLEDGE OF THE DISTRIBUTION OF SOME ALIEN SPECIES IN ROMANIA'S FLORA

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**Abstract:** Alien plant species can significantly affect the structure and functioning of natural habitats, especially under anthropogenic conditions. In this context, this study provides new information on the spread of alien plant species in the flora of Romania, including *Amaranthus palmeri*, *Azolla filiculoides*, *Datura wrightii*, *Dittrichia graveolens*, *Eclipta prostrata*, *Erigeron sumatrensis*, *E. bonariensis*, *Euphorbia prostrata*, *Oenothera depressa* and *Paspalum distichum* subsp. *paucispicatum*, etc. Most of these species, already naturalized in anthropically disturbed areas, affect biodiversity in natural habitats, in some cases. Some species studied show varied ecological adaptations, occupying different niches. For example, *Eriochloa villosa* spreads in agricultural lands, *Oenothera depressa* along rivers, *Azolla filiculoides* and *Heteranthera limosa* in puddles and ponds, and *Amaranthus palmeri* in ruderal lands associated with railways and bus stations, etc. Many of the species analysed show a tendency to expand their distribution areas in Romania. There is a lack of national-level management strategies to eradicate or control alien plant species, including those with invasive potential, thereby allowing their uncontrolled expansion. Voucher specimens collected in the field are deposited in the Herbarium of the University of Life Sciences Iași (IASI), the Herbarium of the "Alexandru Ioan Cuza" University, "Anastase Fătu" Botanic Garden Iași (IAGB), the Herbarium of the University of Craiova (CRA) or in the personal herbaria.

**Keywords:** alien plants, invasive species, new species in Romania's flora.

### Introduction

One of the first attempts to count the alien plant species in Romania's flora registered 435 species, of which 88.3% were neophytes and 11.7% archaeophytes [ANASTASIU & NEGREAN, 2005]. In one of the most recent syntheses upon the alien plant species, it was reported a continuous enrichment of Romania's flora with new aliens, recording approximately 670 species [SÎRBU & OPREA, 2011].

Some of these alien species can become invasive, threatening natural habitats and crops, and causing severe damage to the economy and human health [PIMENTEL & al. 2000; McNEELY, 2001; WITTENBERG & COCK, 2001; WITTENBERG, 2005].

New or rare alien species recorded within the flora of different historical regions of Romania, some of which are invasive, are reported in this paper.

### Material and methods

All species recorded in this paper were collected during our field trips in the historical regions of Transylvania, Crișana, Banat, Oltenia, Muntenia, Moldavia and Dobrudja (Romania), during the years of 2023, 2024 and 2025. The geographic coordinates were recorded using OsmAnd version 4.8.6, installed on a Xiaomi smartphone. Some of the voucher specimens collected during the field surveys have been lodged in the herbaria of the University of Life Sciences “Ion Ionescu de la Brad” in Iași (IASI), the Herbarium of the Botanic Garden “Anastasie Fătu”/University “Alexandru Ioan Cuza”, Iași (IAGB), and the Herbarium of the University of Craiova (CRA). Morphological features of species were analyzed on the specimens collected from the field and compared with the data from relevant literature sources [TUTIN & al. 1964-1980, 1993; CIOCĂRLAN, 2009; SÂRBU & al. 2013], and, with the existing herbarium sheets in IASI, IAGB and CRA herbaria. The nomenclature of plant species is that adopted by the work *Flora Europaea* [TUTIN & al. 1964-1980, 1993] and by the *Flora Europaea* database [<https://europlusmed.org/>]. The plant family nomenclature follows the Euro+Med database [<https://europlusmed.org/>].

The abbreviations for herbarium collections follow the Global Herbarium Index [THIERS, 2025+; <https://sweetgum.nybg.org/science/ih/herbarium-list>].

The abbreviations for authors' plant names follow BRUMMITT & POWELL (eds.) (1992).

Citations of authors/works within this paper are done in chronological order.

### Results and discussion

During our recent field research, focused on alien plant species, in 2023, 2024 and 2025, two new alien taxa were recorded for the flora of Romania (*Heteranthera limosa* and *Paspalum distichum* subsp. *paucispicatum*), and a few others for the historical provinces of Transylvania, Crișana, Banat, Oltenia, Muntenia, Moldavia and Dobrudja (e.g. *Amaranthus palmeri*, *Azolla filiculoides*, *Datura wrightii*, *Dittrichia graveolens*, *Eclipta prostrata*, *Erigeron sumatrensis*, *E. bonariensis*, *Euphorbia prostrata*, *Oenothera depressa*, etc.); other species were identified in new localities in the same regions (e.g. *Dittrichia graveolens*, *Euphorbia prostrata*, etc.), some of them showing an obvious invasive character (e.g. *Azolla filiculoides*, *Erigeron sumatrensis*, *E. bonariensis*, *Dittrichia graveolens*, etc.).

#### a) New alien taxa identified in the flora of Romania

***Heteranthera limosa*** (Sw.) Willd. [Syn. *Pontederia limosa* Sw.] – Pontederiaceae Kunth

It is a species native to North, Central, and South America [ESPEJO SERNA & LÓPEZ-FERRARIA, 2000; ACEVEDO-RODRÍGUEZ & STRONG, 2005, 2012; HOKCHE & al. 2008; DIAMOND & WOODS, 2009; BERNAL & al. 2015; POWELL & WORTHINGTON, 2018], where it occurs as an aquatic or semi-aquatic species in shallow wetlands, ephemeral pools, and disturbed hydric habitats [SMITH & al. 1977; SMITH, 1988; GLEASON & CRONQUIST, 1991]. It has been reported as an invasive weed in rice-growing regions of Portugal [VASCONCELOS & al. 1999], Spain [GUARA REQUENA & al. 2003; CASTROVIEJO & al. 2008], Greece [DIMOPOULOS & al. 2013], and the Island of Sardegna/Italy [COSSU & al. 2014], Japan [IWATSUKI & al. 2016]. The species exhibits a

high ecological plasticity and readily colonises anthropogenic aquatic environments, including roadside ditches, pond margins, irrigation and drainage channels, and rice-field systems [DILDAY & al. 1991].

In Romania, *H. limosa* is documented here as a new alien species, with confirmed occurrences in several localities in the southern and southwestern regions, as follows:

1. Timiș County, at Partoș, in southern part of Timiș County, about 7-8 km south-southwest of the town of Deta, close to the Romania-Serbia border; the GPS coordinates are: N 45° 20' 04.54" / E 21° 09' 32.27"
2. Dolj County, Craiova, on the northern outskirts of Craiova, just a few kilometers from the city center; the GPS coordinates are: N 44° 20' 47.19" / E 23° 47' 19.30"
3. Dolj County, north of Craiova (Tanchiștilor lake); practically, the species was identified in the same area as the previous one, also in the northern part of Craiova, just a few hundred meters away; the GPS coordinates are: N 44° 20' 41.47" / E 23° 47' 21.63"
4. Dolj County, at Rojiște: in a rural area, south-east of Craiova, close to the border area between Dolj and Olt counties, in an agricultural / village landscape; the GPS coordinates are: N 44° 06' 19.50" / E 24° 00' 25.77"
5. Brăila County, at Stâncuța: on the Danube floodplain in eastern Romania, in the area between Giurgeni (Ialomița County) and Hârșova / Vadu Oii (Constanța County) – essentially near the Giurgeni-Vadu Oii section of the Danube River; the GPS coordinates are: N 44° 43' 46.74" / E 27° 48' 34.18"

These are, to date, the only known Romanian records. Its introduction pathway remains uncertain; however, escape from rice-cultivation systems or horticultural use as a decorative aquatic plant should be considered among the most plausible vectors. Because no herbarium vouchers were previously available in Romanian collections and all detections are recent (2019-2024), the taxon's presence in the country was long overlooked or considered doubtful.

This annual species typically grows immersed or stranded in very shallow water, preferably at depths below 5 cm [GUARA REQUENA & al. 2003]. It persists in human-modified habitats with permanent or nearly permanent water, including watercourses that do not freeze or freeze only briefly during winter. In rice fields, *H. limosa* behaves as a competitive weed; studies from North America indicate that it may reduce rice yields by 27-30% under water-seeded culture [SMITH & al. 1977; SMITH, 1988]. Given this potential, the species should be prioritised for monitoring in Romanian rice-growing areas, which may represent its primary introduction corridor.

Morphologically, *H. limosa* is characterised by ephemeral 6-merous blue to purple flowers subtended by bladeless sheaths, with distinctly dimorphic stamens - two short lateral yellow stamens with ovate anthers and a central, longer filament bearing a purple or white oblong anther [BASKIN & al. 2003]. Vegetative identification is unreliable because leaf morphology varies with moisture conditions; however, leaves are consistently oblong, with obtuse apices and parallel venation. Reliable identification requires flowering material, which is usually available in early to mid-summer. Field observations indicate that populations fluctuate dramatically with annual hydrological conditions. As in North American habitats, the species may appear abundant in wet years but absent in dry years, due to its dependence on shallow, temporary water bodies that can support germination and flowering [SMITH, 1988]. Seed-bank longevity is presumed to be multi-year, though exact viability remains unknown. Voucher specimens of Romanian populations should be deposited in national herbaria to support the confirmation of their alien status and facilitate future floristic treatments. Further

#### OTHER CONTRIBUTIONS TO THE KNOWLEDGE OF THE DISTRIBUTION OF SOME ALIEN ...

investigations, including potential distribution modelling and targeted surveys in rice-growing regions, are strongly recommended (Figures 1 & 2).

The voucher specimens are in stored the personal herbarium of Mihai Doroftei.



Figure 1. *Heteranthera limosa* – Craiova outskirts



Figure 2. *Heteranthera limosa* (details)

*Paspalum distichum* L. (Syn. *P. paspalodes* (Michx.) Scribn., *P. digitaria* Poir., *Digitaria paspalodes* Michx.) subsp. ***paucispicatum*** (Vasey) Verloove & Reynders (Syn. *P. paucispicatum* Vasey) – Poaceae Barnhart (pro parte majore)

*P. distichum* subsp. *paucispicatum* was initially described as *P. paucispicatum* by VASEY (1893). Later on, other authors categorize this taxa as a subspecies [VERLOOVE & REYNDERS, 2007], as it is, also, considered within this paper.

It can be distinguished as follows:

- robust plants, ± glaucous appearance, 50-60 (-70) cm high, with ascending to erect stems;
- densely hairy (pubescence) on leaf blades, sheaths and nodes, bulbous-based hairs;
- leaf blades up to 20 cm long;
- inflorescence racemose with (2-) 3 (-4) branches;
- spikes bear 2 rows of paired spikelets at each node (thus spikes appear having 4 longitudinal rows of spikelets) [KUNEV, in: RAAB-STRAUBE & RAUS, 2023].

This taxon is native to Mexico - on a vast area between Sonora and Oaxaca [VASEY, 1893; HITCHCOCK, 1950; VERLOOVE & REYNDERS, 2007].

In Europe, it is also an alien taxon, in:

- France: close to Montreux, along the Loire River [VERLOOVE & REYNDERS, 2007; VALDÉS & SCHOLZ, 2009+].
- Italy [GALASSO & al. 2018; [https://europusmed.org/cdm\\_dataportal](https://europusmed.org/cdm_dataportal)]
- Bulgaria (1. Danubian Plaine, Pleven province, Belene municipality, Hisarlaka – about 4 km NW of Belene municipality; 2. Limana – about 6 km NW of Belene municipality [leg. I. G. Kunev, in: RAAB-STRAUBE & RAUS, 2023].

In Romania, *P. distichum* subsp. *paucispicatum* has been recorded in **Dobrudja** region, Tulcea County, Danube Delta, as in: 1) Cardon village – along a canal from Cardon toward Sfîștofca; 2) Sfîștofca village – close to the Monastery “Buna Vestire Deltă”; 3) downstream of

Crișan village – at the pier for picking up waste; 4) Mila 23; 5) one Mile upstream of Vultur; 6) Sulina town – eastern canal from Sulina to the Black Sea (no name of it); 7) entrance canal of Perivolovca; 8) canal of Perivolovca; 9) Ostrov Dranov I; 10) canal of Dranov II; 11) a canal derived from “Gârla Turcească” toward Meleaua Sacalin; 11) Isaceea town (along a loan canal, GPS coordinates N 45.28182 / E 28.44189); 12) northern parts of Sulina town – on the left bank of Sulina arm (also, along a loan canal, GPS coordinates N 45.16215 / E 29.63737); 13) in the channels of the southern part of Furtuna polder (leg. S. Covaliov, August, 7<sup>th</sup>, 2025).

A voucher specimen was lodged in Herbarium of the Botanic Garden “Anastase Fătu”/University “Alexandru Ioan Cuza”, Iași (IAGB, no. 47916).

### b) New records in the alien flora of various historical provinces of Romania

*Azolla filiculoides* Lam. [Syn. *A. caroliniana* auct., non Willd.; *A. microphylla* Kaulf.]

– Salviniaceae Martinov

A species native to North, Central, and South America [[http://efloras.org/Flora of North America](http://efloras.org/Flora_of_North_America); <https://powo.science.kew.org>] was introduced to Europe in the second half of the 19<sup>th</sup> century. WEST (1953), as cited by HUSSNER (2006), reports that *A. filiculoides* was first recorded in Europe in 1880, in France (Bordeaux). Thus, according to JERMY [in: TUTIN & al. 1993], the current range of this species in Europe includes the western, central and southern regions of the continent, within the following countries: Belgium, Great Britain, Bulgaria, Czech Republic, France, Germany, and Greece [DIMOPOULOS & al. 2013], Netherlands, Spain, Hungary, Italy (incl. the Island of Sardegna), Portugal, and Romania. Later, this species was also reported from Turkey [ÜNAL & ÜZEN, 1996]. It is also present in Asia and Africa [<https://powo.science.kew.org>].

The presence of the species *A. filiculoides* has been reported since the first decades of the last century in Romania's flora, being identified for the first time by PALLIS (1916), in the Danube Delta, information later taken up also by PRODAN (1939 a, b), ȚOPA (1952), and others. Later on, *A. filiculoides* was identified (under this name!) in many other localities in the southern parts of the country, mainly along the Danube River, in puddles and oxbows, as it is in the counties of Caraș-Severin, Mehedinți, Dolj, Giurgiu, Teleorman, Ilfov, Călărași, Brăila, Tulcea and Constanța [SÎRBU & OPREA, 2011], Olt and Gorj [RĂDUȚOIU, 2024].

This is the first record of this species in the **Moldavia** region flora, namely in Galați County – in the puddle of Lozova, west of Braniște village (GPS coordinates: N 46.44027 / E 27.82898).

Voucher specimens were lodged in the Herbarium of the Botanic Garden “Anastase Fătu”/University “Alexandru Ioan Cuza”, Iași (IAGB, no. 47910).

*Amaranthus palmeri* S. Watson – Amaranthaceae Juss.

It is a native species in Southern California, Texas, and Mexico [BRENAN, 1961; <https://powo.science.kew.org>; [http://efloras.org/Flora of North America](http://efloras.org/Flora_of_North_America)]. Nowadays, *A. palmeri* is an invasive species, also in North America, but also on other continents, such as South America, Europe, Asia, Africa [<https://powo.science.kew.org>], and Australia [ROBERTSON, 1981].

In Europe it is known from the Czech Republic (registered since 1908) [in: PYŠEK & al. 2003], Great Britain [BRENAN, 1961], Sweden, Netherlands, Germany, Austria, Luxembourg, Switzerland, and France [AELLEN, 1960; SAUER, 1967], Poland [FREY, 1974],

#### OTHER CONTRIBUTIONS TO THE KNOWLEDGE OF THE DISTRIBUTION OF SOME ALIEN ...

Spain [CARRETERO, 1990], Ukraine [MOSYAKIN, 1995], Romania [COSTEA, 1996, 1997, 1998], Republic of Moldova [COSTEA & NEGREAN, 1997, in: COSTEA, 1998]. More recently, *A. palmeri* was cited from Greece [RAUS & RAABE, in: GREUTER & RAUS, 2006; DIMOPOULOS & al. 2013].

*A. palmeri* was previously cited from Romania, as follows: the railway station of Bucharest city [leg. G. Negrean, 1981, in: COSTEA, 1998; NEGREAN & CONSTANTIN, 1999]; Constanța harbour and surroundings [leg. M. Costea, 1995-1996, in: COSTEA, 1996, 1997, 1998; CIOCÂRLAN & al. 2004]; railway stations of Timișoara, Oradea, Focșani, Bacău, and Dorohoi [OPREA & al. 2021]; Giurgiu County - various localities [NAGODĂ & al. 2023].

*A. palmeri* is reported here for the first time in the **Oltenia** region: Dolj County – railway station of Craiova (GPS coordinates N 44.32851 / E 23.81909), the railway station of Băilești (leg. A. Oprea, August, 17<sup>th</sup>, 2024), among the railway tracks and along the edges of the surrounding streets (GPS coordinates N 44.03369 / E 23.34526), and the railway station of Drăgănești-Olt (leg. D. Răduțoiu, September, 3rd, 2025), among the railway tracks (GPS coordinates N 44.15475 / E 24.54411).

Voucher specimens were lodged in the Herbarium of the Botanic Garden “Anastase Fătu”/University “Alexandru Ioan Cuza”, Iași (IAGB, no. 47920).

***Dittrichia graveolens*** (L.) Greuter [Syn. *Erigeron graveolens* L., *Inula graveolens* (L.) Desf., *I. quadridentata* Lag.] – Compositae Giseke (pro parte majore)

It is a native species in the terrestrial areas around the Mediterranean Sea basin [BALL, 1976; BRULLO & DE MARCO, 2000; KIRÁLY & al. 2014; PAROLIN & al. 2014], including Greece [DIMOPOULOS & al. 2013]. It is also an alien species in Africa, Asia, Australia, New Zealand, and North America [<https://powo.science.kew.org>].

In Romania, it has been identified, firstly, in the **Transylvania** region, in Brașov County, between the villages of Viștea de Jos and Ucea de Jos, along a stream called “Corbul Ucii” [SZATMARI & HURDU, 2020] and in Tohanu Nou village [ȘÎRBU & al. 2023]; Sibiu County - between the villages of Arpașul de Jos and Scoreiu [SZATMARI & HURDU, 2020]. Other records of the species in the Transylvania region are as follows: Brașov County – from Vlădeni village (GPS coordinates N 45.75206 / E 25.39513) to Perșani village (GPS coordinates N 45.76014 / E 25.23663), on both sides of the National Road no. 1 / European Road E68.

*D. graveolens* is reported now for the first time in **Crișana** region: Bihor County – Cornițel, Borod, Groși, Tinăud, Oșorhei, and Aleșd villages; Cluj County – Bucea village (GPS coordinates N 46.95479 / E 24.68192).

This species tends to become an invasive weed in these new localities, growing in hundreds, if not thousands, of individuals and invading meadows along roads.

A voucher have been lodged in the Herbarium of the Botanic Garden “Anastase Fătu”/University “Alexandru Ioan Cuza”, Iași (IAGB, no. 47918).

***Erigeron bonariensis*** L. [Syn. *Conyza bonariensis* (L.) Cronquist, *C. ambigua* DC., *Erigeron crispus* Pourr., *E. linifolius* Willd., ? *E. transsilvanicus* Schur] – Compositae Giseke (pro parte majore)

It is a native species in Central and South America [WURZELL, 1994; ŠÍDA, 2003; <https://powo.science.kew.org>], widely distributed today in North America and Europe [CRONQUIST, in: TUTIN & al. 1976; WURZELL, 1994; ŠÍDA, 2003; MILOVIĆ, 2004],

including Greece [DIMOPOULOS & al. 2013], Asia, Africa, Australia, Tasmania, and New Zealand [<https://powo.science.kew.org>].

The old locations, already known in Romania, are in **Oltenia**: Mehedinți County – S-W of Cireșu village – along Bahna stream valley and in the railway station of Drobeta-Turnu Severin [NEGREAN & CIORTAN, 2012]; Olt County – along Olteț River valley, at Osica de Sus, Bobu, Ulmet and Pârșcoveni villages [BURDUȘEL & al. 2020]. Another locality where *E. bonariensis* has been recorded is in: Dolj County – outskirts of Dăbuleni town toward the agricultural farm “Ianca”, on ruderal sandy places (GPS coordinates N 43.79767 / E 24.10982).

Here are the first records of *E. bonariensis* in **Dobrudja** region: Tulcea County – Malcoci village (GPS coordinates N 45.14323 / E 28.8818), and Nufăru village, in ruderal places, in ditches, the verges of the county road no. 222C Tulcea toward Murighiol village, on places where people deposit manure and other household waste, or next to fences (at Nufăru).

The vouchers were lodged in the Herbarium of the Botanic Garden “Anastase Fătu”/University “Alexandru Ioan Cuza”, Iași (IAGB, no. 47913) and the Herbarium of the University of Craiova (CRA, no. 72121-72122).

***Erigeron sumatrensis*** Retz. [Syn. *Conyza sumatrensis* (Retz.) E. Walker; *C. albid* Spreng.; *C. bonariensis* (L.) Cronquist var. *microcephala* (Cabrera) Cabrera; *Erigeron bonariensis* L. var. *microcephala* Cabrera] – Compositae Giseke (pro parte majore)

It originated in Central and South America and has since spread to warm regions worldwide, including Africa, South Asia, Taiwan, Tasmania, and New Zealand [PIGNATTI, 1982; HUANG, 1994-2003; MILOVIĆ, 2004; VLADIMIROV, 2009; <https://powo.science.kew.org>]. In Europe, it is distributed as an alien species, mainly in the southern and western regions [[https://euoplusmed.org/cdm\\_dataportal](https://euoplusmed.org/cdm_dataportal)], including Greece [DIMOPOULOS & al. 2013].

Known distribution in Romania: Constanța County – Constanța harbor [ANASTASIU & MEMEDEMİN, 2012; MEMEDEMİN & al. 2016], Corbu village – on the coast of the Black Sea, at an abandoned industrial site [OPREA & al. 2021], from the area of Corbu-Midia toward Năvodari [OPREA & al. 2021]; Timișoara County – Timișoara railway station [OPREA & al. 2021]; Mehedinți County – Drobeta-Turnu Severin railway station and various places around the town [OPREA & al. 2021], Orșova town – on the left bank of the Danube River and in the railway station [OPREA & al. 2021]; Gorj County – railway station of Târgu Jiu [OPREA & al. 2021]; Dâmbovița County – Târgoviște in the railway station and around “Curtea Domnească” [SÎRBU & al. 2023]; Giurgiu County: between Falaștoaca and Prundu villages, between Băneasa and Pietrele villages, between Izvoarele and Radu Vodă villages, Varlaam village, Adunații-Copăcenii village and in Giurgiu town [NAGODĂ & al. 2023]; Bucharest City (leg. M. Urziceanu, University of Bucharest in 2023, pers. comm.); Buzău County: railway station of Buzău [SÎRBU & al. 2023]; Vrancea County – railway station of Focșani [OPREA & al. 2021]; Bacău County: Onești – on the banks of Trotuș River [OPREA & al. 2021]; Iași County: Miroslava village and the city of Iași – at “Palace of Culture” [SÎRBU & al. 2023].

There are new records of this species, such as:

i) the first record in **Crișana** province, in Bihor County – Băile 1 Mai – on the banks of the Hidișel stream and ruderal places along the roadsides.

ii) new records in:

- Caraș-Severin County: Băile Herculane, along Cerna River banks (GPS coordinates N 44.86739 / E 22.40666);

#### OTHER CONTRIBUTIONS TO THE KNOWLEDGE OF THE DISTRIBUTION OF SOME ALIEN ...

- Dolj County: railway station of Craiova, among railway tracks (GPS coordinates N 44.32853 / E 23.81936); Rastu Vechi - ditches along the village streets;
- Gorj County: Rovinari-Gară, among railway tracks (GPS coordinates N 44.89953 / E 23.16706);
- Vâlcea County: railway station of Râmnicu Vâlcea, among railway tracks (GPS coordinates N 45.10098 / E 24.3707);
- Constanța County: Cape Midia, on the sands of the Black Sea beach (GPS coordinates N 44.34772 / E 28.69149).

***Euphorbia prostrata*** Aiton [Syn. *E. perforata* Guss., *Tithymalus prostratus* (Aiton) Samp., *Chamaesyce prostrata* (Aiton) Small] – Euphorbiaceae Juss.

Origin and ecology of the species: southern parts of the USA, Central America, South America, and the West Indies [<https://powo.science.kew.org>], on disturbed areas, fields, gardens, sidewalks, sandy places or ballast piles, between 0 and 1,400 m a. s. l. (above sea level) [[http://efloras.org/Flora of North America](http://efloras.org/Flora_of_North_America)]. It is also present in South Asia, Africa, and Australia [<https://powo.science.kew.org>].

Distribution in Europe: Spain, Portugal, Italy, Sicily, France, and Greece [SMITH & TUTIN, in: TUTIN & al. 1968; RAUS, in: GREUTER & RAUS, 1998; BERGMEIER, in: GREUTER & RAUS, 2007; DIMOPOULOS & al. 2013; [https://europlusmed.org/cdm\\_dataportal](https://europlusmed.org/cdm_dataportal)], Croatia [PANDŽA & al. 2001].

Distribution and habitats already known in Romania: Bucharest – along I. Budișteanu St. [leg. G. Negrean, in: ANASTASIU & NEGREAN, 2008] and in the park of “National Opera” house (leg. C. Sîrbu, 2022); Dolj County – Craiova [RĂDUȚOIU & STAN, 2013]; Iași County: Iași – “Pallas Public Garden” and surroundings [OPREA & al. 2021]; Caraș-Severin County - Baziaș [OPREA & al. 2021]; Galați County – Galați (at the confluence of the Danube River with the Siret River) [ȘUȘNIA, 2022]; Giurgiu County [NAGODĂ & al. 2023].

This is the first record in the **Dobruđja** region: Tulcea County – Tulcea town, on the right bank of the Danube River, on the gravel and in the concrete cracks, located between a sidewalk along Tulco St. and a slope of the Danube River (GPS coordinates N 45.18224 / E 28.80573).

A voucher was lodged in the Herbarium of the Botanic Garden “Anastase Fătu”/University “Alexandru Ioan Cuza”, Iași (IAGB, no. 47919).

***Senecio inaequidens*** DC. [Syn. *Senecio burchellii* DC., *S. vimineus* Harv., *S. harveianus* MacOwan] – Compositae Giseke (pro parte majore)

It is a species native to Mozambique and South Africa [<https://powo.science.kew.org>]. It was accidentally introduced into East Asia [MITO & UESUGI, 2004], South America, North America and Central America [HEGER & BÖHMER, 2006], Hawaii and Australia [EPPO Global Database]. In Europe, *S. inaequidens* is present in: Germany [BRANDES, 1910, in: BORNKAMM, 2002], France, Italy, and Belgium [CHATER & WALTERS, in: TUTIN & al. 1976; WITTENBERG, 2005; LÓPEZ-GARCÍA & MAILLET, 2005; HEGER & BÖHMER, 2006; EPPO Global Database], Slovenia [KALIGARIČ, 1992, in: KIRÁLY & al. 2007], Slovakia [JEHLÍK, 1998; FERAŠKOVÁ, 2002], Austria [ESSL & RABITSCH, 2002], Czech Republic [PYŠEK & al. 2002], Switzerland [WITTENBERG, 2005], Great Britain, Spain, Netherlands, Denmark, Finland, Sweden, Norway, Poland, and Hungary [EPPO Global

Database, 2006; DAISIE, 2009], Balears, Belarus, Bulgaria, Corse, Ireland, Portugal, Sardegna, Sicilia, ex-Yugoslavia [<https://powo.science.kew.org>].

In Romania's vascular flora, *S. inaequidens* was collected for the first time by G. Negrean from Bucharest - the railway station of "Triaj" [leg. G. Negrean, 2005, in: ANASTASIU & NEGREAN, 2008].

Later, this alien species was collected in Iași County, in the city of Iași, near a commercial trade centre [leg. C. Sîrbu, 2009, in: SÎRBU & OPREA, 2011]; Arad County – in Macea village [I. Don, Macea Botanic Garden, pers. comm., 2018]; Buzău County – Mânzălești village, on Meledic Plateau [CAMEN-COMĂNESCU & al. 2023].

*S. inaequidens* was collected for the third time in **Muntenia** region, in 2023, the county of Vâlcea, between the villages of Păușa and Jiblea Veche, on the left bank of Olt River, in a ditch along the National Road no. 7 (European Road no. 15A), along a bypass road of the well-known balneo-climatic resorts of Călimănești and Căciulata, on September 8-9, 2023 (GPS coordinates N 45.25087 / E 24.33994).

### c) Alien plant species found in new localities in Romania

*Anisantha diandra* (Roth) Tutin Roth (Syn. *Bromus diandrus* Roth) – Poaceae Barnhart (pro parte majore)

*A. diandra* is a native species to the Irano-Turanian, Pontic, and Mediterranean regions [CABI, 2020]. Still, it has been widely introduced elsewhere in the world, as in: Europe, Asia, and North Africa [[https://euoplusmed.org/cdm\\_dataportal](https://euoplusmed.org/cdm_dataportal)], North America, Central America and South America, Australia, Tasmania, and New Zealand as an alien weed [KON & BLACKLOW, 1989; CABI, 2020; BORGER & al. 2021; KUNEV, 2021; <https://powo.science.kew.org>], as well as in North India [MALIK & MOHAMMAD, 2015]. Closer to Romania, *A. diandra* has been reported as a naturalised species in Bulgaria [KUNEV, 2021; STOYANOV & al. 2022], and in Hungary, as doubtfully introduced there, perhaps only cultivated [[https://euoplusmed.org/cdm\\_dataportal](https://euoplusmed.org/cdm_dataportal)], Ukraine – on "Însula Șerpilor" and in Crimea, as well as in southwestern Russia and Georgia [GBIF, 2023; <https://www.gbif.org/species/2703760>], the European part of Turkey [WEBB, 1966], and Greece [DIMOPOULOS & al. 2013].

*A. diandra* is already known in Romania, being recorded up to now in: Timiș County: Timișoara North railway station (leg. G. Negrean, Herb. I); Constanța County – the harbour of Constanța [Herb. SOM, no. 177292], in: STOYANOV & al. 2022]; Mehedinți County – Drobeta-Turnu Severin railway station [Herb. CL, no. 665457, in: STOYANOV & al. 2022]; Buzău County – Buzău railway station [OPREA & SÎRBU, 2023].

This is the second record in the **Oltenia** region, namely at the Craiova railway station, Dolj County, among the railway tracks (GPS coordinates: N 44.32853 / E 23.81936).

It is also the second and third records of this species in **Dobruja** province, in Constanța County, as they are.

i. town of Năvodari, ruderal places on dry sands [leg. I. Gațu, Botanic Garden "Anastase Fătu"/University "Alexandru Ioan Cuza" Iași, in: INDEX SEMINUM ET SPORARUM, CI/2024, no. 1790];

ii. Mamaia - between the Fishery House "Pontica" and the Cape of Singol (wasteland, roadsides, dry sands), very abundant; GPS coordinates: N 44.217719 / E 28.642929; leg. C. Sîrbu, 19<sup>th</sup> of May, 2025.

A voucher specimen was lodged in the Herbarium of the Botanic Garden “Anastase Fătu”/University “Alexandru Ioan Cuza”, Iași (IAGB. no. 47917).

*Asclepias syriaca* L. [Syn. *Asclepias cornuti* Decne.] – Apocynaceae Juss.

It is a species originating in Eastern-Central and East Canada to Central and East of the USA [FRANKTON & MULLIGAN, 1974; <https://powo.science.kew.org>], at latitudes 35 °N to 50 °N, from where it was introduced to Europe around the year of 1629 [BAGI, in: BOTTA-DUKÁT & BALOGH, 2008], being first cultivated in Paris. It was first cited as a weed from the Mediterranean regions, then from Central Europe, and mentioned from Hungary (Transdanubia) during the years of 1736 and 1737 [BAGI, in: BOTTA-DUKÁT & BALOGH, 2008]. It is currently naturalized in southern, central and eastern Europe - Austria, Bulgaria, former Czechoslovakia, France, Switzerland, Hungary, Italy, former Yugoslavia, Poland, Romania, Russia, and Crimea [MARKGRAF, in: TUTIN & al. 1972], Montenegro [STEŠEVIĆ & al. 2008], Germany, Ukraine, and the Baltic region [BAGI, in: BOTTA-DUKÁT & BALOGH, 2008], as well as in Asia - in Iraq [PHELOUNG & al. 1999; BAGI, in: BOTTA-DUKÁT & BALOGH, 2008], and in the former USSR. It was naturalised in the forest-steppe regions of Ukraine and in the Caucasus [POBEDIMOVA, in: SCHISHKIN & BOBROV 1967/1952].

It is also present in other parts of Asia [<https://powo.science.kew.org>].

In Romania, *A. syriaca* was cited for the first time by Czihack (in 1836) from Moldavia (as a cultivated species, cited in [KANITZ, 1879-1881]) and Transylvania – Sibiu [SCHUR, 1866], Cluj-Napoca [ȚOPA, 1947] and so on.

*A. syriaca* was previously recorded in the Moldavia region, as in: Vrancea County – Lespezi village [ȘUȘNIA, 2022]; Neamț County – Bașta and Ion Creangă villages [MONAH, 2001]; Iași County – the city of Iași, at “Copou” and “Mihail Sadoveanu” Memorial House [SÎRBU, 2006].

Here is a new record of *A. syriaca* in **Moldavia** province, between Grivița village (Vaslui County) and Bălăbănești village (Galați County), along the National Road no. 24D (GPS coordinates: N 46.13741 / E 27.68421), in ruderal habitats, in a population of ca 50-100 individuals.

*Coreopsis tinctoria* Nutt. [Syn. *Calliopsis tinctoria* (Nutt.) DC., *Bidens tinctoria* (Nutt.) E. H. L. Krause] – Compositae Giseke (pro parte majore)

It is a North American species (native from Canada to the USA and East of Mexico) [BRITTON & BROWN, 1970; <https://powo.science.kew.org>], cultivated for ornamental purposes and sometimes occurring spontaneously. It is an alien species across much of Europe, Mozambique, and South-East Africa [<https://powo.science.kew.org>].

It was previously mentioned in Romania from: Brașov County – Brașov city (as *Calliopsis bicolor* Rehb.) [SCHUR, 1866]; Sibiu County: Sibiu city (as *Calliopsis bicolor* Rehb.) [SCHUR, 1866] and Păuca village [DRĂGULESCU, 2010]; Bucharest City – subspontaneous in the Botanic Garden “Dimitrie Brândză” [DIACONESCU, 1961; leg. E. Nagodă, University of Bucharest, 2013, pers. comm.]; Alba County – Lupșa village [SORAN, 1962]; Galați County: Covurlui Plain - with no location [PĂTRAȘC, 1974], Viile village [SÂRBU, 1978], Galați West [SÎRBU & OPREA, 2011]; Neamț County: Piatra Neamț - along Cueurdi River banks [SÎRBU & OPREA, 2008], Agapia [SÎRBU & OPREA, 2010]; Iași County - Iași city (around Ciric lake) [SÎRBU & OPREA, 2010]; Tulcea County – Sulina [SÎRBU &

OPREA, 2011]; Constanța County: Constanța city – “Dolphinarium” area [SÎRBU & OPREA, 2011], Vrancea County - Suraia village (along the Siret River banks) [ȘUȘNIA, 2022].

There are new records of *Coreopsis tinctoria* in:

- Cluj County: Cluj-Napoca city – in a small green area along the Someșul Mic canal (GPS coordinates N 46.76637 / E 23.55510);

- Botoșani County – the village of Răchiți, on ruderal places (GPS coordinates N 47.76227 / E 26.69547).

***Datura wrightii*** Regel [Syn. *D. meteloides* auth. tex.] – Solanaceae Juss.

It is a species native to the southwestern United States and Mexico [CORREL & JOHNSTON, 1970; LUNA-CAVAZOS & BYE, 2011]. It is cultivated as an ornamental plant in Europe, but locally escaped from cultivation, as in Austria [ESSL & RABITSCH, 2002], France and Corsica [LAMBINON, 2006, in: VERLOOVE, 2008], Spain [VERLOOVE, 2008], and Hungary [KIRÁLY & al. 2009]. It was also cited from Tunisia and Australia [<https://powo.science.kew.org>].

In Romania, *D. wrightii* was firstly identified in ruderal places (vacant lands, garbage storage places) in the southern parts of Moldavia, in Galați County – Foltești and Umbrărești villages and Târgu Bujor town, also in the Danube Delta – Crișan, Caraorman and Letea villages, Tulcea County [SÎRBU & OPREA, 2011].

Later on, *D. wrightii* was identified in many places in Romania, as they are: Tulcea County [TÂNASE & al. 2011, 2012; OPREA & al. 2015]; Galați County [SÎRBU & OPREA, 2011; ȘUȘNIA, 2022]; Brăila County [CAMEN-COMĂNESCU & MIHAI, 2022]; Vrancea County [ȘUȘNIA, 2022]; Dolj and Vâlcea Counties [NICULESCU, 2022]; Giurgiu County [NAGODĂ & al. 2023].

There are other records in **the Oltenia** region, including Vâlcea County – Drăgășani town (on ruderal sites) (GPS coordinates N 44.66605 / E 24.26398); Olt County – Balș town (GPS coordinates N 44.3398 / E 24.11731).

New records of the species were made in the **Dobrudja** region, as in Tulcea County – Rachelu village (GPS coordinates N 45.29088 / E 28.32117) and Periprava village (GPS coordinates N 45.39116 / E 29.54113).

***Dysphania pumilio*** (R. Br.) Mosyakin & Clemants [Syn. *Chenopodium pumilio* R. Br.] – Chenopodiaceae Vent. (pro parte majore)

This species originates in tropical regions (Australia, New Zealand, New Caledonia) and was unintentionally introduced to Europe. Greece [DIMOPOULOS & al. 2013], by importing wool from Australia [AELLEN, 1979, in: CHYTRY, 1993]. It is also present in Africa, South Asia, North America and South America [<https://powo.science.kew.org>].

In Romania, it was first mentioned by CHYTRY (leg. M. Chytry, 1989) and COSTEA (1994) from the Danube Delta, Tulcea County (e.g. Crișan, Partizani, Sulina, Maliuc, Crapina, Mila 28, and Caraorman villages), growing on sandy river banks influenced by the human activities, but also in southern parts of Moldavia, on the left bank of the Danube River, in Galați town and downstream of Galați, along the banks of Danube River, at a point called “Cotul Pisicii” [SÎRBU & OPREA, 2011].

There are new records in Tulcea County – along the Danube River banks, on wet sands at Grindu village (GPS coordinates N 45.41112 / E 28.19145), Mila 64 toward Mila 65, and Tulcea town (GPS coordinates N 45.18224 / E 28.80573).

*Eclipta prostrata* (L.) L. [Syn. *Verbesina prostrata* L.] – Compositae Giseke (pro parte majore)

It is a native species in Temperate, Tropical, and Subtropical America [TUTIN, in: TUTIN & al. 1976; STROTHER, 2006; <https://powo.science.kew.org/>], or in Asia (Iran, South Asia?) [VASSILCZENKO, 1999/1959; TZONEV, 2007]. As an alien species in Europe, *E. prostrata* has been recorded mainly in the Southwestern, Southern, and Eastern regions, in Greece [DIMOPOULOS & al. 2013; [https://europlusmed.org/cdm\\_dataportal/](https://europlusmed.org/cdm_dataportal/)], Montenegro and Western Balkans [CAKOVIĆ & al. 2014].

It is also present in Asia, Africa, Australia, and Tasmania [<https://powo.science.kew.org/>].

It is distributed in many places and habitats in Romania, as they are: Brăila County - “Insula Mică a Brăilei” [DIHORU & SÂRBU, 1998; CAMEN-COMĂNESCU & MIHAI, 2022]; Tulcea County – in Danube Delta [I. SÂRBU, Botanic Garden “Anastase Fătu”/University “Alexandru Ioan Cuza” Iași, pers. comm. 2005; OPREA & SÎRBU, 2011; ANASTASIU, 2011; TĂNASE & al. 2011]; Constanța County [OPREA, 2005]; Galați County [OPREA & al. 2011]; Olt County [P. ANASTASIU, University of Bucharest, pers. comm., 2018]; Ilfov County [P. ANASTASIU, University of Bucharest, pers. comm., 2018]; Iași County [OPREA & al. 2021]; Mehedinți County [OPREA & al. 2021]; Bucharest [ANASTASIU & al. 2023], and Călărași County [URZICEANU & al. 2023]. It seems that it is a naturally distributed species along the whole area of the Danube River banks in Romania [P. ANASTASIU, University of Bucharest, pers. comm., 2020].

There are new records in historically regions of Romania, as they are:

i) **Moldavia**: Galați County – Șerbești Vechi village, on wet sands along the Siret River (GPS coordinates N 45.41781 / E 27.88573);

ii) **Dobrudja**: Tulcea County - Grindu village and Isaccea town, growing on wet sands along the Danube River (GPS coordinates N 45.41112 / E 28.19145).

*Eriochloa villosa* (Thunb.) Kunth [Syn. *Paspalum villosum* Thunb., *P. japonicum* Thunb.] – Poaceae Barnhart (pro parte majore)

The woolly cupgrass is a native species to Temperate and Subtropical Eastern Asia (Eastern Russia, Eastern China, Mongolia, Japan, Korean Republic, Korean Democratic People's Republic, Taiwan, Vietnam) [DARBYSHIRE & al. 2003; EPPO-IAP, 2024; EPPO Global Database ... *Eriochloa villosa*; WFO, 2024; <https://powo.science.kew.org/>]. From here it spread, as an alien plant, to the Caucasus region, Western Siberia, Iran and South Asia [TSVELEV, 1984, in: DARBYSHIRE & al. 2003], in Europe, as in Ukraine [CLAYTON, in: TUTIN & al. 1980], France [RIVIÈRE & al. 1992, in: DARBYSHIRE & al. 2003], Hungary [PARTOSFALVI & al. 2008; TAKÁCS & al. 2014; SZILÁGYI & al. 2015, 2019], European Russia [SUKHORUKOV, 2011; MIKHAJLOVICH & al. 2015], Czech Republic [PAULIČ & NĚMEC, 2014; FOLLAK & al. 2020], Belgium, France and Great Britain [VERLOOVE, 2019], Austria [FOLLAK & al. 2020], Germany [<https://powo.science.kew.org/>], as well as in USA and Canada [HITCHCOCK, 1950; DARBYSHIRE & al. 2003; SIMARD & al. 2015].

In Romania, *E. villosa* was identified in: Satu Mare County [CIOCARLAN & SIKE, 2006; SZATMARI, 2011, 2016; NEGREAN, 2012]; Timiș County [FÂRCĂȘESCU & al. 2007, 2008; NEGREAN, 2011, 2012]; Arad County [ARDELEAN & al. 2009, 2018; PELE, 2009]; Caraș-Severin County [NEGREAN, 2011]; Bihor County [NEGREAN, 2012]; Maramureș County [NEGREAN, 2012]; Sălaj County [NEGREAN & al. 2017]; Alba County [SÎRBU & al. 2023].

There are new records of *E. villosa* in:

- Alba County: surroundings of the railway station of Alba Iulia, in maize crops and along maize crop field margins tracks (GPS coordinates N 46.05779 / E 23.58356);

- Sibiu County: Bradu, also in maize crops and along maize crop field margins (this is the easternmost record in Romania !) (GPS coordinates N 45.71509 / E 24.32164).

A voucher was lodged in Herbarium of the Botanic Garden “Anastase Fătu”/University “Alexandru Ioan Cuza”, Iași (IAGB, no. 47915).

***Lindernia dubia* (L.) Pennell** (Syn. *Gratiola dubia* L.) – Linderniaceae Borsch & al.

Species originating in North, Central and South America, naturalized in much of Europe [WEBB & PHILCOX, in: TUTIN & al. 1972; <https://powo.science.kew.org>], incl. Greece [DIMOPOULOS & al. 2013], and Asia [HUANG, 1998; <https://powo.science.kew.org>]. In Romania, *L. dubia* was first reported by CIOCÂRLAN & COSTEA (1994), on wet alluvia from the Danube Delta – Sacalin Island toward Sfântu Gheorghe arm; subsequently, it was, also, cited from Periprava and Chilia Veche villages [CIOCÂRLAN, 1994], Sulina arm at Mila 28 – west of Maliuc and Crișan villages [SÎRBU & OPREA, 2011], Tâtaru forest and Chilia Veche canal [ANASTASIU, 2011], as well as within the city of Galați, on the left bank of Danube River [SÎRBU & OPREA, 2011]. It was also cited around the lake of Surduc (Timiș County) [NEACȘU & al. 2021], various localities along the Danube River in Giurgiu County [NAGODĂ & al. 2023], and along the Borcea arm of the Danube River (Călărași County) [URZICEANU & al. 2023].

There are two new records in Tulcea County: 1) Grindu village, on wet sands and small waters of the right bank of the Danube River (GPS coordinates N 45.39408 / E 28.12182), and 2) Tatanir point (downhill of Pardina village / uphill of Tâtaru Mare Sand Islet) (GPS coordinates N 45.35646 / E 29.03904).

A voucher specimens was lodged in Herbarium of the Botanic Garden “Anastase Fătu”/University “Alexandru Ioan Cuza”, Iași (IAGB, no. 47923).

***Oenothera depressa* Greene** [Syn. *Oe. salicifolia* G. Don, *Oe. hungarica* Borbás, *Oe. baurii* Boedijn, *Oe. strigosa* (Rydberg) Mackenzie & Bush var. *depressa* (Greene) Gates, *Oe. villosa* Thunberg ssp. *villosa* Dietrich & Raven, *Onagra salicifolia* (G. Don) Spach] – Onagraceae Juss.

It is originated in North America [DIETRICH & al. 1997] and currently is widespread as an alien species in a large part of Europe [[https://europlusmed.org/cdm\\_dataportal](https://europlusmed.org/cdm_dataportal)], Asia, South Africa, and South America [<https://powo.science.kew.org>].

The old known distribution and habitats in Romania are: Harghita County – railway station of Miercurea-Ciuc [1. SÎRBU & OPREA, 2017; 2. leg. G. Negrean, University of Bucharest, 2021, as *Oe. ? biennis* L., in: herbarium BUC – *Flora Romaniae Herbarium G. Negrean*, no. 1824]; Galați County – along Siret River sands at Șendrenii Vechi, Movilenii de Jos and Bucești-Ivești villages [SÂRBU & OPREA, 2017], Mălureni village [ȘUȘNIA & al. 2020], Condrea village [ȘUȘNIA, 2022], Cosmești village [ȘUȘNIA, 2022], Lungoci village [leg. C. Sîrbu, in: ȘUȘNIA, 2022], Smârdan village [SÎRBU & al. 2023], Tecuci town [SÎRBU & al. 2023]; Vrancea County – Biliiești, Suraia, Ciușlea (Garofa), Ploscuțeni and Vadu Roșca villages [ȘUȘNIA, 2022]; Dolj County – along the Jiu River valley [leg. C. Sîrbu, 2023]; Bacău County: Cornățel village – along the Trotuș River banks [SÎRBU & al. 2023]; Iași – railway

#### OTHER CONTRIBUTIONS TO THE KNOWLEDGE OF THE DISTRIBUTION OF SOME ALIEN ...

station of Socola [SÎRBU & al. 2023]; Suceava County – Bogata village – along Moldova River banks [SÎRBU & al. 2023]; Tulcea County – Sulina [OPREA & al. 2021].

There are new records of *Oe. depressa* in Romania, as they are:

- **Transylvania:** Covasna County – East of Lemnia village, on banks of River Negru (GPS coordinates N 46.04503 / E 26.27363); Braşov County – Rupea-Gară (GPS coordinates N 46.01912 / E 25.2787); Sibiu County – Turnu Roşu village (GPS coordinates N 45.6432 / E 24.29455) and Avrig town (GPS coordinates N 45.71915 / E 24.37375);

- **Oltenia:** Gorj County – Rovinari-Gară, among railway tracks (GPS coordinates N 44.89953 / E 23.16706);

- **Moldavia:** Vrancea County – Țifești village (the meadow of Putna River) (GPS coordinates N 45.85869 / E 27.06697); Galați County – Liești and Traian (Șerbeștii Vechi) villages – along the Siret River banks (GPS coordinates N 45.41781 / E 27.88573).

A voucher specimen was lodged in Herbarium of the Botanic Garden “Anastase Fătu”/University “Alexandru Ioan Cuza”, Iași (IAGB, no. 47922).

*Oenothera parviflora* L. [Syn. *Oe. muricata* auct., non L., *Oe. biennis* L. var. *parviflora* (L.) Torrey & A. Gray] – Onagraceae Juss.

It is a native species from East Canada to North and Central-East of USA [RAVEN, in: TUTIN & al. 1968; <https://powo.science.kew.org>]. It was also introduced as an alien species in East Asia and South Africa [<https://powo.science.kew.org>] and New Zealand [HOCH & WAGNER, 2007].

In Europe, it was introduced in England, in 1871 [MIHULKA & PÝŠEK, 2001], as an alien species in ex-Czechoslovakia, France, Germany, Netherlands, Hungary, Italy, Norway, and Poland [RAVEN, in: TUTIN & al. 1968], Great Britany [ROSTAŃSKI, 1982], Romania [CIOCĂRLAN, 1994, 2009], Republic of Moldova [BURAC & MITITELU, 1995], Greece [DIMOPOULOS & al. 2013]. It grows in open, disturbed habitats [WEAKLEY, 2007], along roads, from sea level up to ca 1,000 m a.s.l. as in China [HOCH & WAGNER, 2007].

In Romania, *Oe. parviflora* was cited at the end of the 19<sup>th</sup> century, from the Danube Delta – Caraorman village, Tulcea County (? under the name of *Oe. biennis* L. var. *parviflora* Koch) [UECHTRITZ & brother SINTENIS, 1876, in: KANITZ, 1879-1881; BRÂNDZĂ, 1898; CĂLINESCU, 1942; DOLTU & al. 1983; CIOCĂRLAN, 1994]. It was also cited from: Caraș-Severin County [DOLTU & al. 1983; FĂGĂRAȘ & COVALIOV, 2021]; Maramureș County [MITITELU & DORCA, 1987]; Nemira Mountains [MITITELU & al. 1987; MITITELU & BARABAȘ, 1993]; Suceava County [MITITELU & al. 1987, 1989; TOMESCU, 2016]; Bacău County [CĂLIN & MITITELU, 1992; MITITELU & al. 1994; EPURAN, 2000; MONAH, 2001; GURĂU, 2003]; Iași County [MITITELU & al. 1995]; Vrancea County [COROI & COROI, 1999; A. M. COROI, 2001]; Galați County [M. COROI, 2001]; Sibiu County [DRĂGULESCU, 2003; SÎRBU & OPREA, 2017]; Vâlcea County [leg. C. Sîrbu & A. Oprea, 2012]; Teleorman County [DIHORU & SCHNEIDER-BINDER, 2024].

However, in some references in Romanian literature, the name *Oe. parviflora* was considered synonymous to *Oe. muricata*, which is why the presence and distribution of these two species in our country is still uncertain.

New records of *Oe. parviflora* are in **Transylvania**, as they are: Braşov County – Rupea-Gară (GPS coordinates N 46.01912 / E 25.2787); Sibiu county – Avrig town (the down part of the Brukenthal Palace park) (GPS coordinates N 45.73054 / E 24.37389); Alba County – Teiuș-Gară (GPS coordinates N 46.20309 / E 23.69148).

A voucher was lodged in Herbarium of the Botanic Garden “Anastase Fătu”/University “Alexandru Ioan Cuza”, Iași (IAGB, no. 47921).

## Conclusions

Nineteen alien plant species are presented in this paper, six of them being newly registered in the alien flora of different historical regions of Romania, while eleven of them are registered in new localities in several counties of Romania, some in of these in the 2<sup>nd</sup>, 3<sup>rd</sup> or 4<sup>th</sup> locality. Two taxa are newly recorded for the flora of Romania, namely *Heteranthera limosa* and *Paspalum distichum* subsp. *paucispicatum*.

Some of these species have a remarkable tendency to spread, expanding their invasion area in Romania, for example, *Dittrichia graveolens*, *Paspalum distichum* subsp. *paucispicatum*, *Eriochloa villosa*, *Amaranthus palmeri*, and *Asclepias syriaca*. Other species are still rare in Romania's flora, e.g. *Heteranthera limosa*, *Coreopsis lanceolata*, *Erigeron bonariensis*, *Erigeron sumatrensis*, *Datura wrightii*, *Anisantha diandra*, *Senecio inaequidens*, etc., but they have a high reproductive capacity, with real possibilities of invasion, being able to cause significant damage to agriculture, infrastructure and even become harmful to human health.

Regarding the origin of the taxa, they are as the next: North American (8), South American (2), Mediterranean (1), North and South American (1), temperate and subtropical Asian (1), subtropical American (1), North American - South American - Central American (2), Iranian-Turanian - Ponto-Mediterranean (1), Australian-New Zealand-New Caledonian (1), and South Africa (1).

Regarding the bioforms to which they belong, the taxa are grouped as follows: annual (13), perennial (2), biennial (2), annual-biennial (1) and chamaephyte (1).

As for the habitats in which the taxa were identified, they are: vacant lots (7), riverbanks (4), road embankments (3), railway embankments (2), crops (1), and permanent waters (2).

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