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NEW RECORDS OF INTERESTING XENOPHYTES IN THE IBERIAN PENINSULA

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ABSTRACT. *New records of interesting xenophytes in the Iberian Peninsula.* Botanical inventories in various parts of Spain mainly between 2005 and 2007 yielded numerous chorological novelties. *Cyperus prolifer* is probably reported for the first time in Europe. *Chenopodium simplex*, *Dactyloctenium aegyptium*, *Digitaria violascens*, *Eragrostis frankii*, *Ipomoea x leucantha*, *Ludwigia peploides* subsp. *montevidensis*, *Malvastrum coromandelianum*, *Melinis repens* subsp. *repens*, *Oenothera indecora* subsp. *indecora*, *Panicum philadelphicum* subsp. *gatteringeri* and *Solanum americanum* are probably recorded for the first time from Spain. *Crassula campestris* is first cited from Portugal. New provincial records include: *Abutilon grandifolium* (Barcelona), *Amaranthus palmeri* (Lérida), *Amelichloa caudata* (Valencia), *Anoda cristata* (Huelva), *Arctotheca calendula* (Gerona), *Asparagus setaceus* (Huelva), *Bidens subalternans* (Huelva), *Cardiospermum halicacabum* (Alicante), *Cenchrus incertus* (Cádiz), *Cestrum parqui* (Barcelona), *Cyperus esculentus* (Huelva), *Datura ferox* (Huelva), *Elymus elongatus* subsp. *ponticus* (Lérida, Sevilla), *Eragrostis mexicana* subsp. *virescens* (Huelva), *Eragrostis pectinacea* (Huelva), *Galinsoga quadriradiata* (Huelva), *Hydrocotyle bonariensis* (Huelva), *Leptochloa uninervia* (Granada, Huesca), *Oenothera oehlkersi* (Gerona), *Rumex cristatus* (Gerona), *Senna obtusifolia* (Huelva), *Setaria faberi* (Huelva), *S. parviflora* (Huelva), *Solanum elaeagnifolium* (Alicante), *S. linnaeanum* (Granada), *S. physalifolium* (Huelva) and *Verbena litoralis* var. *brevibracteata* (Huelva). Previous Andalusian records of *Galenia secunda* turned out to be in error for *G. pubescens*. A large majority of the cited taxa is of American origin.

Key words. New records, Xenophytes, Spain.

RESUMEN. *Nuevas citas de xenófitos interesantes en la Península Ibérica.* Diferentes campañas de herborizaciones en España entre los años 2005 -2007, han propiciado el descubrimiento de diferentes novedades corológicas para su flora. Se cita como novedad para Europa *Cyperus prolifer*. Son probablemente nuevas citas para España *Chenopodium simplex*, *Dactyloctenium aegyptium*, *Digitaria violascens*, *Eragrostis frankii*, *Ipomoea x leucantha*, *Ludwigia peploides* subsp. *montevidensis*, *Malvastrum coromandelianum*, *Melinis repens* subsp. *repens*, *Oenothera indecora* subsp. *indecora*, *Panicum philadelphicum* subsp. *gatteringeri* y *Solanum americanum*. Se cita como novedad por el Portugal *Crassula campestris*. Se incluyen como novedades provinciales: *Abutilon grandifolium* (Barcelona), *Amaranthus palmeri* (Lérida), *Amelichloa caudata* (Valencia), *Anoda cristata* (Huelva), *Arctotheca calendula* (Gerona), *Asparagus setaceus* (Huelva), *Bidens subalternans* (Huelva), *Cardiospermum halicacabum* (Alicante), *Cenchrus incertus* (Cádiz), *Cestrum parqui* (Barcelona),

Cyperus esculentus (Huelva), *Datura ferox* (Huelva), *Elymus elongatus* subsp. *ponticus* (Lérida, Sevilla), *Eragrostis mexicana* subsp. *virescens* (Huelva), *Eragrostis pectinacea* (Huelva), *Galinsoga quadriradiata* (Huelva), *Hydrocotyle bonariensis* (Huelva), *Leptochloa uninervia* (Granada, Huesca), *Oenothera oehlkersi* (Gerona), *Rumex cristatus* (Gerona), *Senna obtusifolia* (Huelva), *Setaria faberi* (Huelva), *S. parviflora* (Huelva), *Solanum elaeagnifolium* (Alicante), *S. linnaeanum* (Granada), *S. physalifolium* (Huelva) y *Verbena litoralis* var. *brevibracteata* (Huelva). Se actualiza la nomenclatura en Andalucía de las citas previas del taxón *Galenia secunda*, que se cambia por *Galenia pubescens*, su nombre correcto. Una gran mayoría de los taxones citados son de origen americano.

Palabras clave. Novedades, Xenofitos, España.

INTRODUCTION

Studies on alien plants are gaining a lot of attention worldwide since plant invasions are believed to be one of the major reasons for the decrease of biodiversity. As such, information about means and time of introduction, origin, biology, ecology, degree of naturalization is an essential tool for this purpose.

In the past decades the knowledge about non-native plants much increased in the Iberian Peninsula. Sanz Elorza *et al.* (2004) recently published a detailed account on Spanish xenophytes (emphasizing on invasive species). This catalogue provides up-to-date information on all known Spanish xenophytes and surely is a standard reference with regard to studies on non-native vascular plants in Spain.

However, as a result of ongoing intercontinental trade the number of plant introductions is still increasing today and such catalogues soon become obsolete.

In this paper we present recent records for numerous interesting non-native vascular plants. At least one species is probably reported for the first time in Europe. Several others turned out to be first recorded from either Spain or Portugal and a lot are first provincial records.

The species here dealt with are – some excepted – essentially species that have been introduced unintentionally. In a separate paper, new interesting records of non-native garden

escapes will be provided. The degree of naturalization of the taxa here concerned is variable: some are already fully naturalized or even invasive (for instance *Ludwigia peploides*), others are strictly ephemeral for the time being. Even in the latter case, they are worth mentioning since every occurrence might represent a first step towards a future naturalization.

MATERIALS AND METHODS

The here presented floristic records are mainly the result of fieldwork in the Iberian Peninsula between 2005 and 2007. However, additional records were obtained from a partial revision of critical specimens from the private herbarium of the second author. Some records therefore date back to 1997.

Voucher specimens of nearly all taxa have been collected. They are preserved in the private collections of the authors (further abbreviated respectively as priv. herb. FV and priv. herb. ESG) and duplicates have been included in the public herbaria of the National Botanic Garden of Belgium (BR), the herbarium of the University of Liège, Belgium (LG), the Real Jardín Botánico de Madrid (MA), the herbarium of the University of Malaga (MGC), the herbarium of the University of Pablo de Olavide, Sevilla (UPOS) and/or the herbarium of the University of Sevilla (SEV).

RESULTS

Beneath we present chorological novelties for the Iberian Peninsula. Once again, the prevalence of species of American origin is striking. This has been shown before in Spain, see for instance Masalles *et al.* (1996), Del Monte & Aguado (2003) and Bartoli *et al.* (2007). In table 1 the areas of origin and the xenophyte category according to Kornás (1990) are given.

Abutilon grandifolium (Willd.) Sweet *Hort. Britannicus* 1: 53 (1826) (Malvaceae)

Often misspelt as *Abutilon grandiflorum* (see for instance Sanz Elorza *et al.* 2004).

BARCELONA: El Prat de Llobregat, La Ricarda (SE-side of Aeroport de Barcelona) (UTM 31TDF2572), talus of artificial sandscape, one specimen, 15-IX-2007, *F. Verloove* 6907 (priv. herb. FV, dupl. MA 764155).

Abutilon grandifolium, a native of South America, is more or less established in the surroundings of Cádiz (Paiva & Nogueira 1993). It is fully naturalized in the Canary Islands (Hohenester & Welss, 1993). The present record near Barcelona (probably only ephemeral) apparently is the first for Catalonia (Casasayas i Fornell, 1989).

In Spain *Abutilon grandifolium* is considered to be an escape from cultivation (Paiva & Nogueira l.c.). If so, the species is surprisingly omitted by Le Huquet (1997).

Amaranthus palmeri S. Watson, *Proc. Amer. Acad. Arts* 12: 274 (1877) (Amaranthaceae)

LÉRIDA: Térmens towards Ménarguens (NE-Lérida), roadverge near Segre-river (UTM 31TBG1321), locally abundant, male and female plants, 10-IX-2007, *F. Verloove* 6941 (MA 764159).

Amaranthus palmeri, a dioecious amaranth from North America, was known in Spain from a few localities in the provinces of Barcelona and Sevilla (Carretero, 1990). In 2002 the species was recorded again in Fenals (Lloret de Mar; Verloove 2003).

In September 2007 numerous additional records came to light from the surroundings of

Lérida. In addition to the collection referred to above, *Amaranthus palmeri* has been recorded in the following localities:

VILANOVA DE LA BARCA, C13 towards Lérida, km 13-12 (UTM 31TCG0814), roadverge, one specimen, 11-IX-2007; LÉRIDA (El Cappont), Canal de Seros x N240a (UTM 31TBG0309), roadverge, one specimen, 11-IX-2007; LÉRIDA towards Alcoletge, C13 (UTM 31TCG0511), roadverge, several specimens, 11-IX-2007; ALCOLETGE, C13 x Autovia A2 (UTM 31TCG0612), roadverge, several specimens, 12-IX-2007; LÉRIDA (El Cappont), Canal de Seros close to Cepsa-service station (UTM 31TBG0309), canalbank, locally abundant, 12-IX-2007; LÉRIDA (Els Mangraners), N240 towards Les Borges Blanques (UTM 31TCG0608), roadverge, two specimens, 14-IX-2007.

The present records from Lérida suggest an ongoing naturalization of *Amaranthus palmeri* in NE-Spain.

Amelichloa caudata (Trin.) Arriaga & Barkworth, *Sida* 22(1): 148 (2006) (syn.: *Jarava caudata* (Trin.) Peñail., *Stipa caudata* Trin.) (Poaceae)

VALENCIA: Manises, valley of river Turia, Calle Juan Bta. Miquel Garcera, near airport, +/- ruderalized grass- and shrubland near riu Turia, very common locally, 11-IX-2005, *F. Verloove* 6163 (BR); idem (leg. D. Ortiz, VI-2006, *F. Verloove* 6419 (priv. herb. FV, dupl. BR, LG); Manises, neglected railway track and adjacent roadverge near airport, 2 specimens, 11-IX-2005, *F. Verloove* s.c.; GERONA: Costa Brava, Albons (S of L'Escala) (UTM 31TEG0761), grassy talus in village, 5-10 ex., 11-VI-2007, *F. Verloove* 6838 (BR).

Amelichloa is a recently described segregate of *Stipa* (Arriaga & Barkworth 2006). It includes five New World species of which three have recently been recorded as naturalized xenophytes in southern Europe (*Amelichloa ambigua* (Speg.) Arriaga & Barkworth, *A. brachychaeta* (Godr.) Arriaga & Barkworth and *A. caudata*; all as representatives of the genus *Jarava* Ruiz et Pavon, see Verloove 2005b). *Amelichloa* is distinguished by the sharp tips of its basal leaves, the presence of smooth longitudinal ribs on its

Name taxon	Origin	Category (sensu Kornás 1990)
<i>Abutilon grandifolium</i>	South America	Epocophyte/Ergasiophygophyte
<i>Amaranthus palmeri</i>	North America	Epocophyte
<i>Amelichloa caudata</i>	South America	Epocophyte
<i>Anoda cristata</i>	Central- and South America	Ephemerophyte
<i>Arctotheca calendula</i>	South Africa	Holoagriophyte
<i>Asparagus setaceus</i>	South Africa	Holoagriophyte
<i>Bidens subalternans</i>	South America	Ephemerophyte
<i>Cardiospermum halicacabum</i>	Tropics	Ephemerophyte
<i>Cenchrus spinifex</i>	Americas	Epocophyte
<i>Cestrum parqui</i>	South America	Ergasiophygophyte
<i>Chenopodium pumilio</i>	Australia	Epocophyte/Holoagriophyte
<i>Chenopodium simplex</i>	North America	Ephemerophyte
<i>Chloris truncata</i>	Australia	Epocophyte/Ephemerophyte
<i>Chloris virgata</i>	Tropics	Epocophyte
<i>Conyza bilbaoana</i>	South America	Epocophyte
<i>Crassula campestris</i>	South Africa	Epocophyte
<i>Cyperus esculentus</i>	Subtropics	Epocophyte
<i>Cyperus prolifer</i>	East Africa	Ergasiophygophyte
<i>Dactyloctenium aegyptium</i>	Old world tropics	Ephemerophyte
<i>Datura ferox</i>	East Asia	Ephemerophyte
<i>Digitaria violascens</i>	Tropics (As., Am.)	Epocophyte
<i>Elymus elongatus</i> subsp. <i>ponticus</i>	Southeastern Europe	Ergasiophygophyte
<i>Eragrostis frankii</i>	North America	Epocophyte
<i>Eragrostis mexicana</i> subsp. <i>virescens</i>	South America	Epocophyte
<i>Eragrostis pectinacea</i>	North America	Epocophyte
<i>Galenia pubescens</i>	South Africa	Epocophyte
<i>Galinsoga quadriradiata</i>	South America	Epocophyte
<i>Hydrocotyle bonariensis</i>	Americas	Ephemerophyte
<i>Ipomoea x leucantha</i>	North America	Epocophyte
<i>Leptochloa uninervia</i>	Americas	Holoagriophyte/Epocophyte
<i>Ludwigia peploides</i> subsp. <i>montevideensis</i>	South America	Holoagriophyte
<i>Malvastrum coromandelianum</i>	South America	Ephemerophyte
<i>Melinis repens</i>	Africa, Southwest Asia	Epocophyte
<i>Oenothera indecora</i>	South America	Ephemerophyte
<i>Oenothera oehlkersi</i>	Europe	Epocophyte
<i>Panicum philadelphicum</i> subsp. <i>guttingeri</i>	North America	Holoagriophyte
<i>Pteris vittata</i>	Old World tropics	Ergasiophygophyte
<i>Rumex cristatus</i>	SE-Europe, SW-Asia	Epocophyte
<i>Senna obtusifolia</i>	Americas	Ephemerophyte
<i>Setaria faberi</i>	China	Holoagriophyte
<i>Setaria parviflora</i>	South America	Epocophyte
<i>Solanum americanum</i>	Americas	Epocophyte
<i>Solanum elaeagnifolium</i>	South America	Epocophyte
<i>Solanum linnaeanum</i>	South Africa	Epocophyte
<i>Solanum physalifolium</i>	South America	Holoagriophyte
<i>Verbena litoralis</i> var. <i>brevibracteata</i>	South America	Ephemerophyte

Table 1.: Origin and xenophyte category of several new and other interesting xenophytes in the Iberian Peninsula. Taxa that are native in the Americas are presented in bold face. *Origen y categoría de algunos de los nuevos xenófitos citados en la Península Ibérica. Los taxones americanos están representados en negrita.*

caryopses, its persistent stylar base and in the frequent presence of cleistogamous panicles in the axils of its basal leaf sheaths.

Amelichloa caudata, originally native in South America, was known so far from the Spanish provinces of Zaragoza (Pyke 2003), Barcelona and Gerona (Verloove 2005b). It is a fast-spreading xenophyte likely to become a noxious environmental weed. The present records from Valencia (a new provincial record) and Gerona confirm the species' spread in northeastern Spain.

Anoda cristata (L.) Schlecht., *Linnaea* 11: 210 (1837) (Malvaceae)

HUELVA: Huelva, carretera N442, circunvalación de Huelva-Mazagón (UTM 29SPB2183), ruderal en arcenes de la carretera, 4-1-2007, E. Sánchez Gullón 77 (priv. herb. ESG, dupl. SEV 220613, MGC 67050, MA 762673, BR).

Anoda cristata originates in Mexico and Central-America. In Europe it has been recorded as a regular but ephemeral grain alien, especially as a contaminant in soybeans (see for instance Verloove & Vandenberghe, 1994). Paiva (1993) did not include *Anoda cristata* in his treatment of Malvaceae for Flora Iberica. However, Díaz Vargas *et al.* (1991, sub *Anoda hastata* Cav.) already provided a record from Malaga province, apparently the first Spanish record. The present record probably is the first in Huelva province. *Anoda cristata* behaves like an ephemeral alien.

Arctotheca calendula (L.) Levyns, *Journ. South Afr. Bot.* 8: 284 (1942) (Asteraceae)

GERONA: L'Escala, Montgó (Costa Brava) (UTM 31TEG1462), ruderal sandy area near campsite, few specimens, 11-VI-2007, F. Verloove 6793 (BR).

The South African *Arctotheca calendula* has become an undesirable environmental weed in parts of the Iberian Peninsula. Especially in parts of Andalucía it penetrates in valuable and vulnerable coastal dunes (Dana & al. 2005). Elsewhere in Spain, *Arctotheca calendula* was able to become naturalized in various localities, chiefly in the northern provinces (Sanz Elorza *et al.* 2004).

Along the Mediterranean coast, *Arctotheca*

calendula appears to be much rarer. In Catalonia it was probably not reported prior to 1976 (Sierra i Ràfols, 1979) and up to present it is only known from scattered records in the provinces of Barcelona and Tarragona. In 2007 a small population was seen, apparently for the first time, in the province of Gerona. In this area of Spain, *Arctotheca calendula* seems to be much less invasive than in Andalucía.

Asparagus setaceus (Kunth) Jessop, *Bothalia* 9: 51 (1966) (syn.: *A. plumosus* Baker) (Asparagaceae)

HUELVA: Isla Cristina, Monte Dunas (UTM 29SPB1851), en sotobosque *Eucalyptus* spec. y *Pinus pinea*, 15-IX-2006, E. Sánchez Gullón 02 (priv. herb. ESG, dupl. BR).

Asparagus setaceus, a native of South Africa, is much cultivated as an ornamental throughout the Iberian Peninsula (Cullen, 1986, Herrero-Borgoñón *et al.* 2005). It is readily dispersed by birds and has become naturalized in recent times. There are apparently no previous records from Huelva province. Dana Sánchez & Sanz Elorza (2008) recently reported about additional new records in Andalucía.

Bidens subalternans DC., *Podr.* 5: 600 (1836) (Asteraceae)

HUELVA: Huelva, carretera N442, circunvalación de Huelva-Mazagón (UTM 29SPB2383), ruderal en arcenes de la carretera, 4-XI-2007. Sánchez Gullón 83 (priv. herb. ESG, dupl. SEV 220524, BR).

Bidens subalternans is a native of South America (from southernmost Brasil to northern Argentina). It is increasingly naturalized in southern Europe (Tutin, 1976, Bolòs *et al.*, 1990, Masallés *et al.*, 1996, Serra Laliga *et al.*, 1993). In Spain *Bidens subalternans* is predominantly dispersed in Levante and the northern and northeastern provinces (Sanz Elorza *et al.* 2004). The present record from Huelva is the first Andalusian one. The species normally sets seed and is likely to become naturalized in man-made habitats.

Bidens subalternans much resembles and is often confused with *Bidens bipinnata* L. However, it has narrower leaf segments that are

more or less equally hairy throughout, outer achenes 6-8 mm, inner achenes 8-14 mm with erect awns, ca. 1-2,5 mm long at maturity (see excellent illustrations in Duvigneaud, 1975).

***Cardiospermum halicacabum* L.,**

Sp. Pl. 366 (1753) (Sapindaceae)

ALICANTE: Arenales del Sol towards Santa Pola (Gran Alacant, platja del Carabassí), roadverge, on sewage sludge near the beach, 07-IX-2005, *F. Verloove* 6088 (priv. herb. FV, dupl. BR, MA 749375).

Tropical, weedy Sapindaceae, increasingly found in southern Europe, especially in Spain. Known at least from the following provinces: Almeria (Dana *et al.* 2001), Barcelona (Casasayas i Fornell, 1982), Castellón (Aparicio Rojo & Mercé Zamora 2003), Cordoba (Moglia *et al.* 2001) and Huelva (Sánchez Gullón *et al.* 2006).

The present record from Arenales del Sol probably is the first one in the province of Alicante. Up to present, *Cardiospermum halicacabum* usually behaves like an ephemeral xenophyte.

***Cenchrus spinifex* Cav.,**

Icones 5: 38 (1799) (syn.: *C. incertus* M.A. Curtis) (Poaceae)

CÁDIZ: El Puerto Santa Maria (Fuentebravia), sandy roadverge at military base, abundant, 08-X-2007, *F. Verloove* 6993 (priv. herb.—FV).

Cenchrus spinifex, a weedy species from the southern United States and Central and South America, is known to be naturalized and locally invasive in several Spanish localities since the 1970's (Torrella *et al.*, 1974), most however concentrated along the Mediterranean coast. It was recently reported for the first time from Andalucía by Sánchez Gullón *et al.* (2006), apparently as an ephemeral alien.

Near Rota *Cenchrus spinifex* grows in abundance in a narrow, sandy strip between the military base and the road towards El Puerto Santa Maria (A491). It is accompanied by other exotics viz *Digitaria ciliaris*, *Oenothera drummondii*, *Paspalum dilatatum*,... Here, it is fully naturalized and possibly initially introduced through military activities (the military base of Rota frequently harbours American troops).

***Cestrum parqui* L'Hérit., *Stirp. Nov.* 73 (1788)**
(Solanaceae)

BARCELONA: El Prat de Llobregat, La Ricarda (SE-side of Aeroport de Barcelona) (UTM 31TDF2472), roadverge (sandy) in former seadunes, one young specimen (subspontaneous), 15-IX-2007, *F. Verloove* 6906 (MA 764153).

Cestrum parqui, a South American shrub from the Solanaceae family, is increasingly escaping in southern Europe: France (Auriault & Auriault, 1989, Verloove & Vandenberghe 2002), Italy (Conti *et al.* 2005), Portugal (Almeida & Freitas 2006). In Spain

Cestrum parqui has been reported from at least Almeria (Dana *et al.* 2001), Huelva (Sánchez Gullón & Rubio García 2002) and Valencia (Laguna Lumbreras & Mateo Sanz 2001). The present record from Barcelona province apparently is the first record in Catalonia. *Cestrum parqui* is considered to be a potentially invasive species in Spain (« planta(s) con comportamiento invasor incipiente en España ») (Sanz Elorza *et al.* 2001).

***Chenopodium pumilio* R. Br., *Prodr.* 1: 407**

(1810) (syn.: *Dysphania pumilio* (R. Br.) Mosyakin & Clemants) (Chenopodiaceae)

HUELVA: Matalascañas, Rocio Playa, campsite (UTM 29SQA9816), gravelly soil near the sea, 12-X-2007, *F. Verloove* 6934 (MA 764150).

Already cited by Uotila (1990) from Huelva province but apparently not known so far from the Natural Space Doñana (Valdés *et al.* 2007).

Chenopodium simplex* (Torrey) Raf., *Atlantic J.

1: 146 (1832) (syn.: *C. gigantospermum* Aellen, *C. hybridum* L. subsp. *gigantospermum* (Aellen) Hultén) (Chenopodiaceae)

HUELVA: Huelva, carretera N442, circunvalación de Huelva -Mazagón (UTM 29SPB2183), ruderal en arcenes de la carretera, 4-XI.2007, *E. Sánchez Gullón* 84 (priv. herb. ESG, dupl. BR, SEV 220614).

The North American *Chenopodium simplex* is here cited for the first time from Spain. It behaves like an ephemeral alien, introduced – like elsewhere in Europe (see for instance Uotila (2001) – with cereals and soybeans.

Chenopodium simplex is much reminiscent of Eurasian *C. hybridum* but has nearly smooth seeds (versus deeply pitted seeds) and a different chromosome number.

Chloris truncata R. Br., *Prodr.* 186 (1810) / ***Chloris virgata*** Sw., *Fl. Ind. Occid.* 1: 203 (1797) (Poaceae)

TARRAGONA: Cambrils, Barranc de Segures (UTM 31TCF3347), recently disturbed talus and roadverge between barranco and railway track, 10-IX-2005, *F. Verloove* 6120 (BR) and *F. Verloove* 6096 (priv. herb. FV, dupl. BR, LG, MA 749367) respectively.

These taxa, of Australian and tropical origin respectively, have been reported before from Cambrils (Vallverdú 2000, Verloove 2005a) but their initial populations were recently destroyed after infrastructural works. In 2005 both were rediscovered in the vicinity, *Chloris virgata* being predominant.

Conyza bilbaoana J. Rémy, *Fl. Chilena* 4: 76 (1849) (syn.: *C. floribunda* Kunth) (Asteraceae)

GUIPÚZCOA: Pasaia, N1 close to the harbour, roadverge, wasteland, ..., very common, 10-IX-2007, *F. Verloove* s.n. (MA 749371).

A poorly understood South American native, surprisingly neglected by Campos Prieto & Herrera Gallastegui (1997), Del Monte & Aguado (2003), Sanz Elorza *et al.* (2004) and many others. This species is widely dispersed in southwestern France (and probably the commonest representative of the genus at present; see for instance Rivière, 1988, Dauphin, 1995). Hence, its presence in neighbouring territories in the Iberian Peninsula (northern Atlantic coast) was expected. Aedo *et al.* (2001) enumerate numerous records from northwestern Spain but only one from Guipúzcoa (an old citation without herbarium collection). In fact, *Conyza bilbaoana* is a common weedy species in the Spanish-French border area.

Crassula campestris (Eckl. & Zeyh.) Endl. ex Walp., *Repert. Bot. Syst.* 2: 253 (1843) (Crassulaceae) (det. E.J. Clement)

ALGARVE (Portugal): Vilamoura (Cerro da Vila), roman site, +/- bare soil, 14-I-2007, *D.J.*

Nicolle P07/02 (BR).

Crassula campestris, a tiny South African native, was known so far from scattered localities in northeastern and central Spain (Fernandes, 1997). It was apparently not previously reported from Portugal (see also Almeida & Freitas 2006).

Cyperus esculentus L., *Sp. Pl.* 1: 45 (1753) (Cyperaceae)

HUELVA: Matalascañas, Hotel Doñana Blues (UTM 29SQA9717), weed in flowerbed, one specimen, 11-X-2007, *F. Verloove* s.c.

More or less dispersed throughout the Iberian Peninsula according to Castroviejo (2008) but not previously reported from Huelva province.

Cyperus prolifer Lamarck in J. Lamarck & J. Poiret, *Tabl. Encycl.* 1: 147 (1791) (Cyperaceae)

HUELVA: Huelva, Parque de Zafrá (UTM 29SPB2581), adventicia en márgenes de estanques, 20 -X -2007, *E. Sánchez Gullón* 94 (priv. herb. ESG, dupl. priv. herb. FV, SEV 221154, UPOS 3378, MA 762676).

Cyperus prolifer, a native of tropical East Africa, is widely cultivated for ornament (see for instance Walters *et al.*, 1984; sub *C. papyrus* L. "Nanus", *C. isocladius* Kunth). As an escape from cultivation it has been reported from the United States (Florida and California) and from the Hawaiian Islands (Carter *et al.*, 1996, Strong & Wagner, 1997). *Cyperus prolifer* has strong rhizomes and reproduces easily (chiefly clonally). As such it could become a noxious environmental weed on pond shores and in marshes in the Mediterranean area.

The present record from Huelva apparently is the first one in Europe.

Dactyloctenium aegyptium (L.) Willd., *Enum. Pl.* 2: 1029 (1809) (Poaceae)

BARCELONA: Gavámar (Gavá), S-Barcelona (UTM 31TDF1769), ruderalized, gravelly seadunes, one specimen, 20-IX-2007, *F. Verloove* 6903 (priv. herb. FV, dupl. MA 764149).

Dactyloctenium aegyptium, originally native in the Old World (sub-) tropics and at present widely distributed in the Americas as well, is not mentioned by Casasayas i Fornell

(1989), Sanz Elorza *et al.* (2004) or Almeida & Freitas (2006). The present record from Gavámar might be the first recorded from the Iberian Peninsula (ephemeral alien).

Elsewhere in the Mediterranean *Dactyloctenium aegyptium* is in expansion. It has been recorded several times in Italy, incl. Sicily (Conti *et al.* 2005, Giardina *et al.* 2007) and increasingly so in Cyprus (Meikle, 1985, Hand 2003) and Morocco (Tanji & Taleb, 1997).

***Datura ferox* L., *Demonstr. Pl.* 6 (1753)
(Solanaceae)**

HUELVA: Huelva, carretera N442, circunvalación de Huelva-Mazagón (UTM 29SPB2183), ruderal en arcenes de la carretera, 4-XI-2007, E. Sánchez Gullón 71 (priv. herb. ESG, dupl. SEV 220526, 220615, MGC 67023, MA 762677, BR).

Datura ferox, a native of eastern Asia but widely naturalized elsewhere in warm-temperate regions of the world, has been reported from various Spanish localities (Bolòs *et al.*, 1990, Díaz Vargas *et al.*, 1991, Aizpuru *et al.* 2003, Moragues & Rita 2005, Dana *et al.* 2005) but apparently not from Huelva province so far.

Datura ferox probably behaves like an ephemeral alien, introduced with cereals and soybeans.

***Digitaria violascens* Link, *Hort. Berol.* 1: 229
(1827) (Poaceae)**

LÉRIDA: Balaguer, E-bank of riu Segre (between old and new bridge) (UTM 31TCG1728), lawn, more or less ruderalized (disturbed) and damp, locally abundant, 09-IX-2007, F. Verloove 6912 (priv. herb. FV, dupl. MA 764154, BR, LG); BARCELONA: El Prat de Llobregat, Sant Cosme (UTM 31TDF2375), lawn, 15-IX-2007, F. Verloove 7014 (MA 764161); CÁDIZ: Peña del Águila (Rota towards Sanlúcar de Barrameda), along A491 close to its junction with CA6041, irrigated lawn, abundant, weedy, 09-X-2007, F. Verloove 6929 (priv. herb. FV, dupl. priv. herb. ESG, dupl. priv. herb. S. Pyke, MA 764156, BR); HUELVA: Mazagón, Parador Nacional (UTM 29SPB0998), en zonas ajardinadas, 29-XI-2007, E. Sánchez Gullón 31 (priv. herb. ESG, dupl. priv. herb. FV, SEV 222513, MA 762678, MGC 67024).

Digitaria violascens, a native of tropical Asia (and perhaps also tropical America), is reported for the first time from the Iberian Peninsula. It is doubtlessly overlooked and confused with native *Digitaria ischaemum* (Schreb.) Schreb. ex Muhl. Both are annuals with relatively small spikelets ternately arranged on the rachis and dark brown upper lemmas at maturity. Diacritic features and ecological preferences of southern European populations (France, Italy) of *Digitaria violascens* have been critically assessed recently (Verloove 2008a). *Digitaria ischaemum* and *D. violascens* are best distinguished as follows:

1. Spikelets usually at least 2 mm long, rarely shorter. Spikelets usually densely hairy (at least when young) with short, curled hairs, some hairs usually with clavate apices. Inflorescence usually subdigitate with a distinct common axis, racemes usually 2-3(-4), rarely more, spreading horizontally at anthesis (at least the lowermost). Upper glume 3-5 nerved, lower lemma 5(-7) nerved, the nerves unequidistantly spaced ***D. ischaemum***

Spikelets usually shorter than 2 mm, rarely longer (1,4-2,1 mm). Spikelets usually less hairy (even when young) with longer, straight hairs (hairs with clavate apices absent). Inflorescence usually digitate without or with an indistinct common axis, racemes usually (2-)3-7, often long remaining erect during anthesis. Upper glume 3-nerved, lower lemma (5-)7 nerved, the nerves closely and equidistantly spaced ***D. violascens***

In Spain and France *Digitaria violascens* is a weedy species confined to irrigated lawns. Native *Digitaria ischaemum* appears to be much rarer and is restricted to siliceous soils (often in habitats devoid of human interaction), or more rarely as a weed of arable land. A better understanding of *Digitaria violascens* will surely yield additional records in the Iberian Peninsula. A revision of herbarium specimens of (presumably) *Digitaria ischaemum* by Samuel Pyke confirmed the presence of *Digitaria violascens* as a lawn weed in the provinces of Barcelona, Tarragona and Zaragoza (pers. comm. 2008).

Digitaria violascens is a rather polymorphic species. With respect to spikelet-size two forms (without further taxonomic recognition) are distinguished: a small-spikeleted form with

spikelets ca. 1,3-1,5 mm long and a large-spikeleted form (including the type) with spikelets ca. 1,8-2,1 mm long. Until recently, in southern Europe only the latter has been recorded (from France, Italy and Spain). However, the former (much more easily distinguished) was collected in the lawn of the Parador Nacional in Mazagón, associated with other (sub-) tropical lawn weeds like *Axonopus fissifolius* and *Kyllinga odorata*.

Elymus elongatus (Host) Runemark subsp. ***ponticus*** (Podp.) Melderis, *Bot. J. Linn. Soc.* 76(4): 377 (1978) (syn.: *Elymus obtusiflorus* (DC.) Conert, *Elytrigia pontica* (Podp.) Holub., *Lophopyrum ponticum* (Podp.) A. Löve, *Thinopyrum ponticum* (Podp.) Barkworth et Dewey, *Triticum obtusiflorum* DC.) (Poaceae)

LÉRIDA: Albatàrrec towards Lérida, C13 (la Bordeta – els Mangraners) (UTM 31TCG0207 and 31TCG0308), roadverge, very common (sown and escaping), 12-IX-2007, *F. Verloove* s.c.; SEVILLA: Santiponce (N-Sevilla), drive-in motorway, roadverge, locally (sown and escaping), 14-X-2007, *F. Verloove* s.c.

Elymus elongatus subsp. *ponticus*, a native of SE-Europe and adjacent Asia, is increasingly sown for off-ramp stabilization, especially in Central-Europe (see for instance Nowack 2007 for a recent overview). It is usually very persistent and often escapes. In the Iberian Peninsula *Elymus elongatus* subsp. *ponticus* apparently is a recent newcomer: Vázquez (1999) was the first to report about its discovery in newly sown roadverges in Badajoz province. The present records are probably the first ones for the provinces of Lérida and Sevilla.

This taxon is possibly much more widespread and perhaps overlooked. It is nicely depicted by Vázquez l.c. and characterized by its tall, densely caespitose habit (easily reaching 150 cm) and spikelets being shorter than the lowermost inflorescence internodes (spikelets not overlapping at base of the inflorescence).

Eragrostis frankii C.A. Mey. ex Steud., *Syn. Pl. Glumac.* 1: 273 (1854) (Poaceae) (det. conf. H. Scholz)

HUELVA: Moguer, Las Madres (UTM

29SPB1490), arvense en cultivos de regadío, 25-I-1999, *E. Sánchez Gullón* 59 (priv. herb. ESG, dupl. priv. herb. FV); Moguer – Palos de la Frontera, Parque Natural Laguna de las Madres (UTM 29SPB1490), arvense en cultivos de riego, 6-I-2008, *E. Sánchez Gullón* 105 (priv. herb. ESG, dupl. BR); idem, 8-I-2008, *E. Sánchez Gullón* 97, 98, 99 & 100 (priv. herb. ESG, dupl. priv. herb. FV, BR, LG, MA).

Eragrostis frankii, a North American native, is closely related with *E. pectinacea* and *E. pilosa* (Koch, 1972). However, it is readily distinguished in having small spikelets (1,7-5,6 mm long) with few florets (3-6; 4 on average in the collections from Huelva) and a more or less rhombic inflorescence with longest branches in the middle of the inflorescence (not pyramidal). In France *Eragrostis frankii* has been confused with *E. virescens* as well (Portal 2002). The caryopsis of *Eragrostis frankii* however lacks the deep ventral groove that is typical of *E. virescens*. Moreover, spikelets of *Eragrostis frankii* are opaque and lead-coloured while they are more or less hyaline and yellowish-green in *E. virescens*.

In Europe, *Eragrostis frankii* seems to be in expansion. It was first recorded from Slovenia (former Yugoslavia) and Italy by Melzer (1988) and has subsequently spread to neighbouring regions. *Eragrostis frankii* recently also reached southern Germany (Scholz & Ristow 2005) and might have been overlooked elsewhere. *Eragrostis frankii* is here reported for the first time in the Iberian Peninsula. It is known at least since 1999 as a weed of arable land (strawberries, citrus-orchards,...) but remained unidentified so far. By now, it is locally fully naturalized and very abundant.

Eragrostis mexicana (Hornem.) Link, *Hort. Berol.* 1: 190 (1827) subsp. ***virescens*** (J. Presl) S.D. Koch & Sánchez Vega, *Phytologia* 58(6): 380 (1985) (Poaceae)

HUELVA: Mazagón, close to the lighthouse (UTM 29SPB9312), plantations, common weed, 10-X-2007, *F. Verloove* 6937 (MA 764141); Huelva, en aceras c/Pablo Rada (UTM 29SPB2582), 03-III-2008, *E. Sánchez Gullón* (SEV 222514, dupl. MGC 67026); Isla Christina (Huelva) (UTM 29SPB2052), 8-XII-2007, *E. Sánchez Gullón* (SEV s.n., MGC 67020); Estero

Domingo Rubio (UTM 29SPB2088), 15-VI-1999, *E. Sánchez Gullón* (MGC 67035).

The South American *Eragrostis mexicana* subsp. *virescens* has much extended its distribution range in parts of southern Europe in the past decades. However, up to present, it was not yet recorded from Huelva province. Its actual abundance – at least in some of its localities – suggests that it probably has been overlooked so far.

Eragrostis pectinacea (Michx.) Nees, *Fl. Afr. Austr. Ill.*: 406 (1841) (Poaceae)

HUELVA: Matalascañas, in front of Hotel Doñana Blues (UTM 29SQA9717), sandy ruderalized places (plantations, garden weed,...), very common locally, 11-X-2007, *F. Verloove* 6994 (priv. herb. FV, dupl. MA 764160); Matalascañas, Rocio Playa (UTM 29SQA9816), campsite, sandy and gravelly places near the sea, locally abundant, 11-X-2007, *F. Verloove* s.c.; Matalascañas (UTM 29SQA9717), ruderal aceras y jardines, 6-I-2008, *E. Sánchez Gullón* (priv. herb. ESG, dupl. MA 762679, SEV 222515, MGC 67034).

Eragrostis pectinacea is originally native in North America but nowadays naturalized in Central and South America and parts of Asia and Europe. In Europe

Eragrostis pectinacea is long naturalized and expanding in France and Italy and an ephemeral alien in many other countries (cf. Portal 2002). Apparently very rare and insufficiently known in Spain (mentioned, without further information, by Portal l.c., Sanz Elorza *et al.* 2004). Recently reported from Zaragoza by Mateo Sanz & Pyke (1998) and also known from País Vasco (Aizpuru *et al.* 2003).

Unknown so far from Andalucía (Dana *et al.* 2005). In Matalascañas well established and possibly overlooked. *Eragrostis pectinacea* resembles somehow *E. virescens*. In the latter species grains have a ventral groove that is lacking in *E. pectinacea*.

Galenia pubescens (Ecklon & Zeyher) Druce, *Rep. Bot. Soc. Exch. Club Brit. Isles*4(suppl. 2): 624 (1917) (Aizoaceae)

HUELVA: Huelva, Paraje Natural Marismas del Odiel (UTM 29SPB1684), cuneta carretera

espigón, s.d., *E. Sánchez Gullón* 86 (priv. herb. ESG, dupl. BR); CÁDIZ: Cádiz, at the entrance of the old town, gravelly ruderalized soil near the beach, locally abundant, 08-X-2007, *F. Verloove* 6932 (priv. herb. FV, dupl. BR, MA 764157).

The collections of the *Galenia*-species currently naturalized in Andalucía, known as *G. secunda* (L. f.) Sonder in Harvey & Sonder (see for instance Castroviejo, 1990, Sánchez Gullón & Rubio García, 1999), have recently been revised by Leuenberger & Egli (2002). They belong in fact to a closely related taxon, *Galenia pubescens*. The latter is characterized by leaves and stems grey-green (vs. grey-white), sparsely and closely appressed hairy with hairs c. 0,5-0,7 mm (vs. loosely appressed hairy with hairs to 1-2 mm) and flowers white to pink (vs. flowers white to yellow) (see also Verloove 2008b).

The identity of the populations of *Galenia* from Asturias (prov. Oviedo; see Castroviejo, 1990) is also in need of revision.

Galinsoga quadriradiata Ruiz & Pav., *Syst. Veg. Fl. Peruv. Chil.* 1: 198 (1798) (syn.: *G. ciliata* (Raf.) S.F. Blake) (Asteraceae)

HUELVA: Cartaya, Camino del Garranchal (UTM 29SPB2565), arvense en cultivos de regadío, 7-XI -2007, *E. Sánchez Gullón* 33 (priv. herb. ESG, dupl. SEV 220616, BR); Aljaraque (UTM 29SPB2675), viveros, 6-XII-2007, *E. Sánchez Gullón* 95 (priv. herb. ESG, dupl. MA 762680, MGC 67033).

Galinsoga quadriradiata is a South American xenophyte, naturalized in various parts of Spain (Uribe-Echebarria 2003, Krause & González-Garzo, 1993, Bujan *et al.*, 1999, Bolòs *et al.*, 1999). Dana *et al.* (2005) did not mention yet *Galinsoga quadriradiata* in their catalogue of Andalusian xenophytes. However, Salazar Mendías *et al.* (2000) already reported about its first discovery in Andalucía (Granada). The present records from Huelva province are the first from Western Andalucía. *Galinsoga quadriradiata* is a weedy species of arable land, orchards, disturbed soils and other anthropogenous habitats.

Hydrocotyle bonariensis Lam., *Encycl. Méth. Bot.* 3: 153 (1789) (Apiaceae)

HUELVA: Aljaraque (UTM 29SPB2675), ruderal en arcenes de la carretera en taludes

irrigados, 4-X -2007, *E. Sánchez Gullón* 90 (priv. herb. ESG, dupl. priv. herb. FV, SEV 219916, MA 762681, MGC 67031).

Hydrocotyle bonariensis is an aquatic, American xenophyte, naturalized in the northwestern part of the Iberian Peninsula (Amaral Franco, 1971, Medina 2003). The present record from Huelva province is the first for Andalucía. *Hydrocotyle bonariensis* has the potential to spread fast (stoloniferous growth) and could become an environmental weed.

Ipomoea x leucantha Jacq., *Icon. Rar.* 2: t. 318 (1788) (Convolvulaceae) (syn.: *I. lacunosa* f. *purpurea* Fernald; = *I. cordatotriloba* Dennst. x *I. lacunosa* L.) (det. conf. D.F. Austin)

HUELVA: Huelva, carretera N442, circunvalación de Huelva-Mazagón (UTM 29SPB2684), ruderal en arceles de la carretera, 4 y 16-XI -2007, *E. Sánchez Gullón* 78 (priv. herb. ESG, dupl. priv. herb. FV, SEV 220617, 220618, MGC 67030, MA 762682).

Ipomoea x leucantha is a little known taxon from the *Ipomoea batatas*-complex (Austin, 1978). This is a taxonomically difficult group in which introgression often takes place. As a result, specific boundaries have become obscure and identification is sometimes critical. This taxon is a putative hybrid of *Ipomoea cordatotriloba* (syn.: *I. trichocarpa* Elliott) and *I. lacunosa*. Both are originally native in the U.S.A. but have spread in Central and South America. *Ipomoea x leucantha* itself is known from Brazil, Ecuador, Mexico, Guatemala, Honduras, Colombia, Venezuela, Hawaii and the Philippines; see Austin, 1978, Austin & Huáman, 1996) and spreads without its parents. It is a reputed weed and hence likely to occur as an alien outside its original distribution range.

From the *Ipomoea batatas*-complex at least two species have recently been reported from the Iberian Peninsula: *Ipomoea batatas* and *I. triloba* (Silvestre 2004, Guillot Ortiz 2006). The former is rather easily distinguished with its conspicuous corolla (40-70 mm long), non-twining, fleshy stems and the presence of subterranean tubers. However, *Ipomoea triloba* is much reminiscent of *I. x leucantha* and might be confused. Both are distinguished in the following couplet:

1. Sepals (8-)10-13 mm long, long acuminate at apex. Capsule 7-8 mm in diameter. Seed ca. 3,6 mm long. Corolla 15-35 mm long.....

..... ***I. x leucantha***
Sepals 7-8(-10) mm long, ovate with abruptly caudate apex. Capsule 5-6 mm in diameter. Seeds ca. 2,8 mm long. Corolla 18-20 mm long
..... ***I. triloba***

The plant here concerned recently occurred at several places in the surroundings of Huelva. It is fast spreading and fully naturalized along ruderalized roadverges, especially in port-areas. They probably represent the first naturalized populations in Europe. As a casual alien (often introduced with American soybeans), *Ipomoea x leucantha* has been recorded in Belgium (Verloove 2006).

Leptochloa uninervia (J. Presl) Hitchc. & Chase,
Contr. U.S. Natl. Herb. 18(7): 383 (1917)
(syn.: *Diplachne uninervia* (J. Presl) Parodi)
(Poaceae)

GRANADA: Salobreña, La Caleta, sugar cane field (irrigated), sea level, locally abundant, 19-IX-2004, *F. Verloove* 5829 (priv. herb. FV); Salobreña, E of Barranco del Cambrón, roadverge, locally, +/- 50 specimens, 19-IX-2004, *F. Verloove* 5835 (priv. herb. FV, dupl. BR, MA); LÉRIDA: Lérida, river Segre south of the city, muddy riverbank, 10-IX-2007, *F. Verloove* 7050 (BR, MA 764163); Aitona, NW of the city, rice fields, 10-IX-2007, *F. Verloove* 7052 (BR, MA 764162); HUESCA: Fraga, right bank of river Cinca, riverbank, few specimens, 13-IX-2007, *F. Verloove* 7026 (BR); SEVILLA: Santiponce (N-Sevilla), along N630 at drive-out Santiponce, gravelly roadverge, locally abundant, 14-X-2007, *F. Verloove* 7024 (BR); HUELVA: Palos de la Frontera – Moguer, Parque Natural Laguna de las Madres (UTM 29SPB1390), arvense en cultivos de riego, 8-I-2008, *E. Sánchez Gullón* 101 (priv. herb. ESG, dupl. BR, MGC 67028).

Leptochloa uninervia, a noxious weed of American origin, was first recorded in Spain in 1985 (maize fields in the Pla d'Urgell-area, province of Lérida; Mayoral, 1991). In the following years, the species appeared in several new localities and habitats in the same province and its future expansion was predictable (cf. Recasens & Conesa, 1995). In southern Spain

Leptochloa uninervia was discovered in 1988 by Peinado *et al.* (1990) in the provinces of Sevilla and Cordoba. Subsequently, Del Monte & Curt (2002) in their account on the presence of the genus *Leptochloa* in Spain, add the species for the province of Badajoz. In Spain the species inhabits a wide range of habitats: agricultural fields (rice, sugar cane, maize,...), roadverges, riverbanks,...

The above records are probably the first for the provinces of Granada and Huesca and confirm the species' naturalization in the surroundings of Lérida. As a matter of fact, *Leptochloa* is considered to be a problematic weed in the latter area (comm. J. Recasens & J. Conesa) but the populations have erroneously been ascribed to *L. fascicularis*. Both species are indeed closely related and perhaps mere infraspecific taxa of one variable taxon, *Leptochloa fusca* (L.) Kunth (respectively subsp. *uninervia* (J. Presl) N. Snow and subsp. *fascicularis* (Lam.) N. Snow; see Snow, 1998). The Spanish collections here concerned (see above) are characterized by uppermost leafblades exceeded by the panicles, mature lemmas lead-coloured and unawned,... and are unequivocally ascribable to *Leptochloa uninervia*. *Leptochloa uninervia* is here confirmed from Huelva province as well. Up to present there was still some doubt about the exact identity of the representatives of this genus in Huelva (see for instance Valdés *et al.* 2007).

Ludwigia peploides (Kunth) P.H. Raven subsp. ***montevidensis*** (Spreng.) P.H. Raven, Reinwardtia 6: 395 (1963) (Onagraceae)
BARCELONA: El Prat de Llobregat, right bank of river Llobregat (UTM 31TDF2575), muddy river bank, 15-IX-2007, F. Verloove 6901 (MA 764151); GERONA: La Selva de Mar (Costa Brava), ruisseau à proximité de la plage du village, 31-VIII-1956, J. Duvigneaud s.n. (BR, LG; sub *Jussieua repens* L. subsp. *grandiflora* Michx.).

Nieto Feliner (2000) cites three species of *Ludwigia* in Spain: native *L. palustris* (L.) Elliott and the xenophytes *L. grandiflora* (Michx.) Greuter et Burdet and *L. repens* J.R. Forst. *Ludwigia palustris* and *L. repens*, both with opposite leaves and without or with very tiny petals, are easily distinguished. Under the name

“*Ludwigia grandiflora*” however, two different taxa might have been intermixed in Spain up to present: “true” *Ludwigia grandiflora* and *L. peploides*. Both are distinguished in the following couplet:

1. Flowering stems and pedicels with patent hairs 1-2 mm long. Petals (12-)15-23 mm long. Sepals (persistent on the fruit) up to 18 mm long. Leaves on flowering stems lanceolate to obovate-lanceolate, dull, 4-12 cm long ***L. grandiflora***
- Flowering stems and pedicels with patent hairs 0,5-1 mm long. Petals 10-18 mm long. Sepals (persistent on the fruit) up to 10 mm long. Leaves on flowering stems obovate-oblong to broadly elliptical-oblong, shiny, 3-6 cm long ***L. peploides*** subsp. ***montevidensis***

Ludwigia peploides subsp. *montevidensis* has been recorded at various localities along river El Llobregat: l'Hospitalet de Llobregat, Sant Boi de Llobregat and Prat de Llobregat and appears to be well naturalized. It is here cited for the first time from Spain but an old record from La Selva de Mar (see above) suggests that *Ludwigia peploides* probably has been confused with *L. grandiflora* up to present. The latter was given from Alicante, Barcelona, Gerona, Tarragona and Valencia provinces by Nieto Feliner l.c., the two present records of *L. peploides* fall within the same distribution range.

The recognition of *Ludwigia peploides* subsp. *montevidensis* is important since it is a noxious aquatic weed in riverine vulnerable habitats in southern Europe. Its control and eradication is very time-consuming and expensive (...).

Malvastrum coromandelianum (L.) Garcke, Bonplandia 5: 295 (1857) (Malvaceae)
HUELVA: Huelva, carretera N442, circunvalación de Huelva -Mazagón (UTM 29SPB1884), ruderal en arcenes de la carretera, 16 -XI -2007, E. Sánchez Gullón 72 (priv. herb. ESG, dupl. priv. herb. FV, SEV 220620, MGC 67026, MA 762684).

Malvastrum coromandelianum has become a pantropical weed but is probably originally native in tropical America (Hill, 1982). In Europe it is still rare and perhaps only naturalized in Macaronesia (Hansen & Sunding, 1985, Greuter

et al., 1989). It furthermore occurs as a rare ephemeral alien, often associated with birdseed and other grains, for instance in Belgium (Verloove, 1998). Apparently not previously recorded from the Iberian Peninsula (Paiva, 1993). *Malvastrum coromandelianum* probably is an ephemeral alien, introduced with cereals in the port-area of Huelva.

This species much resembles *Sida spinosa* in general appearance. However, *Malvastrum coromandelianum* is readily distinguished by the presence of an epicalyx that is lacking in *Sida spinosa*.

Melinis repens (Willd.) Zizka subsp. ***repens***, *Biblioth. Bot.* 138: 55 (1988) (syn.: *Rhynchelytrum repens* (Willd.) C.E. Hubbard, *R. roseum* (Nees) Stapf & C.E. Hubbard, *Tricholaena rosea* Nees) (Poaceae)

MÁLAGA: Viñuela, Embalse de la Viñuela, A335 towards Vélez Málaga, gravelly roadverge, locally abundant in this area, origin obscure, 15-X-2007, *F. Verloove* 6933 (priv. herb. FV, dupl. BR, MA 764158).

Melinis repens subsp. *repens* is originally native in large parts of (sub-) tropical and southern Africa and southwest Asia (Zizka, 1988). It became widely established throughout the subtropics, for instance in the southern portion of North America (Wipff 2003) and in Australia (Jacobs & McClay, 1993). *Melinis repens* subsp. *repens* is locally naturalized in Tenerife (Canary Islands; Afonso Lopez & Wildpret de la Torre, 1976, Scholz, 1977) and often confused with native *Tricholaena teneriffae* (L. fil.) Link.

In the surroundings of Viñuela and Vélez Málaga *Melinis repens* subsp. *repens* is locally very well established along the A335. It often grows in extreme abundance in dry, gravelly roadverges over a distance of 15-20 km. It is probably the first case of naturalization in continental Europe (it has been recorded as an ephemeral wool-alien elsewhere in Europe, for instance in Great Britain; Ryves *et al.*, 1996).

The origin of this population remains obscure. At first sight and in view of its growing conditions (nearly monospecific stands in roadverges), an introduction on purpose for roadside stabilization sounds reasonable. *Melinis*

repens subsp. *repens* however is an annual (or very short-lived perennial) and hence inappropriate for erosion control or reclamation. On account of its beautiful, colourful inflorescence *Melinis repens* subsp. *repens* is sometimes cultivated for ornament (Walters *et al.*, 1984). North American populations are usually considered to be garden-escapes (Wipff l.c.). It finally is a weedy species, usually confined to anthropogenic habitats (in its area of origin as well as in its secondary area) and thus an accidental introduction is not unlikely as well.

Oenothera indecora Cambess. subsp. ***indecora***, *Fl. Bras. Merid.* 2: 268 (1830) (Onagraceae) (det. conf. W. Dietrich)

BARCELONA: Castelldefels, Gavámar towards Gavá (UTM 31TDF1769), sandy recently sown roadverge, 12-IX-2005, *F. Verloove* 6097 (priv. herb. FV, dupl. BR, MA 749363).

Oenothera indecora, native in South America (essentially in Brazil, Uruguay, Argentina and Paraguay), belongs to the subsection Munzia. In the Iberian Peninsula this group is represented by *Oenothera affinis*, *O. indecora*, *O. longiflora* and *O. stricta* (Dietrich 2000). Up to present, *Oenothera indecora* was only reported from Portugal where it is naturalized in Estremadura (Rostanski, 1991, Dietrich l.c.). Surprisingly, Rostanski l.c. cites subsp. *bonariensis* as well as subsp. *indecora* (the former being prevalent), whereas Dietrich l.c. only cites subsp. *bonariensis*. The subspecies are readily distinguished: specimens of subsp. *bonariensis* are glabrous to the naked eye whereas subsp. *indecora* is densely pubescent (Dietrich, 1977).

The present record from the surroundings of Barcelona appears to be the first for Spain and perhaps even the first confirmed record of subsp. *indecora* for the Iberian Peninsula. Plants were characterized by remarkably oblique stems and small pale yellow, usually cleistogamous flowers (petals ca. 6 mm).

Oenothera indecora subsp. *indecora* is an ephemeral alien in Gavámar: the species apparently disappeared soon after its discovery. However, it is obviously in expansion elsewhere in the Mediterranean region: Raus (2006) recently reports about several Greek records (not

previously mentioned from Greece).

Oenothera oehlkersii Kappus ex Rosta Dski, *Feddes Repert.* 96: 9 (1985) (Onagraceae) (det. conf. K. Rostanski)

GERONA: Besalu, river Fluvia (near Olot) (UTM 31TDG7572), riverbank, 18-VI-2007, *F. Verloove* 6791 (MA 764164).

Oenothera oehlkersii, possibly a hybrid of *O. glazioviana* and *O. suaveolens*, is insufficiently known in Spain. Dietrich (2000) cites records from Barcelona and Orense provinces. In fact, it closely resembles *Oenothera glazioviana* (large petals, style conspicuously longer than anthers,...) but sepals and stems are entirely greenish (not striate with red and/or red-punctate).

In Besalu *Oenothera oehlkersii* was found in relative abundance, along with *O. glazioviana*. To our knowledge, it is the first record in the province of Gerona.

Panicum philadelphicum Bernh. ex Trin. subsp. *gattingeri* (Nash) Freckmann & Lelong, *Sida* 20(1): 172 (2002) (syn.: *Panicum gattingeri* Nash) (Poaceae)

LÉRIDA: Balaguer, right bank of river Segre, near the old bridge (UTM 31TCG1729), muddy, stony riverbank, 04-IX-2005, *F. Verloove* 6086 (priv. herb. FV, dupl. BR, LG, MA 749369); Balaguer, left bank of river Segre, close to the new bridge (UTM 31TCG1728), stony riverbank, few specimens, 09-IX-2007, *F. Verloove* 6916 (BR).

Some specimens of this North American taxon were found on the muddy bank of the Segre river, accompanied by other remarkable xenophytes of various origin (*Cyperus glomeratus*, *C. odoratus*, *Panicum capillare*, *P. dichotomiflorum*,...). In Europe this taxon is chiefly distributed in the Italian-Slovenian boundary area where it is known since the 1980's (see for instance Melzer, 1985), primarily as a maize-field weed. Subsequently *Panicum philadelphicum* subsp. *gattingeri* has spread to neighbouring countries. Up to present, it was not known from the Iberian Peninsula but it might have been confused with the similar American species, *Panicum capillare*. Both share a very diffuse panicle and hairy leaf sheaths but they

are easily separated as follows:

1. Panicle usually more than Ω the total height of the plant. Spikelets usually 2,5-3,5 mm long, sometimes longer ***P. capillare***

Panicle usually (much) less than Ω the total height of the plant. Spikelets always smaller, usually 1,9-2,4 mm long ***P. philadelphicum*** subsp. *gattingeri*

Panicum philadelphicum subsp. *gattingeri* should be looked for elsewhere in the surroundings of Balaguer. Its presence can be expected in the many maize-growing areas around.

Pteris vittata L., *Sp. Pl.*: 1074 (1753) (Pteridaceae)

BARCELONA: Gavámar (Gavá), S-Barcelona (UTM 31TDF1869), NE-exposed old wall of garden in pinewood, one clump, 19-IX-2007, *F. Verloove* 6904 (priv. herb. FV, dupl. MA 764152).

Pteris vittata is widely distributed throughout the subtropics but perhaps only native in the Old World. According to Nogueira (1986) it is native in Spain in Andalucía, Mallorca and Levante. Further north *Pteris vittata* rarely occurs as an escape from cultivation. From the surroundings of Barcelona there is a least one previous record (Mataró; Montserrat Recoder, 1982). The present record from Gavámar, on a garden wall, should be regarded as a garden-escape as well.

Rumex cristatus DC., *Cat. Pl. Hort. Monsp.*: 139 (1813) (Polygonaceae)

GERONA: Begur (Costa Brava) (UTM 31TEG1945), ruderalized beach, 5 ex., 15-VI-2007, *F. Verloove* 6823 (priv. herb. FV, dupl. BR); Pals (Costa Brava) (UTM 31TEG1749), ruderalized beach, 5 ex., 16-VI-2007, *F. Verloove* 6824 (BR).

Rumex cristatus, a native of southeastern Europe and adjacent Asia, is a fast spreading xenophyte elsewhere in Europe. In Spain López (1987) was the first to cite *Rumex cristatus* ("en franca expansión, en gran parte del centro de la Península Ibérica"). Subsequently, it was able to further extend its distribution area and a recent

overview was provided by Quesada *et al.* (2007). The records above apparently represent the first ones for the province of Gerona and confirm the species spread in northeastern Spain (see also Pino, 1998).

Senna obtusifolia (L.) Irwin & Barneby, *Mem. New York Bot.*

Gard. 35: 252 (1982) (syn.: *Cassia obtusifolia* L.) (Caesalpiniaceae)

HUELVA: Huelva, carretera N442, circunvalación de Huelva-Mazagón (UTM 29SPB2183), ruderal en arcenes de la carretera, 4-XI-2007, *E. Sánchez Gullón* 79 (priv. herb. ESG, dupl. priv. herb. FV, SEV 220520).

Senna obtusifolia is a xenophyte, native in the New World (sub-) tropics. In Europe it is increasingly found as an impurity in soybeans (see for instance Verloove & Vandenberghe, 1993) but always remains strictly ephemeral and usually even fails to flower. In Spain *Senna obtusifolia* has been recorded once before, as an ephemeral weed of irrigated crops near Lérída (Recasens & Conesa, 1995; sub *Cassia obtusifolia*). In Huelva *Senna obtusifolia* flowers and fruits well but its presence along roadverges in port-areas is nevertheless probably ephemeral

Setaria faberi R.A.W. Herrmann, *Beitr. Biol. Pflanzen* 10(1): 51 (1910) (Poaceae)

HUELVA: Hinojales, ribera de Hinojales (UTM 29SQC0409), orilla ribera, 11-X-1997, *E. Sánchez Gullón* 44 (priv. herb. ESG, dupl. BR).

Setaria faberi is originally native in China but was probably introduced in Europe as a contaminant in cereals from its secondary distribution range in the United States (where it is considered a noxious agricultural weed). Known in the Iberian Peninsula since 1986, apparently only from the northwestern regions: Galicia (Izco & Amigo, 1986, Amigo *et al.*, 1991) and País Vasco (Campos Prieto & Herrera Gallastegui 2000). The above record seems to be the first for Huelva province.

This species is much reminiscent of *Setaria viridis* and *S. italica*. However, the combination of the following diacritic features easily distinguish it from both: long pilose leafblades, panicle nodding from the base at maturity, finely rugose upper lemma and upper glume ca. æ as

long as spikelet length. *Setaria faberi* is possibly overlooked in Spain.

Setaria parviflora (Poiret) Kerguélen, *Lejeunia* N.S. 120: 161 (1987) (Poaceae)

HUELVA: Ayamonte (UTM 29SPB2043), bordes de salinas tradicional, 21-VIII-1998, *E. Sánchez Gullón* 44 (priv. herb. ESG, dupl. BR); Lepe, Cañada de Adrian (UTM 29SPB2852), arvense en cultivos de cítricos, 12-IX-1999, *E. Sánchez Gullón* 44 (priv. herb. ESG, dupl. BR).

Setaria parviflora has become a more or less widespread South American xenophyte in large parts of the Iberian Peninsula (see for instance Almeida, 1999) but, surprisingly, not yet recorded from Huelva province. The above records have been confused with *Setaria pumila* and *S. parviflora* might have been widely overlooked. Both are indeed superficially similar but are easily distinguished in the following couplet:

1. Annual grasses. Spikelets 3-3,4 mm long.
Inflorescence rather stout ***S. pumila***

Perennial grasses. Spikelets 2-3 mm long.
Inflorescence slender ***S. parviflora***

A better understanding of *Setaria parviflora* will probably considerably enlarge its currently known distribution area in the Iberian Peninsula.

Solanum americanum Miller, *Gard. Dict.* ed. 8, n° 5 (1768) (Solanaceae)

HUELVA: Huelva, carretera Huelva – San Juan del Puerto (UTM 29SPB2283), ruderal margenes carretera, 10-XII-2007, *E. Sánchez Gullón* 88 (priv. herb. ESG, dupl. BR, SEV 222518, MA 762686, MGC 67049).

Solanum americanum, the New World counterpart of *S. nigrum*, is probably cited here for the first time in the Iberian Peninsula (although it might have been overlooked so far). Like *Anoda cristata*, *Bidens subalternans*, *Chenopodium simplex*, *Datura ferox*, *Ipomoea lacunosa*, *Malvastrum coromandelianum*, *Senna obtusifolia* and many others it was detected as a roadside-weed near port-areas in or near Huelva. Their appearance is surely associated with grain importation (especially soybeans) from the Americas since all are reputed weeds in their area of origin and grain aliens in Europe and

elsewhere.

Solanum americanum is very similar to *S. nigrum* and both are possibly confused. Its occurrence as a weed is very likely in the Iberian Peninsula. The two species are distinguished as follows:

1. Anthers usually less than 2 mm long. Corolla often suffused with purple. Sclerotic granules (stone cells) present, usually 1-4. Berry shiny, to 9 mm in diameter. Inflorescence usually an umbel *S. americanum*

Anthers usually more than 2 mm long. Corolla white. Sclerotic granules absent. Berry dull, to 12 mm in diameter. Inflorescence usually a raceme *S. nigrum*

Solanum elaeagnifolium Cav., Icon. Descr. 3: 22 (1795) (Solanaceae)

ALICANTE: Guardamar del Segura (N), La Marina, along N332, dry gravelly roadverge, one specimen, 6-IX-2005, *F. Verloove* 6109 (BR).

Solanum elaeagnifolium – of South American origin – is a fast-spreading, locally noxious environmental weed in the Mediterranean region. In the Iberian Peninsula it is still rare but more or less widely dispersed, especially in coastal areas. However, there are apparently no previous records for Alicante province.

Solanum linnaeanum Hepper & P.-M.L. Jaeger, *Kew Bull.* 41: 435 (1986) (Solanaceae)

GRANADA: Salobreña towards Almuñecar, barranco del Cambrón, dry riverbed, nitrophilous vegetation, several specimens., 19-IX-2004, *F. Verloove* 5830 (priv. herb. FV).

According to Valdés (1987) widely distributed in western Andalucía but apparently not known from Granada province (eastern Andalucía) so far.

Solanum physalifolium Rusby, *Mem. Torrey Bot. Club.* 6: 88 (1896) (Solanaceae)

HUELVA: El Granado, Puerto de la Laja (UTM 29SPB5433), ruderal en orillas río Guadiana, s.d., *E. Sánchez Gullón* 89 (priv. herb. ESG, dupl. BR).

Sobrino & Del Monte (1992) reported about the presence of the South American *Solanum physalifolium* in Spain. It was subsequently

recorded from the Spanish provinces of Asturias, Madrid, Palencia, Salamanca, Segovia, Soria and Zamora, chiefly as a fast spreading noxious weed of arable land (see Sanz Elorza *et al.* 2002 for an overview).

So far, however, *Solanum physalifolium* was not yet reported from Andalucía, although it might have passed undetected.

Verbena litoralis Kunth var. ***brevibracteata*** (Kuntze) N. O’Leary, *Ann. Missouri Bot. Gard.* 94: 598 (2007) (syn.: *V. litoralis* var. *brasiliensis* (Vell.) Munir, *V. brasiliensis* Vell.) (Verbenaceae)

HUELVA: Huelva, carretera N442, circunvalación de Huelva -San Juan del Pto. (UTM 29SPB3088), ruderal en arcenes de la carretera, 4-IX-2002, *E. Sánchez Gullón* 96 (priv. herb. ESG, dupl. COA).

Verbena litoralis var. *brevibracteata* is originally native in South America but has become widespread in many warm-temperate and subtropical regions of the world. In the Iberian Peninsula it is predominantly represented in the northeastern portion (Verloove 2003, Pujadas Salvà & Plaza 2008). In Huelva, *Verbena litoralis* var. *brevibracteata* probably rather behaves like an ephemeral alien in nitrophilous man-made habitats.

O’Leary *et al.* (2007) pointed out that the correct name at varietal rank for this taxon is *Verbena litoralis* var. *brevibracteata*.

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