

PLANT INVADERS IN SPAIN [CHECK-LIST]

‘The Unwanted Citizens’

Dana, E.D., Sanz-Elorza, M. & Sobrino, E.

Preface

It is needed to have available as much information as possible regarding plant invaders. The best rule is not to use a species which has become invasive in a similar area. That is why we present this preliminary list showing about a hundred of aliens detected in Spain. Some of them may threaten native biological systems.

The list provided here is only preliminary, since the real number of established species is probably around a thousand. We are still working!!!. It has been prepared from the recent contributions (please, cite them as sources):



- (1) **Sanz-Elorza, M., Dana, E.D. & Sobrino, E. 2001.** Aproximación al listado de plantas alóctonas invasoras reales y potenciales en España. *Lazaroa* 22: 121-131. [English abstract]
- (2) **Dana, E.D. Cerrillo, M.I., Sanz-Elorza, M., Sobrino, E. & Mota, J.F. 2001.** Contribución al conocimiento de las xenófitas en España: catálogo provisional de la flora alóctona de Almería. *Acta Botanica Malacitana* 26 264-276. [English abstract]

We have included also some unpublished recent data within this list.

The species have been arranged first by their invasive character (from higher to lower). Within the most aggressive, species have been presented by their morphology (herbaceous, woody, and so on). Within species are alphabetically listed. Consideration of 'Invasiveness' follows the recent proposal by **Richardson, D., Pysek, P., Rejmánek, M., Barbour, M.G., Panetta, F.D. & West, C.J. 2000.** Naturalization and invasion of alien plants: concepts and definitions. *Diversity and Distributions* 6: 93–107.

Species with Clear **Invasive Behaviour**

Key for symbols:

3 = dangerous (causing ecological damage or alteration) for natural ecosystems

2 = it is known as invasive and although it is not threatening natural or man-made ecosystems, it is suspected to do it in the near future

1 = with a clear invasive behaviour, although by the moment it is only found in largely disturbed systems. We advise to

monitor its further behaviour

Herbaceous

Invasiveness

Class

2	<i>Abutilon theophrasti</i> Medik.
1	<i>Amaranthus albus</i> L.
1	<i>Amaranthus blitoides</i> S. Watson
1	<i>Amaranthus hybridus</i> L.
1	<i>Amaranthus viridis</i> L.
1	<i>Amaranthus blitum</i> L. subsp. <i>emarginatus</i> (Moq. ex Uline & Bray) Carretero
1	<i>Amaranthus muricatus</i> (Moq.) Hieron
1	<i>Amaranthus powellii</i> S. Watson
2	<i>Achyranthes sicula</i> (L.) All.
3	<i>Ageratina adenophora</i> (Spreng.) King & H. Rob.
1	<i>Ambrosia artemisiifolia</i> L.
3	<i>Arctotheca calendula</i> (L.) Levyns
1	<i>Artemisia verlotiorum</i> Lamotte
3	<i>Arundo donax</i> L.
1	<i>Asclepias curassavica</i> L.
2	<i>Aster squamatus</i> (Spreng.) Hieron.
1	<i>Bidens aurea</i> (Aiton) Sherff
2	<i>Bidens frondosa</i> L.
2	<i>Bidens pilosa</i> L.
2	<i>Bidens subalternans</i> DC.
2	<i>Bromus willdenowii</i> Kunth
2	<i>Cenchrus incertus</i> M.A. Curtis
2	<i>Centaurea diluta</i> Aiton
3	<i>Conyza albida</i> Willd. ex Spreng.
3	<i>Conyza bonariensis</i> (L.) Cronq.
3	<i>Conyza canadensis</i> (L.) Cronq.
3	<i>Cortaderia selloana</i> (Schultes & Schultes fil.) Ascherson & Graebner
3	<i>Cotula coronopifolia</i> L.
2	<i>Chloris gayana</i> Kunth
3	<i>Cyperus eragrostis</i> Lam.
2	<i>Chamaesyce polygonifolia</i> (L.) Small
1	<i>Datura inoxia</i> Miller
1	<i>Datura stramonium</i> L.
2	<i>Echinochloa hispidula</i> (Retz.) Nees ex Royle
2	<i>Echinochloa oryzoides</i> (Ard.) Fritsch
2	<i>Echinochloa oryzicola</i> Vasinger
3	<i>Eichhornia crassipes</i> (C.F.P. Mart.) Solms-Laub.

2	<i>Eleusine indica</i> (L.) Gaertner
2	<i>Gomphocarpus fruticosus</i> (L.) Aiton fil.
2	<i>Helianthus tuberosus</i> L.
2	<i>Heliotropium curassavicum</i> L.
1	<i>Impatiens parviflora</i> DC.
2	<i>Mirabilis jalapa</i> L.
1	<i>Oenothera biennis</i> L.
1	<i>Oenothera glazioviana</i> Micheli
3	<i>Oxalis pes-caprae</i> L.
3	<i>Paspalum dilatatum</i> Poiret
3	<i>Paspalum paspalodes</i> (Michx) Scribner
3	<i>Paspalum vaginatum</i> Swartz
3	<i>Pelargonium capitatum</i> (L.) L'Hér. ex Ait.
3	<i>Tradescantia fluminensis</i> Velloso
3	<i>Tropaeolum majus</i> L.
2	<i>Saccharum ravennae</i> (L.) Murray
2	<i>Sorghum halepense</i> (L.) Pers.
2	<i>Spartina alterniflora</i> Loisel.
3	<i>Spartina densiflora</i> Brongn.
2	<i>Spartina versicolor</i> Fabre
3	<i>Stenotaphrum secundatum</i> (Walter) O. Kuntze
2	<i>Tritonia x crocosmiflora</i> (Lemoine) Nicholson
3	<i>Vinca difformis</i> Pourret
2	<i>Xanthium spinosum</i> L.
2	<i>Xanthium strumarium</i> L.
2	<i>Zygophyllum fabago</i> L.

Succulents

3	<i>Agave americana</i> L.
3	<i>Carpobrotus acinaciformis</i> (L.) L. Bolus
3	<i>Carpobrotus edulis</i> (L.) N.E. Br.
3	<i>Opuntia dillenii</i> (Ker-Gawler) Haw.
3	<i>Opuntia imbricata</i> (Haw.) DC.
3	<i>Opuntia maxima</i> Miller
3	<i>Opuntia stricta</i> (Haw.) Haw.
3	<i>Opuntia subulata</i> (Mühlenpfordt) Engelm.

Lianas

3	<i>Araujia sericifera</i> Brot.
2	<i>Fallopia baldshuanica</i> (Regel) J. Holub.
3	<i>Ipomoea acuminata</i> (Vahl) Roemer & Schultes
2	<i>Ipomoea purpurea</i> Roth
3	<i>Ipomoea imperati</i> (Vahl) Griseb.
3	<i>Ipomoea saggitata</i> Poiret
2	<i>Passiflora caerulea</i> L.

Woody

- 3 *Acacia dealbata* Link
- 3 *Acacia longifolia* (Andrews) Willd.
- 3 *Acacia melanoxylon* R. Br.
- 3 *Acacia retinodes* Schlecht.
- 3 *Acacia saligna* (Labill.) Wendl. fil.
- 1 *Acer negundo* L.
- 3 *Ailanthus altissima* (Miller) Swingle
- 3 *Baccharis halimifolia* L.
- 3 *Buddleja davidii* Franchet
- 1 *Elaeagnus angustifolia* L.
- 3 *Elodea canadensis* Michx.
- 3 *Eucaliptus camaldulensis* Dehnh.
- 3 *Eucaliptus globulus* Labill.
- 3 *Reynoutria japonica* Houtt.
- 2 *Gleditsia triacanthos* L.
- 3 *Lantana camara* L.
- 3 *Leucaena leucocephala* (Lam.) De Wit
- 3 *Nicotiana glauca* R. C. Graham
- 2 *Parkinsonia aculeata* L.
- 2 *Ricinus communis* L.
- 3 *Robinia pseudacacia* L.
- 3 *Senecio inaequidens* DC.
- 1 *Schinus molle* L.
- 1 *Sophora japonica* L.
- 2 *Psidium guajava* L.
- 1 *Yucca aloifolia* L.
- 1 *Yucca elephantipes* Regel

Naturalised Species Showing a Potential Threat to Spanish Ecosystems

Alternanthera caracasana Kunth
Alternanthera purgens Kunth
Ambrosia coronopifolia Torrey & A. Gray
Ambrosia tenuifolia Sprengel
Ammannia aegyptiaca Willd.
Ammannia coccinea Rottb.
Ammannia robusta Heer & Regel
Amsinckia lycopsoides (Lehm.) Lehm.
Apium leptophyllum (Pers.) F. Mueller ex Bentham
Aptenia cordifolia (L. fil.) N.E. Br.
Artemisia annua L.
Asparagus plumosus Bak.
Asparagus sprengeri Regel
Aster novi-belgii L.
Aster pilosus Willd.
Azolla caroliniana Willd.

Azolla filiculoides Lam
Boussingaultia cordifolia Ten.
Brachiaria eruciformis (Sm.) Griseb.
Carpobrotus chilensis (Molina) N.E. Br.
Cestrum parqui L'Hér.
Conyza blakei (Cabrera) Cabrera
Conyza primulifolia (Lam.) Cuatrec. & Lourteig
Coronopus didymus (L.) Sm.
Cucumis myriocarpus Naudin subsp. *myriocarpus*
Cupressus sempervirens L.
Cupressus arizonica E.L. Greene
Cupressus macrocarpa Hartweg.
Cupressus lusitanica Miller
Cuscuta campestris Yuncker
Cyperus eragrostis Lam.
Chamaesyce humistrata (Engelm. Ex A. Gray) Small
Chamaesyce humifusa (Willd.) Prokh.
Chamaesyce maculata (L.) Small
Chamaesyce nutans (Lag.) Small
Chamaesyce polygonifolia (L.) Small
Chamaesyce prostrata (Aiton) Small
Chamaesyce serpens (Kunth) Small
Chenopodium ambrosioides L.
Chenopodium multifidum L.
Chloris virgata Swartz
Eclipta prostrata (L.) L.
Echinochloa colonum (L.) Link
Eleusine tristachya (Lam.) Lam.
Erigeron annuus (L.) Pers.
Erigeron karvinskianus DC.
Euphorbia polygalifolia L.
Galinsoga ciliata (Rafin.) S.F. Blake
Galinsoga parviflora Cav.
Heteranthera limosa (Sw.) Willd.
Heteranthera reniformis Ruiz & Pavón
Juncus tenuis Willd.
Lepidium bonariense L.
Lepidium virginicum L.
Lindernia dubia (L.) Pennell
Lippia filiformis Schrad.
Mesembryanthemum crystallinum L.
Najas gracillina (A. Braun ex Engelm.) Magnus
Nothoscordum inodorum (Aiton) Nicholson
Oenothera rosea L'Hér. ex Aiton
Oxalis articulata Savigny
Oxalis corymbosa DC.
Oxalis latifolia Kunth
Panicum capillare L.
Panicum dichotomiflorum Michx
Paspalum paspalodes (Michx) Scribner

Paspalum dilatatum Poiret
Phytolacca americana L.
Punica granatum L.
Sequiadendron giganteum (Lindl.) Buccholz
Setaria geniculata (Lam.) Beauv.
Salix babylonica L.
Solanum chenopodioides Lam.
Solanum physalifolium Rusby
Solanum pseudocapsicum L.
Solanum sarrachoides Sendt.
Solanum sisymbriifolium Lam.
Zebrina pendula Schnizlein

Aliens which have Showed to be Highly Invasive in Other European Countries and which may Represent a Potential Threat for Spanish Ecosystems

(Their presence has been detected in Spain, but they are not invasive nowadays)

Ambrosia gigantea L. (Italy)
Amorpha fruticosa L. (Ukraine, Italy, Hungary)
Asclepias syriaca L. (Hungary)
Aster lanceolatus Willd. (Hungary)
Atriplex sagittata (Czech Republic)
Bunias orientalis L. (Germany)
Broussonetia papyrifera (L.) Vent. (Italy)
Crassula helmsii (United Kingdom, Russia)
Cyclachaena xanthiifolia (Nutt.) Fresen (Ukraine)
Cyperus esculentus L. (Holland)
Dichondra micrantha Urban (Italy)
Casuarina equisetifolia J.R. Forst. & G. Forst. (Italy)
Cenchrus longispinus (Hack.) Fern. (Ukraine)
Ceratostigma plumbaginoides Bunge (Italy)
Eryngium pandanifolium Cham. & Schlecht. (Portugal)
Echinocystis lobata (Michx) Torrey & Gray (Hungary)
Fallopia sachalinensis (U.K., Germany, Czech Republic)
Fallopia x bohémica (Chrtek & Chrtkova) J. Bailey (Hungary)
Geranium sibiricum L. (Ukraine)
Grindelia squarrosa (Pursh) Dunal. (Ukraine)
Gunnera tinctoria (Molina) Mirbel (Ireland)
Hakea salicifolia (Vent.) Burt (Portugal)
Hakea sericea Schrad.
Hedera hibernica (Kirchner) Bean (Hungary)
Heracleum montegazzianum Somm. & Lev. (Hungary, United Kingdom, Ireland, Denmark)
Hypericum calycinum L. (Italy)
Impatiens balfourii Hooker fil.

Impatiens glandulifera Royle (France, Ukraine, Hungary, United Kingdom)
Impatiens parviflora DC. (France, Ukraine, Poland, Germany)
Ipomoea mutabilis Lindl. (Italy)
Lemna minuta (Gran Bretaña)
Lepidotheca suaveolens (Pursh) Nutt. (Ukraine)
Maclura pomifera Schneid. (Italy)
Mahonia aquifolium (Pursh) Nutt. (Germany)
Myoporum tetandrum (Labill.) Domin. (Italy)
Parthenocissus quinquefolia (L.) Planchon (Italy)
Pawlonia tomentosa Steud. (Italy, Germany)
Phalacrologium annua (L.) Dumort. (Ukraine)
Pittosporum undulatum Vent. (Portugal)
Pittosporum tobira (Thunb.) Aiton (Italy)
Pinus strobus L. (Czech Republic)
Prunus serotina Ehrh. (Germany, Denmark, Holland)
Pseudotsuga menziesii (Mirbel) Franco (Germany)
Quercus rubra L. (Polonia, Germany)
Rudbeckia laciniata L. (Czech Republic, Hungary)
Salpiglossa organifolia (Lam.) Baillon (Italy)
Sicyos angulatus L. (Hungary, Czech Republic, Germany, France, Slovenia)
Solanum cornutum Lam. (Ukraine)
Solanum elaeagnifolium Cav. (Hungary, Czech Republic, Morocco)
Solanum mauritanicum Scop. (Portugal)
Solidago canadensis (Denmark)
Solidago gigantea Aiton (Hungary)
Vaccinium corymbosum x *angustifolium* (Germany)
Wisteria sinensis (Sims) Sweet (Italy)
Xanthium albinum (Widd.) H. Scholz (Ukraine)