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New contributions to the native and alien flora in riparian habitats of the Cantabrian watershed (Northern Spain)

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Abstract. As a result of a floristic survey carried out in riparian habitats of northern Spain, new chorological data are provided for 9 alien and 6 native plant species. Some species are reported for the first time at regional scale, such as *Carex strigosa*, *Helianthus x laetiflorus* and *Persicaria pensylvanica* in Cantabria. Also noteworthy is the finding of naturalised populations of the North American grass *Muhlenbergia schreberi* at the Urumea river basin, which represents the second reference for the Iberian Peninsula.

Keywords: Northern Spain; riparian habitats; native plants; alien plants.

Nuevas aportaciones a la flora alóctona y nativa en hábitats riparios de la Cuenca Cantábrica (Norte de España)

Resumen. Como resultado del estudio florístico realizado en hábitats riparios del norte de España se aportan nuevos datos corológicos de 9 especies de plantas alóctonas y 6 nativas. Algunas de estas especies constituyen nuevas citas regionales, como *Carex strigosa*, *Helianthus x laetiflorus* y *Persicaria pensylvanica* para Cantabria. Destaca asimismo el hallazgo de poblaciones naturalizadas de *Muhlenbergia schreberi*, gramínea norteamericana encontrada en la cuenca del Urumea y que representa la segunda referencia de esta especie en la Península Ibérica.

Palabras clave: Norte de España; hábitats riparios; plantas nativas; plantas alóctonas.

Introduction

Riparian habitats have been repeatedly documented as being highly vulnerable to invasion by alien plants due to natural factors and processes and human-mediated activities. In relation to this, the present work stems from a wider study focused on the analysis of the presence, distribution and impacts of alien plants in riparian habitats of the Cantabrian watershed (northern Spain). Streams in this territory have the distinct characteristic of being notably short in comparison with Mediterranean Iberian rivers since their sources in the Cantabrian Mountains are very close to their mouths in the Bay of Biscay. Additionally, summer low water period is shorter and less intense in Cantabrian streams

as a result of a higher summer rainfall. Riparian and adjacent habitats of the Cantabrian watershed have been intensely disturbed in the last decades as a result of human population increase and related anthropogenic activities, such as agriculture, industrial development, urbanisation, and the development of an increasingly dense transport network which, coupled with the benign climate, has resulted in many different alien plant species establishing in these habitats (Campos, 2010; Liendo & *al.*, 2016).

Fieldwork conducted in 16 randomly selected river basins has allowed the authors to present new chorological data for 9 alien and also 6 native plant taxa, some of which representing new records at provincial and/or regional scale. In this context, it is worth high-

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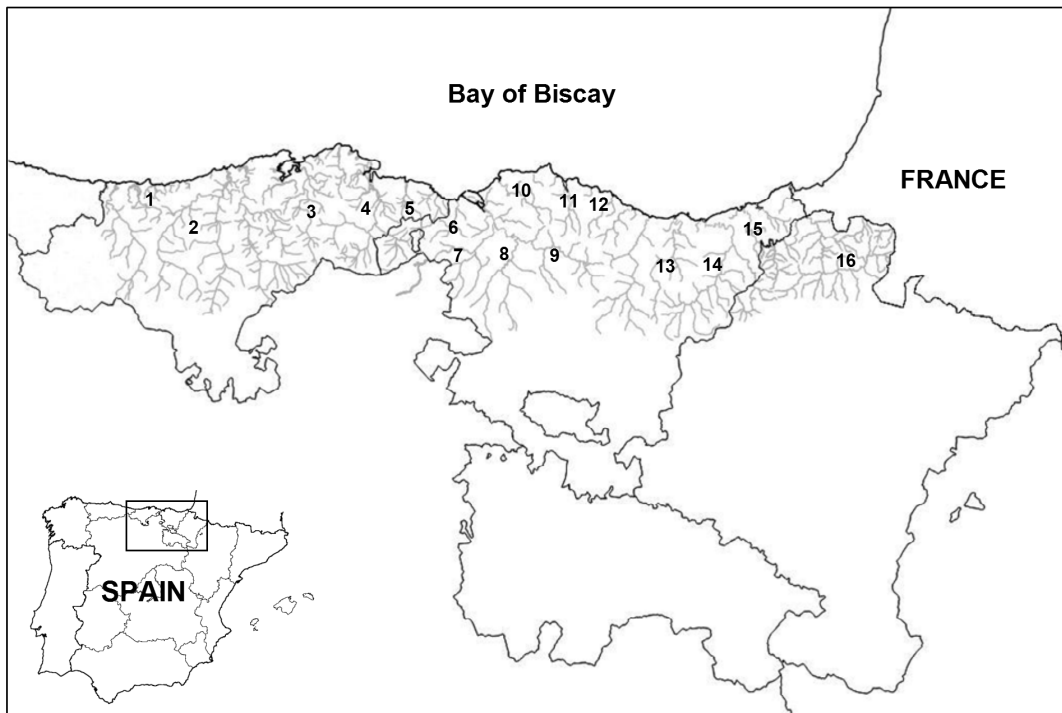
lighting the finding of naturalised populations of the North American grass *Muhlenbergia schreberi* (nimblewill) along the Urumea stream (Gipuzkoa and Navarre provinces), which represents the second record of this species in the Iberian Peninsula.

Information on species distribution has been gathered from ANTHOS (Information system on vascular plants in Spain), GBIF (Global Biodiversity Information Facility), Flora iberica (Castroviejo, 1986-2015) and several bibliographical sources. Species nomenclature follows Euro+Med (www.emplantbase.org, accessed 21-I-2016) except for *Aucuba japonica* Thunb. (Nov. Gen. Pl. 3: 62. 1781), *Persicaria pensylvanica* (L.) M. Gómez (An. Inst. Segun. Ens. 2: 278. 1896), *Pyracantha angustifolia* (Franch.) C. K. Schneid. (Ill. Handb. Laubholz., 1: 761. 1906), *Verbena brasiliensis* Vell. (Fl. Flumin. 1: Tab. 40. 1827) and *Verbena incompta* P.W. Michael (Telopea 6: 181-183). For each taxon, the following information is provided: currently accepted name, synonyms, family, type of chorological novelty, locality, province, 1x1 km UTM grid square (ED50 Datum), stream where the specimen was collected, elevation,

date and authors of collection and registration code in the BIO Herbarium of the University of the Basque Country (UPV/EHU) where voucher specimens of all taxa are preserved. Additionally, some voucher specimens preserved in the following herbaria have been included in the present work: SEST (Natural Sciences Society of Sestao), VIT (Natural History Museum of Álava), ARAN (Aranzadi Science Society) and MA (Royal Botanic Garden, Madrid).

As mentioned above, the study area encompasses riparian habitats of 16 randomly selected river basins of northern Spain (Figure 1). This area includes partially or totally the provinces of Cantabria, Burgos, Bizkaia, Álava, Gipuzkoa and Navarre. From a biogeographic point of view, the study area is included in the Cantabrian-Atlantic subprovince of the Eurosiberian region (Rivas-Martínez & *al.*, 2014). Within this subprovince, most of the river basins belong to the Cantabrian-Basque sector with the exception of the Saja-Besaya and Escudo basins, which are included in the Galician-Asturian sector (Berastegi & *al.*, 1997; Rivas-Martínez & *al.*, 2014).

Figure 1. Study area showing the fluvial network and the selected river basins. 1: Escudo; 2: Saja-Besaya; 3: Miera; 4: Asón; 5: Agüera; 6: Barbadún; 7: Cadagua; 8: Nervión; 9: Ibaizabal; 10: Butrón; 11: Oka; 12: Lea; 13: Urola; 14: Oria; 15: Urumea; 16: Bidasoa



Riparian vegetation in these river basins corresponds to the Cantabrian-Basque and Oviedese fluvial geoseries *Hyperico androsaemi-Alnetum glutinosae* (Loidi & *al.*, 2011), which covers the territory between central Asturias in North Spain and the French Basque Country. This geoseries consists of several plant communities that grow on three distinct environments: riverbed, riverbank and floodplain, with alder forests (*Alnus glutinosa*) associated to the riverbank and river bar plant communities associated to the riverbed being the most widespread ones. Regarding alien plants, some species strongly associated to riparian habitats are commonly found across the study area, such as *Fallopia japonica*, *Crocossia x crocosmiiflora* and *Cyperus eragrostis* (Liendo & *al.*, 2015).

Results and Discussion

Aucuba japonica Thunb. (Garryaceae)

Gipuzkoa: Hernani, Ereñozu, Urumea stream, 30TWN8589, riparian forest, 16 m, 24-IX-2013, I. Biurrun & D. Liendo, BIO 50909.

Aucuba japonica is a perennial dioecious shrub native to East Asia (China and Japan) which is widely used as ornamental in warm zones of Western Europe and the USA. This shade-tolerant species is valued for its ability to thrive in the most difficult garden environments and numerous cultivars have been obtained. The only previous references of this species in the Basque Country are two herbarium sheets collected in gardens and parks of Vitoria-Gasteiz (Álava, VIT 17944 and VIT 18000). Consequently, our Gipuzkoa locality represents the first record of this species as escaped from cultivation in the Basque Country.

Calamagrostis arundinacea (L.) Roth (Poaceae)

Cantabria: Molledo, Silió, Erecia stream, 30TVN1777, disturbed alder forest, 273 m, 31-VII-2013, D. Liendo & M. Solís, BIO 50828; Valle de Villaverde, Agüera stream, 30TVN7886, 222 m, alder forest, 22-IX-2011, I. Biurrun & D. Liendo, BIO 50554.

Indicator species of the *Calamagrostion arundinaceae* alliance, which is the only alliance of the *Calamagrostietalia villosae* order in Spain. This alliance includes acidophilic

megaforb communities with a high grass diversity that grow in supra-oro-temperate areas of the Pyrenees (Rivas-Martínez, 2011). Both localities included in this work are at a significant lower altitude in mesotemperate areas, as were the records from Liérganes and La Cavada included in Guinea (1953) or those from Ampuero and Soba included in Herrera (1995). Of special relevance is the reference from Silió as it would extend westward the known distribution of the species in the Cantabrian Mountains. It would also indicate that this taxon is probably present at higher elevations in the mountains of the water divide between the Saja-Besaya and the Ebro river basins. The nearest known populations are located in the upper Pas river basin some kilometres eastwards (Aedo & *al.*, 1987; Herrera & *al.*, 1990).

Carex strigosa Huds. (Cyperaceae)

Cantabria: Valdáliga, Bustriguado, Bustriguado stream, 30TUN9095, alder forest, 105 m, 02-VII-2013, D. Liendo, M. Solís & H. Penna, BIO 50695.

This sedge is found in much of Europe, the Caucasus and northern Iran (Laskurain & *al.*, 2003) but it is a very rare plant in the Iberian Peninsula. It is characteristic of the *Alnion incanae* alliance (Rivas-Martínez, 2011), though we report it from a Cantabrian alder forest of the *Hyperico androsaemi-Alnetum glutinosae* association included in the *Hyperico-Alnion* alliance (Biurrun & *al.*, 2016). Aizpuru & *al.* (2001) reported this species for the first time in the Iberian Peninsula from a mixed-alder forest in Usurbil (Gipuzkoa), which resulted in this taxon being included in the Atlas and Red Book of the Threatened Vascular Flora of Spain (Laskurain & *al.*, 2003) as a critically endangered species. Afterwards, Jiménez Mejías *et al.* (2007) provided a new locality from the Bidasoa river basin in Lesaka (Navarra) and pointed out that the localities from Asturias and Gipuzkoa reported in Allorge & Allorge (1941) were not taken into account for the Iberian Peninsula catalogue since no herbarium sheet was found. Finally, Aizpuru *et al.* (2010) included the taxon in the Red List of Vascular Flora of the Basque Country as vulnerable to extinction and provided two new localities: Beluntza (Álava) and Bergara (Gipuzkoa). According to available information, this species has not

been reported from Cantabria so far, which means that our voucher specimen from the Bustriguado stream in Valdáliga represents a new addition to the flora of this province.

***Helianthus x laetiflorus* Pers. (Asteraceae)**

Cantabria: Ampuero, Udalla, Asón stream, 30TVN6496, 32 m, river bar, 03-X-2013, *D. Liendo, M. Solís & M. Torca*, BIO 50886; **Álava:** Llodio, Anuntzibai, Altube stream, 30TWN0576, river bar, 119 m, 29-IX-2008, *I. Biurrun, I. García-Mijangos & D. García-Magro*, BIO 50844; **Gipuzkoa:** Andoain, Oria stream, 30TWN7986, 40 m, river bar, 25-IX-2013, *I. Biurrun & D. Liendo*, BIO 50882.

This North American hybrid and rhizome-forming aster is becoming increasingly widespread along Cantabrian streams. *Helianthus x laetiflorus* can be difficult to distinguish from *H. tuberosus*, though the former presents much narrower leaves and tightly appressed involucre bracts that do not surpass the tubular flowers as the latter do (Aizpuru & *al.*, 1999). It has already been cited in the Basque Country (Campos & Herrera, 1998, 1999) and Navarre (Catalán & Aizpuru, 1985; Biurrun 1999) where it shows similar ecological requirements and distribution than *H. tuberosus*, although the latter is more abundant (Campos, 2010). However, it has not been reported from Cantabria so far, implying that our reference from Ampuero would represent a new addition to the flora of this province.

***Mentha spicata* L. (Lamiaceae)**

Bizkaia: Getxo, Algorta, Gobelas stream, 30TVP9900, disturbed shore, 8 m, 29-VII-2011, *I. García-Mijangos, D. Liendo & M. Torca*, BIO 50890.

Despite being native to Europe and Asia, this species of mint is regarded as introduced in Spain (Morales, 2010). It is widely cultivated and it frequently escapes from cultivation and establishes next to walls and water courses and on road sides. There is only one previous record of this taxon from Bizkaia in Orduña (herbarium code ARAN 47417). Our reference from Getxo represents therefore the second reference for this province and is located at a considerable lower altitude in a thermotemperate area. Carlón & *al.* (2014) reported this species from a sandy car park of Pedreña (Cantabria), which to date represented the only record in a thermotemperate location of the study area.

***Muhlenbergia schreberi* J. F. Gmel. (Poaceae)**

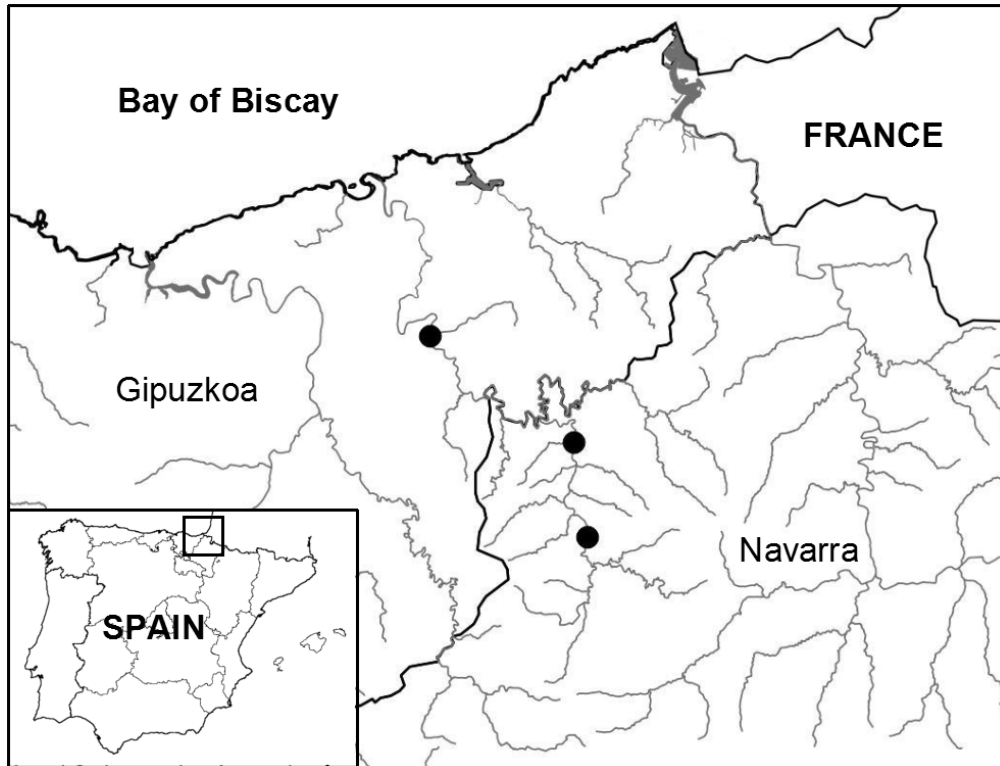
Gipuzkoa: Hernani, Ereñozu, Urumea stream, 30TWN8589, stony shore with sand accumulation, 16 m, 24-IX-2013, *I. Biurrun & D. Liendo*, BIO 50908. **Navarra:** Goizueta, Urumea stream, 30TWN9283, stony shore with sand accumulation, 139 m, 09-IX-2013, *I. Biurrun & D. Liendo*, BIO 50904; Goizueta, Urumea stream, 30TWN9378, stony shore with sand accumulation, 201 m, 24-IX-2013, *I. Biurrun & D. Liendo*, BIO 50906.

M. schreberi (nimblewill) is a stolon-forming perennial grass native to North America. In its native range it grows in moist to dry woods and prairies on rocky slopes, in ravines, and along sandy riverbanks, at elevations of 60-1600 m (Barkworth & *al.*, 2007). It is also common in disturbed sites near cultivated fields, pastures, and roads at those elevations. This species is becoming naturalised in some European countries such as Italy (Pignatti, 1982; Aeschmann & *al.*, 2004), Switzerland (Aeschmann & Burdet, 1989; Lauber & Wagner, 2001), Slovenia (Jogan, 1990) and Croatia (Jogan, 2014). In the Iberian Peninsula there is only one record for this species from Bordils (Girona) where it was found for the first time in 1932 and was collected again in 2007 in riverine plantations of *Platanus* and *Populus* (Pyke, 2008). We report three localities along the Urumea stream in Gipuzkoa and northern Navarre where the species was found growing on stony shores with some accumulation of sand (Figure 2). These populations would therefore represent the second record for the Iberian Peninsula and the first records for the Basque Country and Navarre and should be monitored in order to assess its potential invasive behaviour.

***Persicaria pensylvanica* (L.) M. Gómez (Synonym: *Polygonum pensylvanicum* L.; Polygonaceae)**

Cantabria: Ampuero, Udalla, Asón stream, 30TVN6496, riverbank, 32 m, 03-X-2013, *D. Liendo, M. Solís & M. Torca*, BIO 50887; **Bizkaia:** Basauri, Nervión stream, 30TWN0987, river bar, 38 m, 18-IX-2008, *I. García-Mijangos & M. Herrera*, BIO 50873.

In its native range, this North American neophyte thrives on the reduced competition resulting from disturbance and grows in roadside ditches, waste areas, cultivated fields,

Figure 2. Localities along the Urumea stream where *Muhlenbergia schreberi* was found

riverbanks and shores of ponds, lakes and reservoirs (Flora of North America Editorial Committee, 1993+). The presence of this species as naturalised has already been documented for the Basque Country (Patino & Valencia, 2000; Campos, 2010), where it could expand its range in ruderal and riparian habitats. In relation to the latter, it has been found mainly on river bar therophyte communities of the *Bidentifondosae-Polygonetum lapathifolii* provisional association (Campos, 2010), which are dominated by other *Persicaria* species, especially *P. lapathifolia*, *P. mitis* and *P. hydropiper*. It has not been reported from Cantabria so far, implying that our reference from a river bar community of the Asón stream in Ampuero would represent a new addition to the regional catalogue of vascular plants of this province. The recent naturalisation in the nearby Basque Country suggests that this taxon will probably expand its range in Cantabria in the coming years.

***Prunus lusitanica* L. (Rosaceae)**

Bizkaia: Busturia, Mape stream, 30TWP2301, disturbed alder forest, 40 m, 23-VII-2010, I. García-Mijangos, M. Herrera & D. Liendo, BIO 49929; Amorebieta-Etxano, Ibarra,

Ibaizabal stream, 30TWN2284, river embankment with *Platanus hispanica*, 75 m, 12-VII-2011, I. García-Mijangos, J. Loidi, D. Liendo, M. Solís & M. Torca, BIO 50688.

Diagnostic species of the *Arbuto unedonis-Laurion nobilis* alliance, which encompasses relict small-size forests with abundant lauroid species that grow on siliceous soils in hyperoceanic areas (Rivas-Martínez, 2011). This taxon is included in the Red List of Vascular Flora of the Basque Country as critically endangered in this region (Aizpuru & al., 2010), given that it is known from only five localities in the Basque Country with less than fifty individuals altogether. In Bizkaia it is known from Ranero Natural Park in Carranza (Pérez de Ana, 2004) and from the Leginetxe stream in Amorebieta-Etxano (Calleja Alarcón, 2006; Aizpuru & al., 2010). We provide two new records of this endangered species in riparian areas of Amorebieta-Etxano and Busturia municipalities.

***Pyracantha angustifolia* (Franch.) C.K. Schneid. (Rosaceae)**

Cantabria: between La Cavada and Liérganes, Miera stream, 30TVP4100, river bank, 75 m, 17-VII-2012, I. Biurrun & D. Liendo, BIO 50866.

This species of firethorn native to SW China is used as an ornamental shrub in Spain. It has been found growing in the wild in Cantabria and the Basque Country in the last decades (Aedo & *al.*, 1998) and could also become naturalised elsewhere in Spain given its widespread cultivation. Valdeolivas & Goñi (2011) include this taxon in the Flora of the Dunas de Lienres Natural Park in Cantabria but without geographical references. We provide the first georeferenced locality for this species in Cantabria as escaped from cultivation on the right margin of the Miera stream between La Cavada and Liérganes.

***Sison amomum* L.** (Apiaceae)

Cantabria: Mazcuerras, Cos, Saja stream, 30TUN9993, ash forest, 145 m, 24-VII-2012, *I. Biurrun, D. Liendo & J. Rubio*, BIO 50476.

Characteristic species of the *Galio aparines-Alliarion petiolatae* alliance, which includes medium-sized megaforb communities growing in inner forest paths on well developed soils with an input of nitrates and phosphates from human and/or livestock origin (Rivas-Martínez, 2011). Not reported from Cantabria by Flora Iberica (Aedo, 2003), Alonso Felpete & *al.* (2011) include this taxon in the Floristic Catalogue of the Picos de Europa National Park, where it is reported from one locality in Cantabria (Bejes, Cillorigo de Liébana, herbarium code JBAG 2101). Our reference from Mazcuerras adds a second record for Cantabria at a considerable lower altitude.

***Stachys palustris* L.** (Lamiaceae)

Bizkaia: Trapagaran, Granada stream, 30TVN9993, wall near the bridge, 4 m, 07-VII-2011, *I. García-Mijangos & D. Liendo*, BIO 50644; Derio, Asua stream, 30TWN0993, disturbed riverbank, 20 m, 20-VII-2011, *I. Biurrun, D. Liendo & M. Torca*, BIO 51082.

Characteristic species of the *Filipendulion ulmariae* alliance, which includes Eurosiberian and northern Mediterranean sub-nitrophilous and hygrophilous megaforb associations typical of riverbanks, meadow edges and swamps (Rivas-Martínez, 2011). Morales & Pardo de Santayana (2010) indicated that this taxon was scattered across the northern Iberian Peninsula, specifically in Asturias and Gipuzkoa. In the latter province Loidi (1983) reported this species from Endoia and Aseginolaza & *al.*

(1985) pointed out that it was scattered across some Gipuzkoan streams. In Bizkaia, Zubía (1921) reported this taxon from Urberuaga and Campos & *al.* (2004) provided a new record from the Zuloko-Ibarreta wetland in Barakaldo. The population from Urberuaga has not been found again, whilst the one from Barakaldo has been confirmed to have gone extinct following the urbanisation of the wetland where it was previously present. As a result of this, and given its limited distribution in the Basque Country, it was included in the Red List of Vascular Flora of the Basque Country (Aizpuru & *al.*, 2010) as a near threatened taxon. We provide two riparian records for Bizkaia in Trapagaran and Loiu, which prove that this species is still present in this province.

***Symphotrichum lanceolatum* (Willd.) G. L. Nesom** (Synonym: *Aster lanceolatus* Willd.; Asteraceae)

Cantabria: Guriezo, Agüera, Agüera stream, 30TVN7994, riverbank, 130 m, 29-IX-2011, *I. Biurrun & D. Liendo*, BIO 50853.

This North American aster, widely naturalised in western and central Europe, colonises roads, tips and river margins especially on nitrophilous and moist to humid soils. In Cantabria there is only one previous record of this species from Ribamontán al Mar (herbarium code MA 622465), so that our reference represents the second citation of this species and extends its distribution range eastward in the province. In Bizkaia it has been cited in two localities at relatively short distance from Guriezo: Muskiz (Campos & Herrera, 1998; herbarium voucher BIO 24523) and Arcentales (herbarium voucher VIT 92102).

***Verbena brasiliensis* Vell.** (Verbenaceae)

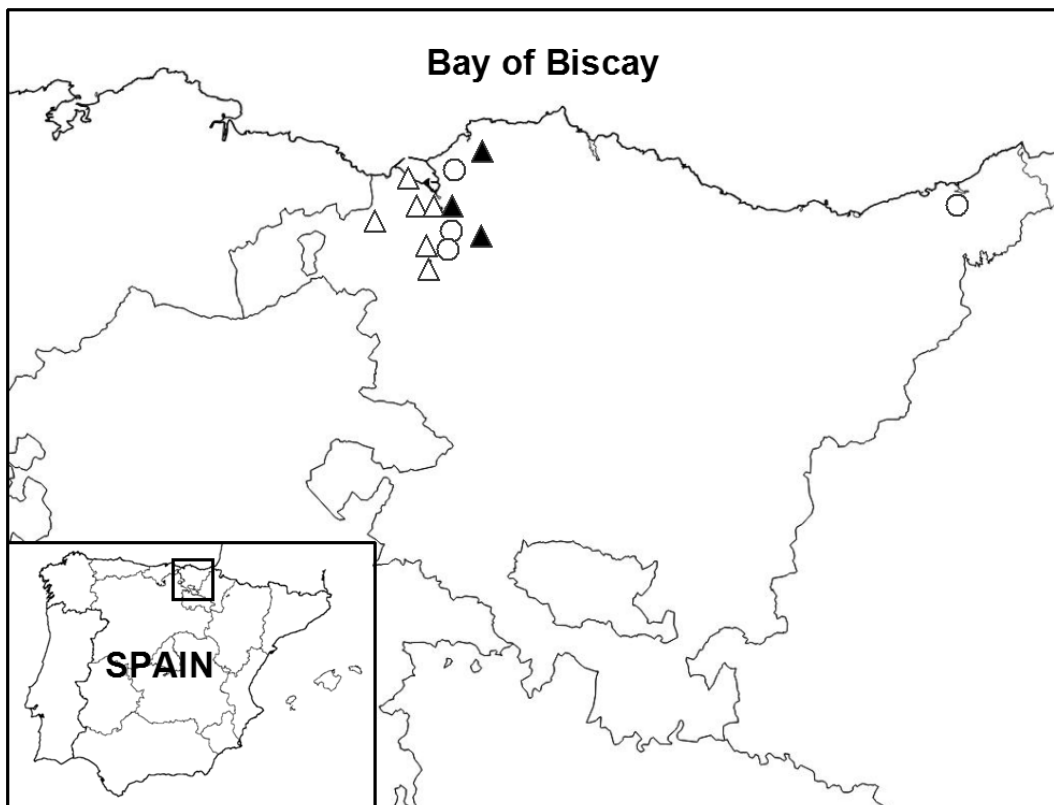
Bizkaia: Gatika, near Butrón stream, 30TWP0603, 15 m, roadside, 14-VII-2010, *I. García-Mijangos, M. Herrera & D. Liendo*, BIO 51083; Bilbao, La Peña, Nervión stream, 30TWN0688, gravel bar, 15 m, 10-X-2012, *I. Biurrun & O. Pereda*, BIO 51084; Barakaldo, behind Lasasarre stadium, 30TWN0094, barren vegetation near Nervión estuary, 5 m, 03-VII-1996, *J.A. Campos*, BIO 52085; Güeñes, Arbuio, 30TVN9987, disturbed soil near Cadagua stream, 40 m, 12-X-1995, *S. Patino*, SEST 20277; Güeñes, La Cuadra, 30TVN9785, infill soil near Cadagua stream, 50 m, 21-VI-

1996, *S. Patino*, SEST 19498; Galdames, El Cerco, 30TVN8891, disturbed soil, 125 m, 19-X-2014, *S. Patino*, SEST 22041; Sestao, 30TVN9994, disturbed soil near Ballonti stream, 5 m, 05-V-2008, *S. Patino*, SEST 19506; Trapagaran, 30TVN9499, roadside ditch, 5m, 06-VII-1993, *S. Patino*, SEST 745.93 (sub. *Verbena litoralis*); Trapagaran, 30TVN9894, roadside ditch, 10 m, 25-VI-2005, *S. Patino*, SEST 13744 (sub. *Verbena litoralis* var. *brevibracteata*).

This South American vervain is an expanding weed in some parts of Europe (Verloove, 2011). The paucity of references for this taxon may be due to the fact that individuals of *V. brasiliensis* have been identified as *V. bonariensis*, a popular ornamental vervain from South America (Campos & Herrera, 2009; Campos, 2010; Herrera & Campos, 2010; Anon., 2014). Controversy has surrounded the taxonomy and nomenclature of this taxon and related species in the last years (O'Leary & al., 2007). Verloove (2003) reported *V. brasiliensis* for the first time in the Iberian

Peninsula from several localities of Barcelona and Girona as *V. litoralis* and pointed out that those specimens collected in Catalonia belonged to var. *brasiliensis* following Munir (2002). Two years later the same author reported new localities for Barcelona again as *V. litoralis* var. *brasiliensis* (Verloove, 2005). In 2008, a new Iberian locality was reported from the province of Huelva but this time as *V. litoralis* var. *brevibracteata* (Verloove & Sánchez Gullón, 2008) following O'Leary & al. (2007). Finally, Flora Iberica (Pujadas Salvá & Plaza, 2010) included the previous references as *V. litoralis* var. *brevibracteata* and also reported this species from Bizkaia on the basis of voucher specimens from this province reviewed by Antonio Pujadas. We provide new references of this species for Bizkaia and present a distribution map including our new references and those localities of voucher specimens preserved at the SEST herbarium under different names (*V. litoralis*, *V. litoralis* var. *brevibracteata* and *V. brasiliensis*) that have not been published so far (Figure 3).

Figure 3. *Verbena brasiliensis* (triangles) and *V. incompta* (circles) in the Basque Country. Empty triangles: unpublished references from the SEST herbarium; Black triangles: records provided by the authors of the present work



Verbena incompta P.W. Michael (Verbenaceae)

Bizkaia: Getxo, Algorta, 30TWP0000, flooded nitrophilous community behind Fadura, 5 m, 25-IX-1989, *J.M. Olano*, BIO 3831 (sub. *Verbena bonariensis*); Barakaldo, Zubileta, 30TWN0190, waste ground and vegetable gardens, 20 m, 17-IX-1994, *S. Patino & J. Valencia*, SEST 1377,94 (sub. *Verbena bonariensis*); Güeñes, Arbuio, 30TVN9987, ruderal land close to Cadagua stream, 40 m, 12-X-1995, *S. Patino*, SEST 20278 (sub. *Verbena bonariensis*); **Gipuzkoa:** Donostia-San Sebastián, highway roadside next to Pasaia exit, 30TWN8795, 17-VIII-1995, *J. Elorza & J. Valencia*, 50 m, SEST 1164,95 (sub. *Verbena bonariensis*).

This species is another South American vervain that, according to Verloove (2011), has been possibly confused with *Verbena bonariensis* in southern Europe where the latter is claimed as a naturalised alien. *V. incompta* is distinguished from *V. bonariensis* by its longer inflorescence spikes, shorter and not showy corolla tubes and shorter mericarps (Verloove, 2011). Additionally, *V. bonariensis* has stipitate-glandular leaves and calyces, whilst *V. incompta* is eglandular (Nesom, 2010). Verloove (2011) provided the first, and to date the only, bibliographic references of this species in Spain from Gipuzkoa. However, reviewing voucher specimens preserved at the BIO herbarium identified as *V. bonariensis* we found an specimen collected in Algorta (Bizkaia) by J.A. Olano in 1989 that, according to our criteria and following Verloove (2011), would correspond to *V. incompta* (Figure 3). Additionally, some voucher specimens kindly

lent by SEST herbarium would also correspond to *V. incompta* (see above). This would indicate that this taxon has been present in Spain for decades, supporting the idea that this species has been largely overlooked in this country.

Veronica ponae Gouan (Scrophulariaceae)

Bizkaia: Munitibar, Lea stream, 30TWN3292, riverbank, 147 m, 11-VI-2013, *D. Liendo & M. Solís*, BIO 50757. **Gipuzkoa:** Irún, Endarlaza, Bidasoa stream, 30TXN0394, 30 m, 29-VII-20009, *I. Biurrun & M. Herrera*, BIO 50740.

This orophyte is a South Western European endemism native to the mountains of the Iberian Peninsula and the Pyrenees between 800 and 2900 m asl (Martínez Ortega & *al.*, 2009), although it can also reach lower elevations through riparian forests. Examples of the latter have been reported from Gipuzkoa and Navarre (Catalán & Aizpuru, 1985). In Bizkaia, however, its known distribution is restricted to mountainous areas such as Ordunte (Aseginolaza & *al.*, 1985) and Gorbea (Aseginolaza & *al.*, 1985; Herrera & *al.*, 1991), implying that our reference from the Lea stream in Munitibar would represent a new record at a significant lower elevation.

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