

## Notes on protected and threatened plants in Castilla y León (North-West Spain)

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**Abstract.** We provide new records and notes on 25 protected and/or threatened vascular plant species in Castilla y León. Some of them illustrate not only new findings but also an interesting expansion of their geographic range. Eight taxa are reported for the first time in some provinces, while eleven of them were two or three times previously reported.

**Keywords:** Threatened vascular plants; protected vascular plants; Red lists; Chorology; Castilla y León; Spain.

## Notas sobre flora protegida o amenazada de Castilla y León (Noroeste de España)

**Resumen.** En este trabajo aportamos nuevas citas y comentarios para 25 taxones de flora vascular protegida y/o amenazada de Castilla y León, que representan nuevas citas provinciales o interesantes ampliaciones de su área de distribución. Ocho de ellas resultan novedad para alguna provincia y otras once son segundas o terceras citas provinciales.

**Palabras clave:** Flora vascular amenazada; Flora vascular protegida; Listas rojas; Corología; Castilla y León, España.

## Introduction

Plant conservation and conservation policies needed for in-depth knowledge of plant populations across their distribution territories, sometimes broad, sometimes narrow. Due to human practices, it is also desirable to revisit or maintain some resampling in those territories that could be affected for such practices or contrarily in abandoned lands that are recovering. This research tried to broaden the scope of data collection efforts but also to include new information as a follow-up of previous papers (Egido *et al.*, 2012a, 2012b, 2017) focusing on threatened or protected flora. In summary, new information on 25 vascular plants is provided herein.

Most taxa are included in the Plant Protection Regulation of Castilla y León (Anon., 2007a, 2015), either in the Threatened Plants Index of Castilla y León (henceforth CEACL) or the Priority Attention Plants Inventory of Castilla y León (henceforth IEAPCL). Some of them are also included in the Vascular Plants Red List (henceforth LRFVE) (Moreno, 2008, 2010) or in national protection laws (Anon., 2011), either in the Spanish Threatened Species Index (henceforth CEEA) or in the Wild Species under Special Protection Index (henceforth LESRPE). Lastly, some of them are also protected by European laws, specifically by the Habitats Directive (Anon., 1992), which was transferred to the Spanish legislation by the Law 42/2007 of Natural Heritage and Biodiversity (Anon., 2007b). We strongly support the incorporation of *Leucanthemum maximum* (Ramond) DC.

–not included in any of the protection laws above mentioned– in the IEAPCL.

Records are based both on collections by the authors and field observations. Whenever the state of the population allowed the gathering of a few specimens, we deposited them in the Herbarium of the University of León (LEB) or the Herbarium of the University of Salamanca (SALA). The following data provided for each record is locality (municipality, the nearest town, and place name), 1×1 km UTM grid square, elevation (m asl), ecology, collection data, collector names and registration code in LEB or SALA. Information provided in the label for those voucher specimens not collected by any of us is also included. The list of species is organized in alphabetical order.

Taxa names follow *Flora iberica* (Castroviejo, 1986–2019) except for *Eryngium viviparum* subsp. *bariegoi* (Romero & Real, 2014). Gramineae nomenclature follows *Flora Europaea* (Tutin *et al.*, 1980). The syntaxa names follow Rivas Martínez (2011) and Rivas Martínez *et al.* (2002).

## Results and Discussion

*Allium schmitzii* Cout.

**Palencia:** Santervás de la Vega, Valle Stream, 30TUN456082, temporary stream with muddy bed and siliceous river gravel, 975 m asl, 25.08.2018, *A.*

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*Rodríguez*, LEB 121894; Villota del Páramo, Cueza del Navazo Stream, 30TUN473132, temporary stream over clays with siliceous river gravel, 998 m asl, 25.08.2018, *A. Rodríguez*, LEB 121887.

It is the first record for the Palencia province. This Iberian endemism is included as 'Vulnerable' both in CEACL and LRFVE. These new populations are located in the center-north limit of its distribution. The nearest localities are found in Burgos (Aedo, 2011). This plant is similar to *Allium schoenoprassum*, which is very abundant in the nearby mountain territories.

***Baldellia alpestris*** (Cosson) Vasc.

**León:** Villazanzo de Valderaduey, Renedo de Valderaduey, San Roque stream, 30TUN4119, *Littoretea uniflorae* community in standing water stream, 1000 m asl, 14.07.2017, *F. del Egido*, LEB 121402.

New record for the high moorlands of east León province. It should be added to the five already registered from the Cantabrian Mountains and Galician Massif (Egido et al., 2012a, 2012b, 2017). This species is included in IEAPCL.

***Berula erecta*** (Huds.) Coville

**León:** Matanza, Valdespino Cerón, Corcos Stream, 30TUM0581, *Rorippion nasturtii-aquaticum* community in a stream of carbonated water, 830 m asl, 31.08.2017, *F. del Egido*, LEB 121400; *ibidem*, 13.06.2018, LEB 86275.

First record for León province. This widely distributed species is included in IEAPCL.

***Butomus umbellatus*** L.

**Segovia:** Santa María Real de Nieva, Balisa, Baces stream, 30TUL8042, helophytic community, 882 m asl, 28.05.2014, *P. Bariego* & *F. del Egido*, LEB 121716.

We provide a new record for the Segovia province. It is located 40 km southwest of other previous: Cega River (between Lastras de Cuellar and Cantalejo), Cantalejo ponds (several locations), and San Miguel de Bernuy (Blanco, 1985; Romero & Rico, 1989; García Adá, 1995; Molina, 1996). This species is included in IEAPCL.

***Cerastium dubium*** (Bast.) Guepin

**Valladolid:** La Zarza, La Veguilla, 30TUL5068, subhalophilous annual grassland and *Juncus maritimus* community, 747 m asl, 27.04.2015, *P. Bariego* & *F. del Egido*, LEB 116204.

First record for the Valladolid province. This annual species is scarcely distributed in Europe, Asia, and North Africa. The unique localities are known in Spain and the Iberian Peninsula was registered at the Duero basin: Ávila and Salamanca (Nogueira & Rico, 1990). The taxon is included in IEAPCL and in LRFVE (as 'Near Threatened').

***Dryopteris carthusiana*** (Vill.) H.P. Fuchs

**Zamora:** Ayoó de Vidriales, Fuente de Mildedos, 29TQG4070, peaty community, 880 m asl, 29.09.2003, *P. Bariego*, PB 2812, SALA 132897; Galende, Ribadelago, La Abeseda, 29TPG8664, *Alnus glutinosa* riparian forest, 1250 m asl, 05.08.2013, *P. Bariego*, PB 4004, LEB 123504.

Two new records are to be added to the two locations already known in the province: Nuez de Aliste, in the Manzanas River basin (Rico et al., 1992) and Ribadelago, very close to the second listed above (Aedo et al., 1993). This is a very rare species in the province, included in IEAPCL, and living in very vulnerable habitats. Its populations are formed by few individuals, so its conservation deserves special attention.

***Epipactis fageticola*** (C.E. Herms.) Devillers-Tersch. & Devillers

**León:** Villalobar, Esla riverside, 30TTM86, undergrowth of *Populus* forest, 718 m asl, 15.07.1977, *A. Penas*, LEB 6989 (originally ut. *E. helleborine*, rev. *F. del Egido*).

The revision of the herbarium material of *Epipactis* in LEB revealed the existence of this specimen, which had been collected 40 years ago and originally identified as *E. helleborine*. The present record is the second one in León. It has been recently reported for the first time (Egido et al., 2017) in the same river, but in a different locality (Villafer). This species is included in IEAPCL.

***Eryngium viviparum*** subsp. *bariegoi* Romero & Real

**León:** Villazanzo de Valderaduey, Renedo de Valderaduey, Laguna Mayor pond, 30TUN4218, *Menthion cervinae* community on dried shore, 1040 m asl, 14.07.2017, *F. del Egido*, LEB 121404. **Palencia:** Fresno del Río, Curucales pond, 30TUN5329, sands, and gravels on the temporarily flooded shore, 1118 m asl, 21.06.2015, *A. Rodríguez*, LEB 121507; Sotobañado and Priorato, Laguna Grande pond, 30TUN7815, sands, and gravels on the temporarily flooded shore, 986 m asl, 05.06.2015, *A. Rodríguez*, LEB 121506; Villota del Páramo, San Andrés de la Regla, Convento Stream, 30TUN4416, *Menthion cervinae* community on stream dried area, 1012 m asl, 14.07.2017, *F. del Egido*, LEB 121403; Villota del Páramo, Cueza del Navazo stream, 30TUN473132, temporary stream over clays with siliceous gravels, 998 m asl, 25.08.2018, *A. Rodríguez*, LEB 121888. **Zamora:** Vegalatrave, near the village, 29TQG4020, *Agrostion pourreti* community on the emerged Aliste riverbank, 685 m asl, 09.08.2018, *F. del Egido*, LEB 86265.

*E. viviparum* is a very rare plant included in CEACL (as 'Vulnerable'), LRFVE (as 'Endangered'), LESRPE, and annex II (as 'Priority') and annex IV of the Habitats Directive. It was recently separated into two subspecies based on morphological data (Romero & Real, 2014). *E. viviparum* subsp. *bariegoi* is endemic of the Mediterranean areas of the North-Western Iberian Peninsula, with most of its populations in Castilla y León (León, Palencia, and Zamora).

It is known from two localities close to each other: Chozas de Arriba and Villadangos del Páramo in León (Romero & Real, 2014). The new record extends its

distribution range to the east part of the province, on the border with Palencia.

The taxon had only been reported in Mantinos, Palencia (Rodríguez *et al.*, 2015), and four new records are provided here, extending the provincial distribution area southwards and eastwards.

Lastly, although this endangered species is well known in Zamora, as most of its populations are located in this province (Romero & Real, 2014; Bariego, 2015), a new record is provided herein.

### *Inula langeana* Beck

**León:** Crémenes, 1.5 km northwestern of the village, 30TUN2356, rocky limestone soil in the clearings of *Juniperus thurifera* forest, 10.08.2010, D. Pinto & E. Rico DP 870, SALA 137369, LEB 10775; Cueto Ancino, 30TUN05, limestone, 09.08.1977, M. López Pacheco, LEB 10775 (originally ut. I. conyzae). **Palencia:** Brezo Hermitage, 30TUN6045, clearings of scrublands on limestone soil, 07.08.1989, M.E. García, LEB 42902 (originally ut. I. conyzae); Hontoria de Cerrato, Las Pesetas, 30TUM8441, lower part of limestone moorland, 800 m asl, 10.08.2007, M. Santos Vicente & L. Delgado Sánchez MS 952, SALA 136059. **Valladolid:** Castromonte, Santa Espina, 30TUM2724, clearings of scrublands on calcareous marl soil, 820 m asl, 11.09.2004, P. Bariego PB 3708, LEB 123507; San Martín de Valvení, Fuentepeñil, 30TUM7021, *Quercus faginea* and *Pinus sp.* Forest boundary, clay marl soil, 842 m asl, 05.08.2004, M. Santos Vicente & L. Delgado MS 479, SALA 136040; Traspinedo, Carrascosa, 30TUM7403, *Quercus faginea* and *Pinus pinaster* forest boundary, on clay marl soil, 761 m asl, 29.07.2004, M. Santos Vicente & L. Delgado MS 470, SALA 135802; Tudela de Duero, Dehesa de Tovilla, 30TUM7303, *Quercus faginea* and *Pinus pinaster* forest, on clay marl soil, 863 m asl, 14.06.2005, P. Bariego & M. Santos Vicente MS 583, SALA 136058.

Iberian endemism, included in IEAPCL, with restricted distribution (north and central Iberian Peninsula). Two new records are provided in León province, northwards from previous localities: Vegaquemada (Lugán and Mata de la Riba; Aedo *et al.*, 1993) and Cistierna (Ocejo de la Peña and Valmartino; Alonso Redondo *et al.*, 1999). We also add a new record in Palencia, although it was firstly cited for Las Tuerces Natural Area (Pomar de Valdavia; Álvarez *et al.*, 2014).

This species was collected for the first time in Valladolid (Olmedo) by Gutiérrez in 1903 (Pau, 1904; sub *Inula gutierrezii* Pau). The species was not located again until a century later. The records provided herein and the citation of Lázaro Bello (2006) in Castromonte endorse its presence in the area.

### *Leucanthemum maximum* (Ramond) DC.

**León:** Cabrillanes, Meroy, near Puerto de Somiedo, 29TQH2564, calcareous mesotrophic peat community (*Caricion davallianae*), 1355 m asl, 02.09.2017, F. del Egido, P. Bariego & M. Pastrana, LEB 107677.

First record in León province. This Pyrenean-Cantabrian endemism is very rare in the Cantabrian Mountains, with scarce populations in Burgos (Mena

Valley and Castro Valnera Massif; Alexandre *et al.*, 2006) and in Picos de Europa (six localities in Asturias and Cantabria; Acedo *et al.*, 2011; Alonso Felpete *et al.*, 2011). This taxon is not currently included in LRFVE or any other protection law. Considering its rarity and restricted distribution in Castilla y León, we consider that it should be included, at least, in IEAPCL. The species is also considered 'rare' in the Aragonese Pyrenees (Villar *et al.*, 1997) and 'very rare' in the Navarre Pyrenees and Basque Mountains (Aizpuru *et al.*, 1999); it is more frequent in the French Pyrenees (Villar *et al.*, 1997; Vogt, 1991).

### *Lilium pyrenaicum* Gouan

**León:** Posada de Valdeón, Cordiñanes, Asotín beech forest, 30TUN4681, base-rich grassland (*Potentillo-Brachypodium rupestris*) with megaforbs in the lower limit of beech forest, 1090 m asl, 07.07.2017, F. del Egido P. Bariego, A. Rodríguez, A. Buira & G. Benítez (observed a single specimen); *ibidem*, 30TUN4781, *Genista legionensis*, and *G. occidentalis*, dwarf cushion scrub in the upper limit of the beech forest, 1300 m asl, 07.07.2017, F. del Egido, P. Bariego, A. Rodríguez, A. Buira & G. Benítez (observed and photographed). *ibidem*, Majada de Asotín, 30TUN4780, chionophilous basophilous grassland (*Armerion cantabricae*) at the foot of limestone rocks, 1530 m asl, 07.07.2017, F. del Egido, P. Bariego, A. Rodríguez, A. Buira & G. Benítez (observed).

This taxon is included in IEAPCL and it is very rare in León (only a few locations near of Cañ; Alonso Felpete *et al.*, 2011). Several records, also from Valdeón Valley, not far from the previously known locations, are added in this paper. Molina & Velasco (1981) reported the presence of this species in Riaño, but this record still requires confirmation because it has not been located again.

### *Litorella uniflora* (L.) Asch.

**León:** Villazanzo de Valderaduey, Renedo de Valderaduey, Laguna Mayor pond, 30TUN4218, *Menthion cervinae* community on the dried edge of the pond, 1040 m asl, 14.07.2017, F. del Egido, LEB 121434.

New record of this species in the province of León. It is included in IEAPCL. All previous records (compiled in Castro, 2017) are restricted to the southeastern and central part of León, except from an old one in the Lake of Isoba (Allorge & Allorge, 1941), where it was seen at the late 1980s (information from one of the referees).

### *Lychnis alpina* L.

**Palencia:** Brañosera, Valdecebollas north cirque, 30TUN888585, wet quartzite rock ledges, 2010 m asl, 25.06.2017, A. Rodríguez, LEB 121509.

New record in the province of Palencia, where we had previously traced three records: Curavacas, Agujas de Fuentes Carrionas and Pico Tres Mares (Alfaro Saiz *et al.*, 2010; Ruiz de Gopegui & Ruiz, 2012). This species is included in IEAPCL.

### *Lycopodiella inundata* (L.) Holub

**Zamora:** Mahíde, San Pedro de las Herrerías, Arroyo del Carrilón Valley, 29TQG1543, pioneer community

(*Rhynchosporion albae*) on slightly dry siliceous peaty soil, 883 m asl, 01.08.2012, *F. del Egido* (observed fragments, only one with a fertile stem); Manzanal de Arriba, Folgoso de la Carballeda, Valdalla river valley, El Romango, 29TQG1447, pioneer community (*Rhynchosporion albae*) on slightly dry siliceous peaty soil, 883 m asl, 13.08.2013, *F. del Egido*, LEB 110121.

This species grows in highly vulnerable habitats, being in clear regression in Zamora. All populations consisted of very few individuals or have disappeared. This taxon is included in IEAPCL, LRFVE (as ‘Vulnerable’) and in the Annex V of the Habitats Directive. We added two new records to the previous localities (Valle & Navarro, 1983; Rico *et al.*, 1992; Gutiérrez García, 1998; Bariego *et al.*, 2004; Bariego *et al.* 2006).

***Myosoton aquaticum* (L.) Moench**

**León:** Toral de los Vados, Paradela del Río, Cúa River, near the place where it meets the Sil River, 29TPH8211, riparian nitrophilous and higrophilous megaforb community (*Senecionion fluviatilis*), 418 m asl, 24.07.2018, *F. del Egido*, LEB 86278.

Taxon included in IEAPCL and LRFVE (as ‘Vulnerable’), with a restricted distribution in the Iberian Peninsula and Castilla y León. Lange (1866) reported the presence of this species in Las Médulas (El Bierzo, León), where it was not found. Aedo *et al.* (1997) found it in Ponferrada, but Lence *et al.* (2009) revealed it disappeared because of channeling works in the Sil river. We have found a record in Sierra de Gredos (Navacepedilla de Corneja, Ávila, Estrada Sánchez, 1986).

***Nuphar luteum* (L.) Sm. subsp. *luteum***

**Zamora:** Camarzana de Tera, Santa Marta de Tera, 30TTM559539, *Nymphaeion albae* community in standing waters of the Tera River, 720 m asl, 07.08.2018, *F. del Egido* (observed and photographed); Santa Croya de Tera, 30TTM5152, *Nymphaeion albae* community in standing water of the Tera River, 730 m asl, 12.07.2018, *F. del Egido* (observed and photographed); Melgar de Tera, Pumarejo de Tera, Molino de Arriba, 29TQG4452, *Nymphaeion albae* community in standing water of the Tera River, 738 m asl, 07.08.2018, *F. del Egido* (observed and photographed); Vega de Tera, Calzada de Tera, La Vega, 29TQG4153, *Nymphaeion albae* community in standing water of the Tera River, 747 m asl, 07.08.2018, *F. del Egido* (observed and photographed).

Only a previous record of this taxon, included in IEAPCL, had been traced in Zamora: El Retorno, Santa Marta del Tera (Navarro *et al.*, 1992). We provide four new localities, all of them in the Tera river.

***Pholiurus pannonicus* (Host.) Trin.**

**Segovia:** Santa María Real de Nieva, between Paradinas and Balisa, Las Viciosas, 30TUL8241, annual grassland in dried seasonal pond, 900 m asl, 28.05.2014, *P. Bariego* & *F. del Egido*, LEB 121716. **Zamora:** Peñausende, Sexmil-La Gavia, 30TTL6278, temporarily flooded grasslands, 800 m asl, 22.06.2013, *P. Bariego* PB 4010, LEB 123505.

Ibero-Iranoturanian species, included in the IEAPCL. The distribution in the Iberian Peninsula is restricted to few localities, most of the populations are located in the Duero basin (Ávila, León, Salamanca, Valladolid, and Zamora; Fernández *et al.*, 1987). There is only one record in the Tagus basin (Guadalajara; Cruz *et al.*, 1995).

We have found the first record in Segovia and an additional in Zamora. Regarding its autoecology, in Zamora appears on the saline wetlands complex of Villafáfila (abundant and widespread) while in the rest it forms part of typical (dry or flooded) grasslands in seasonal or permanent ponds (Fernández *et al.*, 1987; García Río & Navarro, 1994). This new locality extends its distribution southwards.

***Ranunculus batrachioides* subsp. *brachypodus* G. López**

**Zamora:** Villafáfila, Redondales, pr. Laguna de Barillos, 30TTM8736, dried seasonal pond, 680 m asl, 22.05.2013, *P. Bariego*, *F. del Egido* & *E. Álvarez*, LEB 115796; Fonfría, Bermillo de Alba, Venta de los Huevos, 29TQG4209, temporarily flooded pond shore, 820 m asl, 15.04.2014, *P. Bariego*, PB 4686, LEB 123508.

We provide two new records of this amphibious therophyte linked to temporary wet ponds in central and western areas of the Iberian Peninsula and northern Africa (Cook *et al.*, 1986; Bariego *et al.*, 2013). We recently published a revision of its state of conservation in the Iberian Peninsula (Bariego *et al.*, 2013), showing the relevance of Zamora populations. The taxon appears as ‘Vulnerable’ both in CEACL and LRFVE.

***Salsola soda* L.**

**Palencia:** Fuentes de Nava, La Nava pond, La Porretera, 30TUM552594, halophilous terophyte communities on temporary wet areas, 741 m asl, 10.08.2018, *A. Rodríguez*, LEB 121880.

First record of this species in Palencia. It is included in the IEAPCL. We have found only a few individuals, that we interpreted as an initial stage of pond colonization, being the nearest localities in Zamora (Villafáfila, Ladero *et al.*, 1984).

***Sedum nevadense* Coss.**

**León:** Garrafe de Torío, San Feliz de Torío, El Coto de Abajo, 30TTN9128, *Cicendion* community in temporarily flooded siliceous sandy soil, 875 m asl, 29.05.2018, *F. del Egido*, LEB 86276.

This annual species is included in IEAPCL and LRFVE (as ‘Least Concern’). The new record added information to the previous localities (Lainz, 1963; Egido *et al.*, 2007; Cantoral *et al.*, 2015).

***Selinum broteri* Hoffmanns. & Link**

**Zamora:** Mahide, La Lladera, 29TGG1937, *Quercus pyrenaica* and *Alnus glutinosa* woodlands, 816 m asl, 09.08.2018, *F. del Egido*, LEB 86287; Mahide, Las Torres de Aliste, Los Rotos, 29TGG2334, abandoned mowing meadow, 816 m asl, 09.08.2018, *F. del Egido*, LEB 86288; Riofrío de Aliste, Sarracín de Aliste, Arroyo Riofrío, 29TGG340380, moist pasture with *Molinia caerulea* and *Nardus stricta*, 900 m asl,

14.08.2018, *F. del Egido*, LEB 86266; Hermisende, Castromil, 29TPG6850, *Quercus pyrenaica* woodland and abandoned mowing meadow with *Molinia caerulea*, 980-1100 m asl, 12.09.2018, *F. del Egido*, LEB 121949.

This is a rare species classified as 'Vulnerable' both in CEACL and LRFVE. We provide four new localities in Zamora to be added to the previous records (Bariego et al., 2015), but there is another population in Salamanca (Rico, 1985).

#### ***Senecio carpetanus*** Boiss. & Reut.

**León:** Izagre, Albires, Reguera de Corrales Stream, 30TUM 0979, *Holoschoenus vulgaris*, *Deschampsia cespitosa* subsp. *subtriflora* and *Brachypodium phoenicoidis* moist pastures, 820 m asl, 25.07.2017, *F. del Egido*, LEB 121401.

Iberian endemism included in IEAPCL. Only a few localities are known in Leon: Candanedo de Fenar and La Valcueva (Egido et al., 2007), in the southern foothills of the Cantabrian Mountains. We provide here a new record which extends its range south-eastwards, in the limit with Valladolid province.

#### ***Spergularia heldreichii*** Fouc.

**Valladolid:** Mojados, La Dehesa, 30TUL5858, halophilous community, 713 m asl, 27.05.2015, *P. Bariego* & *F. del Egido*, LEB 116819. **Zamora:** Algodre, pond near the village, 30TTM8204, halophilous and subnitrophilous grasslands, 665 m asl, 05.04.2003, *P. Bariego*, PB 3115, SALA 131185; *ibidem*, halophilous and subnitrophilous grasslands, 665 m asl, 11.04.2003, *P. Bariego*, PB 3466, SALA 131148; Algodre, Reguerino, 30TTM8006, halophilous and subnitrophilous grasslands, 650 m asl, 04.04.2003, *P. Bariego*, PB 3158, SALA 131189; Aspariegos, *B. Casaseca*, 18.05.1968, SALA 3312; Revellinos, las Paneras pond, 30TTM 8738, clearings of *Plantagini maritimae-Camphorosmetum monspeliacae* halophilous community, 680 m asl, 22.05.2013, *P. Bariego*, *F. del Egido* & *E. Álvarez*, LEB 113170; Cañizo, Camino a Belver, 30TTM 8926, halophilous and subnitrophilous annual grasslands (*Hordeion marini*), 677 m asl, 17.06.2018, *F. del Egido*, LEB 86271; San Martín de Valderaduey, 30TTM9332, halophilous and subnitrophilous annual grassland (*Hordeion marini*), 680 m asl, 17.06.2018, *F. del Egido*, LEB 86273; Tapioles, Casas del Piélago, El Roble, 30TTM9335, halophilous, and subnitrophilous annual grassland (*Hordeion marini*), 680 m asl, 17.06.2018, *F. del Egido*, LEB 86272; Villafáfila, between Barillos pond and Pradera Redonda, 30TTM8736, halophilous annual grasslands, 680 m asl, 13.06.2013, *F. del Egido* (observed and photographed); Villafáfila, between Villafáfila and San Agustín del Pozo, 30TTM8338, halophilous and subnitrophilous annual grasslands, 714 m asl, 30.06.2018, *F. del Egido*, LEB 86267; Villafáfila, near the Visitors Centre, 30TTM8436, halophilous and subnitrophilous annual grasslands (*Hordeion marini*), 690 m asl, 13.06.2013, *P. Bariego* & *F. del Egido* (observed and photographed); Villafáfila, Otero de Sariegos, San Fagúndez, 30TTM8333, halophilous and subnitrophilous annual grasslands (*Hordeion marini*),

680 m asl, 22.05.2013, *P. Bariego*, *F. del Egido* & *E. Álvarez*, LEB 113171; Villafáfila, Salina Grande, 30TTM8435, saline soils, 670 m asl, 11.11.2001, *P. Bariego*, PB 558, SALA 131562; Villarrín de Campos, Camino de los Valles, Pradera Ancha, 30TTM7928, halophilous, and subnitrophilous annual grassland (*Hordeion marini*), 686 m asl, 21.06.2013, *F. del Egido*, LEB 110124; *ibidem*, 30TTM7929, halophilous and subnitrophilous annual grassland (*Hordeion marini*), 686 m asl, 21.06.2013, *F. del Egido* (observed); Villarrín de Campos, Caminicos stream, 30TTM8029, halophilous and subnitrophilous annual grasslands (*Hordeion marini*), 680 m asl, 30.06.2018, *F. del Egido*, LEB 86268; Zamora, Las Chanas, Zape Stream, 30TTL6695, halophilous and subnitrophilous rushy pastures near the riverbank, 645 m asl, 26.05.2014, *P. Bariego*, PB 4435, LEB 123506.

Annual halophilous species widely distributed in central and western areas of the Mediterranean Region. In the Iberian Peninsula, this distribution is restricted to coastal areas and, more scarcely, throughout inland salt marshes. The records provided are the only known in Castilla y León. It is included in the IEAPCL. We provide the first record of this taxon in Valladolid.

#### ***Succisella carvalhoana*** (Mariz) Baksay

**Zamora:** Mayalde, Barranco de la Degollada, 30TTL6468, wet grasslands, 900 m asl, 11.09.2011, *P. Bariego*, PB 3720, LEB 123503. Mayalde, Barranco de los Jarales de la Fraila, 30TTL6369, wet grasslands, 890 m asl, 11.09.2011, *P. Bariego*, PB 3717, LEB 123502.

Endemism with a restricted distribution in central and western areas of the Iberian Peninsula, where shows a limited number of populations (Amich & Bernardos, 2006). It is classified as 'Vulnerable' in CEACL and LRFVE. Two populations were identified in Zamora (northern limit; Giráldez, 1986; Amich et al., 2004), one in Mayalde –probably one of the most important for conservation purposes– and the second one in El Cubo de Tierra del Vino, probably disappeared (Amich & Bernardos, 2006). We consider the new population of the Barranco de la Degollada (with a remarkable population size), as a subpopulation of that of Barranco de los Jarales de la Fraila (Amich et al., 2004) because of closeness. It is a highly threatened plant in Zamora due to the alteration of the habitat (draining and overgrazing).

#### ***Tanacetum vahlii*** DC.

**Palencia:** Baltanás, El Monte, Boca del Valle, 30TVM0440, humid depression on rushy pasture edge, next to a track, 906 m asl, 24.06.2015, *A. Rodríguez*, LEB 121508.

First record of this rare species in Palencia. It is included in IEAPCL. Until now, it was considered endemism of the Iberian System (Rico et al., 1991), and the nearest population is that of Burgos, 50 km away. The size of the population is small but shows a good conservation state favored by its inaccessibility. The specimens grow in a humid depression at the head of the Fuentelacasa stream, in a large and well preserved

*Quercus rotundifolia* forest. It is located about 250 m from the Cañada Real Burgalesa, a traditional route connecting northern and western areas of Spain to

move cattle during the year; the presence of this species could be related to the eventual dispersal of seeds by transhumant sheeps and goats.

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