

Full Length Research Paper

New data about *Hesperis pýcnotrícha* in Romania

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There are presented new data about *Hesperis pýcnotrícha* in Romania. In 2004, the species was first identified in Gura Motrului Locality in Romania. Since then, the species has been pursued and so far, we have come up with new data on its origin and chronology. To our joy, the plant (ornamentally planted) has been identified in the same locality in a backyard adjacent to the first resort. Subsequently, the plant has been identified in other locations such as at the edge of abandoned farms and their premises in Cerna Valcea District; in some local households in Ponoarele Mehedinti District. Travelling in Turkey, at Marmara University in Erasmus, the author had the opportunity to see ornamental plants, inside the yard of Dolmabahçe Palace. Comparing the material collected from Turkey with that from Romania, he realized that both samples have the same morphologically characteristics. From bibliography sources, at the European level (like in Moldova, Slovakia, Turkey in Europe and Ukraine), it is known as a native plant or entered in Krym, Czech Republic, Lithuania and Russian Federation. The species is also known in Sweden while in Lithuania, it is mentioned in the list of invasive plants. The presence of the species in Romania, although was pointed out from 2004, is not consigned at the European level.

Key words: New chronology, *Hesperis pýcnotrícha*, Romanian, flora.

INTRODUCTION

From the genus *Hesperis*, there are 13 species mentioned in Europe (Ball, 1993), 9 in the Romanian flora (Nyárády, 1955) and lately, 5 (Ciocârlan, 2000) and 6 species (Ciocârlan, 2009) after including the species *Hesperis pýcnotrícha* (Ciocârlan and Costache, 2004). At the European level (Moldova, Slovakia, Turcia in Europe and Ukraine), *Hesperis pýcnotrícha* is known as a native plant or entered in Krym, Czech Republic, Lithuania and Russian Federation. This is got from the information given by Euro+Med Preliminary Checklist with Flora Europaea, Med-Checklist and Flora of Macaronesia (http://ww2.bgbm.org/_EuroPlusMed/). IFlora Europaea (Vol. 2), Ball (1964) mentions *H. pýcnotrícha* Borbás and Degen, Magyar Bot. Lapok (1902), within the Matronalis Group (Vol 1:pg 269), considers it a possible subspecies to *Hesperis matronalis* L. He gives U.R.S.S. as the spreading area between longitude 30°E and latitude 56°N, Rs (C, W, K, E). The same author in Flora Europaea, the 2nd edition Vol. 1 (1993) gives up the idea of existing subspecies and comes up with new data on the spreading area of the species; thus: C. and S. Russia and S. Ukraina, Tracia, E. Czechoslovakia, Bu, Rs (C, W, Krim., E) Tu. Besides these chronological data given by

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Europaea, other data about the species come from: Russia (Czerepanov, 1995) and other digital sources (<http://www.sevin.ru/natreserves/index>); Turkey (Davis et al., 1988), in plant images being posted by Nasip (2007); Marhold and Hindok (1998) published a list with non-vascular and vascular plants from Slovakia in which *Hesperis pýcnotrícha* Borbás and Degen [*Hesperis steveniana* Auct., non-DC.] can be found; Herloff (1999) pointed it out in two Swedish localities: 1. a grassy field near an allotment-garden in Goteborg (Gothenburg) in the South-west; 2. in the overgrown garden of an abandoned croft near Linkoping in Ostergotland in the South-east; advancing the invasive character of the species and in 2006 new information about the species appeared online (<http://www.bfig.se/foredrag/20060330.html>). Ebel (2002) mentioned it in Tomsk Province (located in the Southeastern part of West Siberian Plain); Gudzinskas (2004) included the species in the data base of the invasive terrestrial plants from Lithuania; invasive, being considered also by Pyšek (2009). From Karadag Natural Rezervation, Crimeea (2009) posted species images.



Figure 1. Detail of middle leaves (Costache 2005).



Figure 2. Detail of inflorescence (Costache 2005).

In 2004, from Romania, *Hesperis pycnotricha* species was first identified in Gura Motrului locality, Mehedinti District, Oltenia Region (Costache, 2005; Ciocârlan and Costache, 2006). Subsequently, the plant has been identified in other locations: Cerna (Valcea District) in the edge of abandoned farms and its premises; Ponoarele (Mehedinti District) in some local households.

In May 2010, traveling in Turkey, Istanbul, Marmara University, in Erasmus, I had the pleasant surprise to find

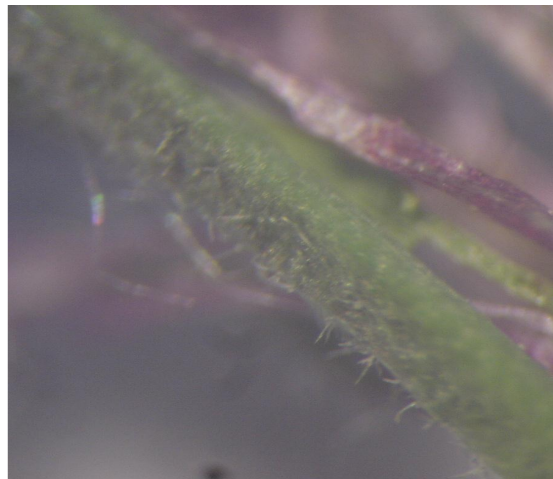


Figure 3. Detail of inflorescence axis with bifurcated hairs (Costache 2005).

plants, inside the yard of Dolmabahçe Palace, being ornamental cultivated.

MATERIALS AND METHODS

The method used for this research was the observation method. During the research, the identified species were collected along with the collection date, the locality as well as the conditions of the station. Subsequently, the material was examined in details, both rough and preserved, using a binocular magnifying glass. The determinations were established according to the specialized literature found in the bibliography. The detailed images were taken by a digital camera provided with a magnifying device. Coordinates of the localities (FQ 93 - Gura Motrului; FQ 38/48 – Ponoarele; GQ 29/39 - Pojogi-Cerna) was established after Lehrer and Lehrer (1990).

RESULTS AND DISCUSSIONS

In the last 5 years, *H. pycnotricha* species has been searched in Turkey, and other resorts in Oltenia are also looking for the way to come into the country. The plant has been identified in different locations.

The plant identified in Istanbul, in Dolmabahçe Palace, is ornamentally cultivated (Figures 5, 6, 7 and 8). On this occasion, we could compare the material identified in Istanbul with ours collected from Gura Motrului Locality and other states, noting that it is the same species (Figures 1, 2, 3, and 4). Thus, it requires a representation of the species, knowledge of its morphological characters to identify and distinguish it from the taxon *Hesperis matronalis*.

Data about the species, *Hesperis pycnotricha* Borbás and Degen Magyar Bot come from: Lapok (1902) in the Matronalis Group (Vol.1:269); Ball (1964) in Fl. Eur. (Vol. 2: 276), Fl. Eur. 2nd ed. (Vol 1: 337); Marhold and Hindok (1998) in Check list non-vascular and vascular plants

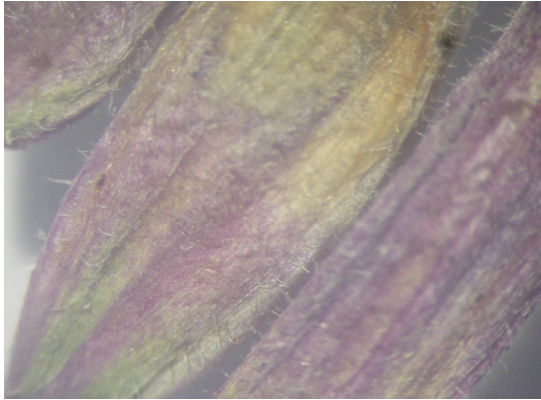


Figure 4. Detail of calyx presenting the bifurcated hairs (Costache 2005).



Figure 7. Picture with *Hesperis pycnotricha* (Original, inside the yard of Dolmabahçe Palace, 24. 05. 2010).



Figure 5. Habitus and detail basal leaves (Original, inside the yard of Dolmabahçe Palace, 24. 05. 2010).

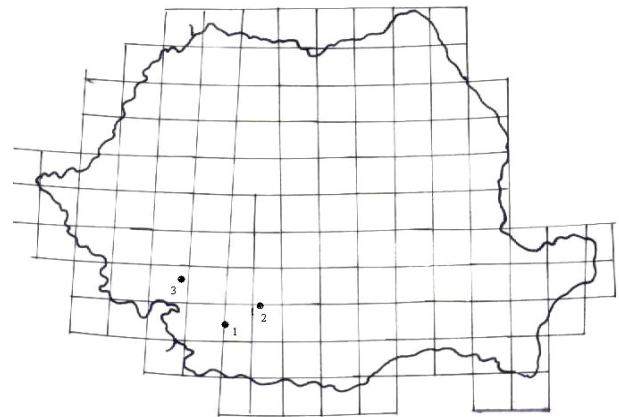


Figure 8. The chorology of the *Hesperis pycnotricha* in Romania: ● Localities: 1- Gura Motrulului; 2- Pojogi-Cerna; 3- Ponoarele (original).

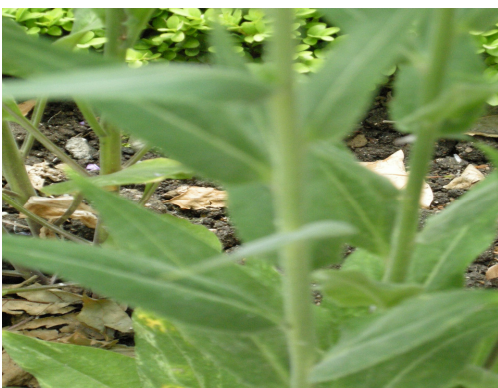


Figure 6. Detail of middle leaves (Original, inside the yard of Dolmabahçe Palace, 24. 05. 2010).

It is a perennial plant (H., V-VII, $2n=14, 26$). It has a simple stems, sometimes ramified in the upper part of 40-90 (100) cm. The basal leaves (Figure 5) have an oblong-elliptic shape, the middle and upper leaves are ovate \pm sessile (Figures 1 and 6), with gently toothed brims. The plant, in the whole, presents indumenta made from bifurcated hairs (the simple and the glandular hairs are missing). It has inflorescence axis and pubescent pedicels (Figure 3), with calyx of 6-8 (9) mm and pubescent (fig. 4). Its petals are 16-18 (19) mm (lamina of almost 10 mm and angle of 6-9 mm), of red colour. In Romania, dichotomous key for determining the species is given by Ciocârlan (2009) as:

Ecology: It grows on dark, eu-mesobasical soils; it has heliophyle, mesoxerophyle, subtermophyle-termophyle, poorly neutral acid soil reaction (pH = 6-7); **Station:** It grows in the margins of agricultural places, Gura Motrulului locality, Mehedinti District (Costache, 2005); **New localities:** It is found in Cerna (Valcea District), Ponoarele

(*Hesperis steveniana* auct., non DC.) from Slovakia.

(Mehedinti District), Oltenia Region; Geoelement: Pontic-Balkan.

For Station: It grows in the margins of agricultural places, FQ 93 - Gura Motrului locality, Mehedinti District (Costache, 2005).

For New localities: It is found in Pojogi-Cerna - GQ 29/39 - (Valcea District); Ponoarele - FQ 38/48 (Mehedinti District), Oltenia Region (Figure 8).

Conclusion

At this point, the species *Hesperis pycnotricha* data chronology identified in Oltenia, Romania implicitly reveals three stations. The fact that the plant was identified in households and also in uncultivated places entitles us to conclude that the plant was introduced with the culture, becoming naturalized and sub-spontaneous. Perhaps, the plant is found also in other localities in Romania, but not recorded. This is because it is confused with *Hesperis matronalis*, being that they resemble.

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REFERENCES

- Ball PW (1964). *Hesperis* - In: Tutin TG, & al. (eds). *Flora Europaea*. Lycopodiaceae to Platanaceae. Cambridge: Cambridge University Press, 1: 275-277.
- Ball PW (1993). *Hesperis* - In: Tutin TG, & al. (eds). *Flora Europaea*. 2nd ed. Psilotaceae to Platanaceae. Cambridge: Cambridge University Press, 1: 336-337.
- Ciocârlan V (2000). *The Romanian Illustrated Flora. Pteridophyta et Spermatophyta*. Ceres Publishing House, Bucharest (in Romanian), 1141p.
- Ciocârlan V, Costache I (2004). Completion to the Romanian Flora. *Acta Horti Bot. Bucurest.* București 2006, 33: 93-98.
- Costache I (2005). The flora and vegetation of the Lower hydrographic Basin of the River Motru. *PhD Thesis*. University of Bucharest. Romania (in Romanian).
- Czerepanov SK (1995) *Vascular Plants of Russia and Adjacent States (the Former USSR)*. Cambridge University Press, 519p. <http://books.google.com/books>.
- Davis PH, Cullen JM, Coode JE (1988). *Flora of Turkey and the East Aegean Islands*. Edinburgh University Press. Edinburgh, 10: 562p.
- Ebel A (2002). New Data on distribution of Brassicaceae species in South Siberia and East Kazakhstan. *Turczaninowia*, 5(2): 60-68.
- Herloff B (1999). *Hesperis pycnotricha* found in Sweden. Source: Svensk-Botanisk-Tidskrift. Southern Appalachian Information Node Invasive Plant Pests Resource Collection for: Dame's Rocket - <http://sain.sunsite.utk.edu/invasives/common27.shtml>, 93(4): 213-214.
- Lehrer A, Lehrer M (1990). The Cartography of the Romanian Flora and Fauna, Ceres Publ. House, Bucharest, (in Romanian), 291p.
- Marhold K, Hindok F (1998). Checklist of non-vascular and vascular plants of Slovakia. Veda-Bratislava Publishing House, 492p.
- Nyárády EI (1955). *Hesperis* - In: Săvulescu Tr. & al. (eds). *Fl. Reipubl. Popularis Romanicae*. Editio Acad. Reipubl. Popularis Romanicae, Bucharest (in Romanian), 3: 183-197.
- Pyšek P, Lambdon PW, Arianoutsou M, Kühn I, Pino J, Winter M (2009). *Handbook of alien species in Europe*. By DAISIE (Delivering Alien Invasive Species Inventories for Europe) Invading Nature. Springer Series in Invasion Ecology, Vol. 3 <http://books.google.com/books>.