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## ***OENANTHE PIMPINELLOIDES* L. IN THE FLORA OF ROMANIA**

**Daniel RĂDUȚOIU, Ion STAN, †Iulian COSTACHE**

University of Craiova, Faculty of Agriculture and Horticulture, A.I. Cuza Street, 13, RO-Craiova, Romania  
**e-mail:** radutoiudaniel@yahoo.com

**Abstract:** After numerous displacements in different floristic points in Romania it was found a vegetal material which belongs to Apiaceae family. After all data analyzed from foreign literature the conclusion about plant species identity falls to *Oenanthe pimpinelloides* L. (synonyms: *O. thracica* Griseb., *O. gallaecica* Pau & Merino, *O. incrassans* Bory & Chaub., *O. angulosa* Griseb), in Apiaceae family, plant species with no set area in Romania so far.

The material was collected in Valea Stanciului (Dolj County) (leg. D. Răduțoiu & I. Costache, 15.05.2010 and det. 25.01.2011), in mesophilic meadows, near by Jiu River (N 43°59'29"581, E 23°53'10"159; ), at an altitude of 90,53 m.s.m. It is inserted in the Herbarium of the University of Craiova (CRA: 62387, 62388, 62389, 62390).

The places where the identified plant species is growing are grazed, especially by horses.

In the Romanian spontaneous vascular flora, *Oenanthe* genus is represented by 5 species: *Oenanthe aquatica* (L.) Poir., *O. fistulosa* L., *O. silaifolia* M. Bieb., *O. banatica* Heuff. and *O. peucedanifolia* Pollich.

All these 5 species are found in wet meadows, on riverbanks or in stagnant water, flowing smoothly (*O. aquatica*). *Oenanthe pimpinelloides* has a larger ecological spectrum, being met both in mesohigrophylic and mezoxerophylic places. It has a higher resistance to water stress than other species of this kind in our country's flora.

Our plant species is an atlantic-mediterranean element, like *O. fistulosa* L. – a sporadic taxa in Romanian flora.

It differs from *O. aquatica* by tuberous roots (at least partially) and terminal umbels. If in case of *O. fistulosa* partial umbels are globose in fruit and fruit is sessile, at *O. pimpinelloides* partial umbels are not globose in fruit and some fruits are pedicellate.

It differs from the rest of the plant species in Romanian flora (*O. silaifolia*, *O. banatica*, *O. peucedanifolia*) by root-tubers ovoid, clustered at base of stem. At these three species the root-tubers are not ovoid and not clustered at base of stem.

*Oenanthe pimpinelloides* has a European distribution from United Kingdom to Turkey, then into western Asia including Israel, Jordan, Lebanon and Syria [5]. It also extends through France, Portugal and from Spain to Morocco.

On this occasion the Romanian floristic inventory enriches with a new species: *Oenanthe pimpinelloides*.

**Keywords:** new species, *Oenanthe pimpinelloides*, Romania.

### **Introduction**

After numerous displacements made in different floristic points in Oltenia was collected a material that cannot be determinate by Romanian specialty literature. Using foreign literature we have noticed that the plant species collected by us is framing to *Oenanthe pimpinelloides* L. (synonyms: *O. thracica* Griseb., *O. gallaecica* Pau & Merino, *O. incrassans* Bory & Chaub., *O. angulosa* Griseb.) from Apiaceae family, species without a specified area in Romania so far.

In spontaneous vascular flora of Romania *Oenanthe* genus is represented by 5 species: [1, 3, 4, 7, 8, 9]: *Oenanthe aquatica* (L.) Poir., *O. fistulosa* L., *O. silaifolia* M. Bieb., *O. banatica*

Heuff. and *O. peucedanifolia* Pollich. All these species in Romania are met in wet meadows, next to the water sources or even in stagnant waters or smoothly flowing (*Oenanthe aquatica*).

### Material and Methods

The study is based on collections and fieldwork to 2010. The material was collected from Valea Stanciului locality (Dolj County) (leg. D. Răduțoiu & I. Costache, 15.05.2010), from mesophile meadows, next to Jiu River, at an altitude of 85-90 m.s.m. It is insert in the Herbarium of University of Craiova (CRA).

The plant species was found in 5 samples. Although, it was searched in the next years (2012. 2013. 2014) it was never found again. The found samples did not reach the fruit stage.

The identification was made according to Flora Europaea, in Romanian flora not being included in the dichotomy keys for the identification of these species.

The authors' abbreviations are according to Brummitt & Powell (1992).

For localities mapping was used the UTM Code, according to Lehrer A.Z. & Lehrer M.M. (1990).

The distribution maps of the species were obtained using *Corolog 2010* Program, realized in Biology Institute in Bucharest. The program uses a data base access, with information from literature, herbarium and field and two types of maps, the maps of annual average temperature and precipitation in Romania.

### Results and Discussions

In Flora Europaea *Oenanthe* genus is represented by 13 species. Less than half of these are found in Romanian spontaneous flora too.

Because *Oenanthe pimpinelloides* is a newly identified taxon for Romanian flora, we present the description of these (based on herbarium material), starting from the existing description in the specialty foreign literature (Cook C. D. K., 1968).

### Description

*Oenanthe pimpinelloides* L., Sp. Pl. 255 (1753) (incl. *O. angulosa* Griseb., *O. incrassans* Bory & Chaub., *O. thracica* Griseb.) (Fig. 1).

Is a perennial species, that in the climatic conditions from Valea Stanciului (Dolj County) – GP27/37 [6] is not taller than 50-60 cm. At the root system are met ovoid tubers (Fig. 2). Compared to the rest of species in *Oenanthe* genus from Romania, these are not near to the base of the stem but at a certain distance of it. The stems are glabrous, erect and branched. Umbels have 2-5 cm diameter, terminal, compound, 6-15 smooth stout rays 1-2 cm, thickening after flowering. Peduncle is higher than rays. Terminal with long-pedicel late male flowers & short pedunculate hermaphrodite flowers. Lateral male only. Partial umbels flat topped in fruit, pedicels thickening after flowering, especially near glabrous apex. Leaves: lower 2-pinnate, long-petiolate. Segments 5 mm, lanceolate to ovate, cuneate at base, deeply toothed or pinnatifid. Upper 1-2 pinnate > as petiole. Lobes 10-30 mm, linear, entire. Bracts 1-5, linear-lanceolate, unequal. Bracteoles 12-20, linear to linear-lanceolate, longer as pedicels. Flowers are white, to 3-4 mm. Sepals is acute, persistent, outer petals radiating, unequal. Fruit are 3.5 mm in length and cylindrical.

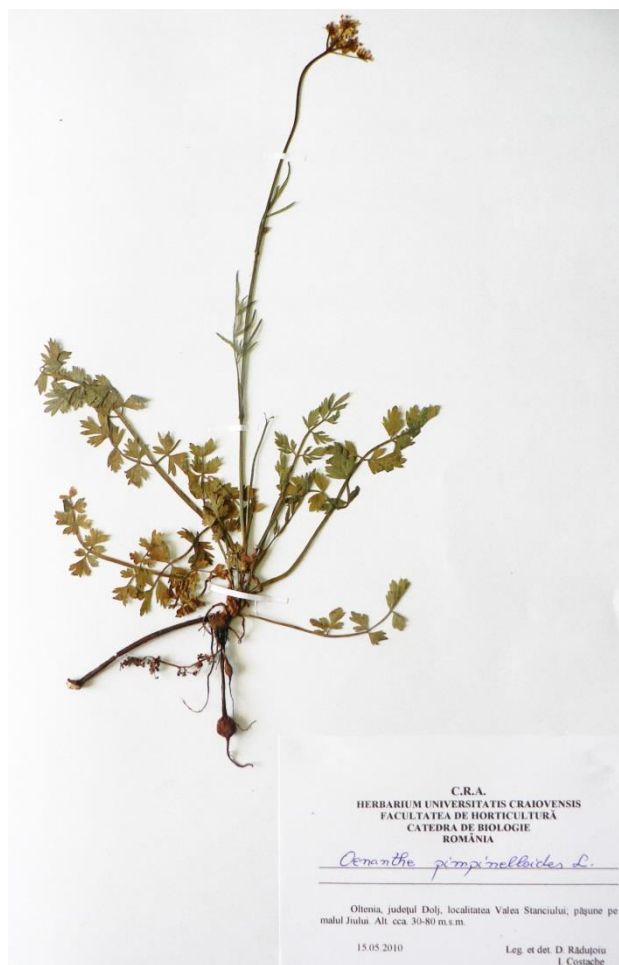


Fig. 1: *Oenanthe pimpinelloides* – herbarium material (orig.)



Fig. 2: Detail the root system and the basal part of the plant (orig.)

### Biology and ecology

*Oenanthe pimpinelloides* is a diploid species ( $2n = 22$ ). The ecological spectrum is larger, being met both in mesohygrophyte and xeromesophyte places. It has a higher resistance to water stress. Cohabits with *Pulicaria vulgaris*, *Mentha pulegium*, *Daucus carota*, *Carduus acanthoides*, *Verbena officinalis*, *Potentilla reptans*, *Inula britannica*, *Echinochloa crus-galli*, și *Rorippa sylvestris*. To show this character is presented plant species chorology according to annual average temperature and precipitation. (Fig. 3, 4).

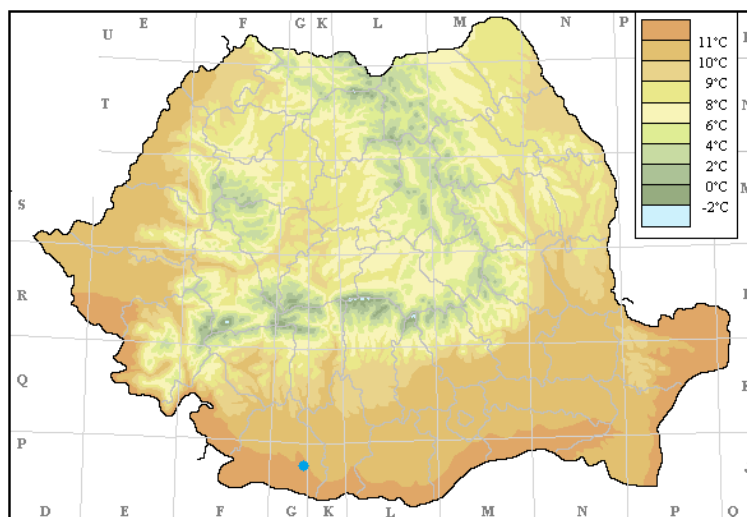


Fig. 3: Distribution of species *Oenanthe pimpinelloides* correlated with annual average temperature (orig.)

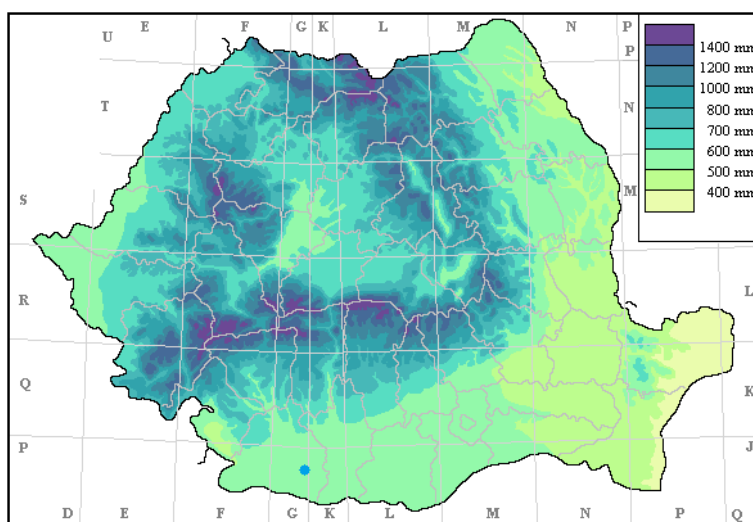


Fig. 4: Distribution of species *Oenanthe pimpinelloides* correlated with annual average precipitation (orig.)

### General distribution

*Oenanthe pimpinelloides* has an European distribution from UK to Turkey, then into western Asia including Israel, Jordan, Lebanon and Syria [5]. It also extends through France, Portugal and Spain to Morocco [10]. In France is it found primarily in the western half and the south coast [11].

Referred to the spread way of this plant species to Romania, we believe that this was made by birds, from Bulgaria.

### Conclusions

A poor population of *Oenanthe pimpinelloides* (5 copies) was found in 2010 in Valea Stanciului locality, Dolj county, south-western Romania. This is the first record of this species in Romania.

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### OENANTHE PIMPINELLOIDES L. ÎN FLORA ROMÂNIEI

#### (Rezumat)

În urma numeroaselor deplasări efectuate în diferite puncte floristice din Romania a fost găsit un material vegetal ce aparține familiei Apiaceae. Folosind literatura străină s-a constatat că acesta se încadrează la *Oenanthe pimpinelloides* L. (synonyms: *O. thracica* Griseb, *O. gallaecica* Pau & Merino, *O. incrassans* Bory & Chaub, *O. angulosa* Griseb) din familia Apiaceae.

Materialul a fost colectat din localitatea Valea Stanciului (județul Dolj) (Leg. et det. D. Răduțoiu & I. Costache, 10.05.2010), din pajiști mezofile aflate în apropierea râului Jiu, la o altitudine cuprinsă între 30-80 m.s.m. Se află inserat în Herbarul Universității din Craiova (CRA).

Locurile unde vegetează planta identificată de noi sunt pășunate, în special de cai.

În flora vasculară spontană a țării noastre genul *Oenanthe* este reprezentat prin 5 specii: *Oenanthe aquatica* (L.) Poiret, *O. fistulosa* L., *O. silaifolia* Bieb., *O. banatica* Heuff. și *O. peucedanifolia* Pollich. Toate speciile de la noi se întâlnesc în pajiști umede, pe malul apelor sau chiar în ape stagnante, lin curgătoare (*O. aquatica*). *Oenanthe*

*pimpinelloides* are un spectru ecologic mai larg, putând fi întâlnită atât în locuri mezohigrofile cât și în xeromezofile. Are o rezistență mai mare la stresul hidric decât restul speciilor acestui gen din flora țării noastre.

Specia noastră este un element atlantic-mediteranean, ca și *O. fistulosa* L. – taxon sporadic în flora României.

Se deosebește de *O. aquatica* prin rădăcini tuberizate (cel puțin partial) și umbele terminale. Dacă la *O. fistulosa* umbelulele fructifere sunt globuloase și fructele sesile la *O. pimpinelloides* umbelulele fructifere nu sunt globuloase iar unele fructe sunt pedicelate.

De restul speciilor din flora României (*O. silaifolia*, *O. banatica*, *O. peucedanifolia*) se diferențiază prin tuberi ovoizi pe rădăcină la o anumită distanță de baza tulpinii. La cele trei specii tuberii de pe rădăcină nu sunt ovoizi și se află la baza tulpinii.

*Oenanthe pimpinelloides* are o distribuție în Europa din Marea Britanie până în Turcia, apoi în Asia de Vest, inclusiv Israel, Iordania, Liban și Siria (Cook, 1968). De asemenea, se extinde prin Franța, Portugalia și Spania, în Maroc.

Cu această ocazie se îmbogățește inventarul floristic al României cu o nouă specie.

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