

Current research on the biology of threatened plant species of the Mediterranean Basin and Macaronesia: a database

J. M. Iriondo, L. J. De Hond & C. Gómez-Campo

Introduction

One of the most basic tools needed to confront the loss of biodiversity on our planet is information. Once priorities are set for the species where the danger of extinction is most imminent, conservation planmakers and managers need information on the biology of those species and their habitats in order to adopt appropriate action measures. In many cases, such information already exists dispersed in different institutions. However, it is not always easily available due to the large number of disciplines involved and the diverse character of the institutions concerned with conservation activities.

At the VI OPTIMA Meeting in Delphi (Greece) in 1989, the session of the OPTIMA Commission for the Conservation of Plant Resources agreed that the Commission should be involved in the collection of data on current and past research on the biology of threatened plants of the Mediterranean Basin and Macaronesia. Four years later, at the VII OPTIMA Meeting in Borovetz (Bulgaria), a preliminary draft containing data on 201 species was presented. Further information on these and other species has been added to obtain the present edition.

The main objectives in this project are to:

1. Elaborate a list of threatened plant species of the Mediterranean Basin and Macaronesia subjected to some type of biological study.
2. Provide information on research teams that work with threatened plant species in specific areas of biological study.
3. Facilitate communication among research teams that study threatened plant species belonging to a particular taxonomic group.
4. Provide bibliographical references related to studies on the biology of threatened plant species of the Mediterranean Basin and Macaronesia.
5. Give planners and managers a complete picture on the overall state of the knowledge of a particular threatened plant species.

The information contained in this database covers the period 1805-1994. At the present time it is not yet an exhaustive compilation of all data published during this period. However, it provides biologists, managers and planners an information base so that past efforts are not duplicated, gaps in knowledge can be identified and filled and we can efficiently proceed with the conservation of rare plants in the Mediterranean Basin and Macaronesia.

It is satisfying to see that the relevance of information for biodiversity conservation is now seriously being considered by governments. Thus, Article 6 of the Biodiversity Convention requires ratifying countries to develop an information base for promoting national biodiversity strategies and action plans. Among the up-to-date and reliable data required for the effective implementation of the activities prescribed in the articles of the Convention on Biological Diversity, data on threatened species is considered to be a priority.

Data have been gathered mainly through a questionnaire distributed to institutions that work in this field (Figure 1). The questionnaire asks for information about plant species of the Mediterranean Basin and Macaronesia classified as endangered (E), vulnerable (V) or rare (R) according to IUCN criteria.

The entries in the questionnaire are:

- | | |
|------------------------|--------------------|
| * Name of the species | * Institution |
| * Family | * Postal address |
| * IUCN category | * Area of study |
| * Distribution | * Bibliography |
| * Name of researcher/s | * Current research |

Additionally, information has been gathered from publications obtained through computerized bibliography search at the main international databases. Currently, this database holds information on 281 Mediterranean plant species (including Macaronesia) classified as endangered (E), vulnerable (V) or rare (R) according to IUCN criteria. Indeterminate (I) and insufficiently known (K) categories have been accepted since they are actually referring to the above-mentioned categories of threat. Furthermore, three species extinct (Ex) in their natural habitats have also been included.

A considerable number of questionnaires have been completed with information regarding species threatened in a particular country but not worldwide. In some other cases, information on infraspecific taxa has been submitted. This information has not been included in the present work, but is being stored for future use.

The 281 species belong to a wide taxonomic range (56 different families) (Table 1). The largest-represented family in the draft is Asteraceae, followed by Brassicaceae, Plumbaginaceae, Caryophyllaceae, Apiaceae and Liliaceae. Together they cover 50 % of the species present in this database. Regarding the categories of threat, the rare category (R) has been the most abundant with 103 species (37 % of the total).

Table 1. List of families represented in the database and number of species in each one.

Family	Species	Family	Species
Amaryllidaceae	6	Lamiaceae	8
Apiaceae	14	Lauraceae	1
Aquifoliaceae	1	Lentibulariaceae	2
Araceae	1	Liliaceae	12
Asteraceae	38	Malvaceae	3
Boraginaceae	10	Myricaceae	1
Brassicaceae	31	Myrsinaceae	1
Campanulaceae	3	Oleaceae	1
Caprifoliaceae	1	Papaveraceae	1
Caryophyllaceae	27	Pinaceae	2
Celastraceae	2	Plumbaginaceae	19
Chenopodiaceae	1	Poaceae	1
Cistaceae	4	Poligonaceae	1
Convolvulaceae	4	Primulaceae	3

Family	Species	Family	Species
Crassulaceae	6	Ranunculaceae	6
Cupressaceae	1	Rhamnaceae	2
Cyperaceae	1	Rosaceae	1
Dipsacaceae	1	Rutaceae	2
Ericaceae	2	Salicaceae	1
Euphorbiaceae	7	Sapotaceae	1
Fabaceae	16	Scrophulariaceae	8
Gentianaceae	1	Solanaceae	2
Geraniaceae	6	Terntroemiaceae	1
Gesneriaceae	3	Thymelaceae	1
Globulariaceae	3	Ulmaceae	1
Guttiferae	3	Urticaceae	1
Iridaceae	2	Valerianaceae	1
Isoetaceae	1	Violaceae	1

This work gathers the research of teams in 52 institutions from 15 different countries. The distribution of the species included shows that so far the collection of data from countries other than Spain has been less intensive. Canary Islands (84 species) and Peninsular Spain (64 species) hold together more than half of the species present in this work (Table 2).

Table 2. Geographical distribution of the species contained in the database. The number of species endemic of each country or area in parenthesis.

Distribution	Species	Distribution	Species
Albania	2 (0)	Irak	1 (0)
Algeria	2 (1)	Iran	1 (0)
Austria	1 (0)	Italy*	18 (11)
Azores	17(15)	Madeira	5 (2)
Balearic Is.	9 (6)	Morocco	2 (1)
Bulgaria	9 (3)	Portugal*	6 (5)
Canary Is.	84 (82)	Romania	4 (0)
Caucasia	2 (0)	Sardinia	6 (0)
Corsica	14 (6)	Sicily	14 (9)
Crete	4 (3)	Spain	64 (61)
Czechoslovakia	1 (0)	Tunisia	1 (0)
France*	4 (1)	Turkey	21 (19)
Greece*	12 (9)	Yugoslavia	8 (2)
Hungary	2 (0)		

*: mainland excluding major islands.

The most frequent areas of study have been propagation methods, germination-dormancy, culture techniques and micropropagation. One must notice that the areas of study section and the index on areas of study only refer to the current activities held by the researchers. In many cases, the bibliography section contains additional information on studies of the species on several other different disciplines of biology. In this bibliography section, only references that deal specifically with the species or give substantial information on some aspect of its biology have been included. It is our aim to improve the content of this database and keep it up to date. You can contribute to this project by filling a copy of the questionnaire shown in Figure 1. Any corrections or updates on current data will be also greatly appreciated. If you are interested in taking a more active role in the collection of data of your country or region, please contact us.

Fig. 1. Questionnaire on current research on the biology of endangered plant species of the Mediterranean Basin and Macaronesia.

Since 1989, the OPTIMA Commission for the Conservation of Plant Resources is involved in the collection of data on what has been done and what's being done in the biology of threatened plants of the Mediterranean basin.

If you work in this area we would very much appreciate you spent a few minutes filling this short questionnaire.

Please use a separate form for each species. Make photocopies of this form if necessary. Please, read the appended notes first.

Species (1): _____

Family: _____ IUCN category (2): _____

Distribution (3): _____

Name of researcher/s: _____

Institution: _____

Postal address (4): _____

Area of study (5):

0 - Anatomy

0 - Genetics

0 - Metabolism, enzymes

0 - Germination, dormancy

0 - Growth, development

0 - Flowering, pollination

0 - Reproduction

0 - Dispersal

0 - Propagation methods

0 - Micropropagation

0 - Culture techniques

0 - Pathology

0 - Phenology

0 - Demography, pop. dynamics

0 - Ecology

0 - Other: _____

Bibliography (6):

Current research (7):

Fig. 1. Questionnaire on current research on the biology of endangered plant species of the Mediterranean Basin and Macaronesia (Page 2).

Notes:

- (1) Species of interest are those classified as R, V or E (rare, vulnerable or endangered) in a worldwide scale, by IUCN.
- (2) IUCN category.
- (3) Country or countries and/or geographical region.
- (4) Address of the organisation or institution. Please include telephone, telex and fax numbers if applicable.
- (5) Check the area/s most closely related to your investigation.
- (6) Please include published articles as well as those "in press" from your group or other sources. Make reference to the author, year, title, publication, pages.
- (7) Please use a format similar to (6) omitting the name of journal and giving a provisional title and tentative year of publication.

Please send this questionnaire to the following address:

Dr. Jose M. Iriondo
Dep. Biología Vegetal
ETS Ingenieros Agrónomos
Universidad Politécnica
Ciudad Universitaria
E- 28040 Madrid, Spain

IUCN Categories

Extinct (Ex)

Taxa no longer found in its natural habitat. It includes taxa that, although vanished in its natural habitat, still survive in culture.

Endangered (E)

Taxa in danger of extinction and whose survival is unlikely if the causal factors continue operating. Included are taxa whose numbers have been reduced to a critical level or whose habitats have been so drastically reduced that they are deemed to be in immediate danger of extinction.

Vulnerable (V)

Taxa believed to move into the Endangered category in the near future if the causal factors continue operating. Included are taxa of which most or all the populations are decreasing because of over-exploitation, extensive destruction of habitat or other environmental disturbance; taxa with populations that have been seriously depleted and whose ultimate security is not yet assured; and taxa with populations that are still abundant but are under threat from serious adverse factors throughout their range.

Rare (R)

Taxa with small world populations that are not at present endangered or vulnerable, but are at risk. These taxa are usually localized within restricted geographical areas or habitats or are thinly scattered over a more extensive range.

Indeterminate (I)

Taxa known to be Extinct, Endangered, Vulnerable, or Rare but where there is not enough information to say which of the four categories is appropriate.

Insufficiently known (K)

Taxa that are suspected but not definitely known to belong to any of the above categories, because of the lack of information.

Geographical distribution of species

Geographical distribution of species is given primarily at country level. However, major Mediterranean and Macaronesic Islands or Archipelagos have been given an specific entity. Therefore, names of countries, such as France, Greece, Italy, Portugal or Spain, refer just to the mainland, excluding major islands.

Acknowledgements

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Address of the authors:

J. M. Iriondo, L. J. De Hond & C. Gómez-Campo, Dpto. Biología Vegetal, E. T. S. Ingenieros Agrónomos, Universidad Politécnica de Madrid, E-28040 Madrid, Spain.

RECORDS

Abies nebrodensis* (Lojac.) Mattei*PINACEAE**

Status: E
Distribution: Sicily
Researcher: -
Institution: Royal Botanic Gardens Edinburgh
Address: Edinburgh, EH3 5LR, Scotland, Great Britain

Area of study: * Propagation methods
 * Culture techniques

Bibliography:

Arena, M. (1959) Alcune notizie sul comportamento biologico di *Abies nebrodensis* (Lojac.) Mattei. *Nuovo Giorn. Bot. Ital.* 66:451-456.

Chiarugi, A. (1941) Per la protezione dell'*Abies nebrodensis* Mattei. *Nuovo Giorn. Bot. Ital.* 48:668-669.

Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Plante d'Italia*. WWF, Rome. 637 pp.

Covassi, M. and Binazzi, A. (1985) Primi reperti su alcuni fitomizi dell'*Abies nebrodensis* (Lojac.) Mattei in Sicilia (Homoptera). *Atti XIV Congresso Nazionale Italiano di Entomologia*. Accademia Nazionale Italiana di Entomologia, Società Entomologica Italiana and International Union of Biological Sciences. pp. 81-86.

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Geraci, L. (1979) Nuovi reperti di *Abies nebrodensis* (Lojac.) Mattei rinvenuti nelle Madonie nella zona di indigenato. *Naturalista Sicil.* 3:45-51.

Gramuglio, G. (1962) Risveglio sessuale di *Abies nebrodensis*. *Nuovo Giorn. Bot. It.* 69:207-212.

Grilli Caiola, M. (1992) Gli Orti Botanici. *L'Uomo e l'Ambiente* 14:152-161.

Gruppo Lavoro Conservazione Natura S.B.I. (1971) *Censimento der Biotopi di Rilevante Interesse Vegetazionale Meritevoli di Conservazione in Italia*. Vol. 1. Tip. Savini-Mercuri, Camerino (scheda 19-5 Monte Scalone e Vallone Madonna degli Angeli).

Kral, F. and Mayer, H. (1993) Postglacial origin and structure of fir forests in Europe. In: C. Brombacher, S. Jacomet and J.N. Haas (eds.) *Dissertationes Botanicae*, Vol. 196. Berlin. pp. 305-315.

- Messeri, A. (1959) Nuovi dati sulla sistematica dell'*Abies nebrodensis* (Lojac.) Mattei. *Atti Reale Accad. Naz. Lincei, Rendiconti Cl. Sci. Fis.* 25:547-556.
- Morandini, R. (1969) *Abies nebrodensis* (Lojac.) Mattei. Inventario 1968. *Pubbl. Ist. Sper. Selvicolt. Arezzo* 18:1-93.
- Raimondo, F.M. (1984) On the natural history of the Madonie Mountains. *Webbia* 38:29-61.
- Raimondo, F.M. Venturella, G. and Di Gangi, F. (1990) Variazioni fenotipiche in *Abies nebrodensis* (Lojac.) Mattei e comportamento vegetativo nella sua discendenza. *Quad. Bot. Ambientale Appl.* 1:183-210.
- Senni, L. (1941) Per la protezione degli ultimi esemplari superstiti dell'*Abies nebrodensis* in Sicilia. *Nuovo Giorn. Bot. Ital.* 48:667-668.
- Uotila, P. (1984) *Abies nebrodensis*. *Sorbifolia* 15:35-39.

Abies pinsapo* Boiss.*PINACEAE**

- Status:** V
Distribution: Spain
- Researcher:** J. Herrera, S. Talavera, M. Arista
Institution: Dept. de Biología Vegetal y Ecología
Universidad de Sevilla
Address: Apartado 1095
E-41080 Sevilla Spain
- Area of study:**
- * Germination, dormancy
 - * Flowering, fruit development, pollination
 - * Reproduction
 - * Dispersal
 - * Phenology
 - * Demography, population dynamics
 - * Ecology

Current research:

Reproductive biology of *Abies pinsapo*.

Bibliography:

Arista, M. Talavera, S. and Herrera, J. (1992) Viabilidad y germinación de las semillas de *Abies pinsapo* Boiss. *Acta Botánica Malacitana* 17:223-228.

Acanthorrhinum rivas-martinezii (Schez.-Mata) Fdez.-Casas & Schez.-Mata**SCROPHULARIACEAE**

Status: V
Distribution: Spain

Researcher: D. Sánchez-Mata
Institution: Dpto. Biología Vegetal II (Botánica)
Facultad de Farmacia, Universidad Complutense
Address: E-28040 Madrid, Spain
Phone: 34 1 5821769 / 5821770

Area of study:

- * Anatomy
- * Genetics
- * Flowering, pollination, fruit development
- * Phenology
- * Demography, population dynamics
- * Ecology

Current research:

Taxonomy, propagation methods, growth and development.

Bibliography:

Fernández-Casas, J. and Sánchez-Mata, D. (1989) *Acanthorrhinum rivas-martinezii* (Sánchez Mata) Fernández Casas & Sánchez Mata, *comb. nov.* In: J. Fernández Casas (ed.) Asientos para una Flora Occidental, 9. *Fontqueria* 20: 63.

Sánchez-Mata, D. (1988) *Misopates rivas-martinezii* (Scrophulariaceae), nueva especie del Sistema Central (España). *Candollea* 43: 261-272.

Achillea taygetea Boiss. & Heldr.

ASTERACEAE

Status: R

Distribution: Greece

Researcher: C. Vander Mey

Institution: Chicago Botanic Garden

Address: Glencoe, USA

Area of study: * Propagation methods

* Culture techniques

Bibliography:

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Adonis cyllenea Boiss., Heldr. & Orph in Boiss.

RANUNCULACEAE

Status: E

Distribution: Greece

Researcher: A. Strid

Institution: Botanical Laboratory, University of Copenhagen

Address: 140 Gothersgade
DK-1123 Copenhagen

Area of study: * Culture techniques

* Distribution

Bibliography:

Strid, A. (1986) *Adonis cyllenea* (Ranunculaceae) and *Helichrysum taenari* (Asteraceae) rediscovered in Peloponnesus Greece. *Ann. Mus. Goulandris* 7:221-232.

Aeonium gomeraense* (Praeger) Praeger*CRASSULACEAE**

- Status:** V
Distribution: Canary Islands
- Researcher:** A. Bañares and J. Real
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
 La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898
- Area of study:**
- * Flowering, pollination, fruit development
 - * Propagation methods
 - * Phenology
 - * Demography, population dynamics
 - * Ecology
 - * Biotic interactions
 - * Reintroduction

Current research:

Genetic recovery of the endangered flora of P. N. of Garajonay.

- Researcher:** J. Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
- Area of study:** * Culture techniques

Bibliography:

Ho-Yi, Liu (1989) Systematics of *Aeonium* (Crassulaceae) *National Museum of Natural Science, Sp. Pub.* 3:1-102.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest.* Brest. 32 pp.

Praeger, L. (1932) *An account of the Sempervivum group.* The Royal Horticultural Society. London. 265 pp.

Aichryson pachycaulon* Bolle*CRASSULACEAE**

Status: R
Distribution: Canary Islands

Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit, Royal Botanic Gardens
Address: Kew, Richmond, Surrey TW9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Bibliography:

None

Aichryson palmense Webb ex Bolle**CRASSULACEAE**

Status: R
Distribution: Canary Islands

Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit, Royal Botanic Gardens
Address: Kew, Richmond, Surrey TW9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Researcher: J. Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Praeger, O. (1929) Semperviva of the Canary Islands area. In *Proceed. Royal Irish Acad.*, vol. XXXVIII sect. B n° 15: 454-499.

Praeger, R.L. (1932) *An account of the Sempervivum group*. The Royal Horticultural Society. London.

Santos, A. (1983) *Vegetación y Flora de La Palma*. Ed. Interinsular Canaria.

Aichryson porphyrogennetos BolleCRASSULACEAE

Status: R
Distribution: Canary Islands
Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit, Royal Botanic Gardens
Address: Kew, Richmond, Surrey TW9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

- Bañares, A. (1990) Híbridos de la familia Crassulaceae en las Islas Canarias. Novedades y datos corológicos. II. *Vieraea* 18: 65-85.
- Bramwell, D. (1968) Notes on the taxonomy and nomenclature of the genus *Aichryson*. *Bol. Inst. Nac. Invest. Agron.* 59 (431): 203-213.
- Burchard, O. (1929) Beiträge zur Ökologie und Biologie der kanarenpflanzen. *Bibl. Bot.* 98.
- Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.
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- Praeger, R.L. (1932) *An account of the Sempervivum group*. The Royal Horticultural Society. London.

Allium pyrenaicum* Costa y Vayreda*LILIACEAE**

Status: R
Distribution: Spain

Researcher: J. Pedrola and J. Caujape
Institution: Est. Inter. Biol. Mediterranea
Address: Jardín Botánico "Marimurtra"
E-17300 Blanes, Girona, Spain
Phone: 34 72 330826

Area of study: * Genetics

Current research:

Genetic structure of an endemism from the Pyrenees: *Allium pyrenaicum*

Bibliography:

Bou, J. (1987) *Allium pyrenaicum* Costa y Vayreda (Liliaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 54-55.

Costa, A.C. (1877) *Introducción a la flora de Cataluña y catálogo razonado de las plantas observadas en esta región*. Imp. Diario de Barcelona. Ed.2, suppl. 92 pp.

Pastor, J. and Valdés, B. (1982) *Revisión del género Allium (Liliaceae) en la Península Ibérica e Islas Baleares*. Anal. Univ. Hispalense, Sevilla. 179 pp.

Ammi huntii* H.C. Watson*APIACEAE**

Status: R
Distribution: Azores

Researcher: M.L. Caixinhas
Institution: Universidade Técnica de Lisboa
 Dpto. de Botânica e Engenharia Biológica
 Instituto Superior de Agronomia
Address: Tapada da Ajuda
 P-1399 Lisboa Codex, Portugal

Area of Study: * Germination, dormancy

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: G.B. Maciel
Institution: Universidade dos Açores, Dpto. de Biologia
Address: Rua Mae de Deus 58, Apart. 1422
 P-9502 Ponta Delgada Codex, Portugal

Area of study: * Germination, dormancy

Bibliography:

Furtado, D.S. (1984) Status e distribuição das plantas vasculares endémicas dos Açores. *Arquipélago* 5:197-205.

Hansen, A. and Sundig, P. (1985) Flora of macaronesia, Checklist of vascular plants. *Sommerfeltia* 1.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Maciel, G.B. and Caixinhas, M.L. (1992) Etudes sur les dormances de quelques espèces endémiques des Açores. *IV reencontre internationale sur les semences*, Angers (France).

Maciel, G.B. and Caixinhas, M.L. (1993) Etude sur la germination de deux anneés d'essais de quelques espèces endémiques des Açores. *Primeiro Simposio Fauna e Flora des Ilhas Atlânticas*, Madeira.

Anagyris latifolia Brouss. ex Willd.**FABACEAE**

Status: V
Distribution: Canary Islands

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: J.A. Rodríguez *et al.*
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
 E-38400 Tenerife, Spain
Fax: 34 22 383572

Area of study: * Germination, dormancy

Bibliography:

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Peréz, P.L., (1975) El género *Anagyris* en las Islas Canarias. *Vieraea* 4 (1-2):164-172.

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Santos, A., (1983) *Vegetación y flora de La Palma*. Ed. Interinsular Canaria. Santa Cruz de Tenerife.

Anchusa crispa Viv.**BORAGINACEAE**

Status: V
Distribution: Corsica, Sardinia
Researcher: L. Olivier *et al.*
Institution: Conservatoire Botanique National de Porquerolles
Address: Castel Sainte-Claire
 Rue du Castel Ste. Claire
 F-83400 Hyeres, France
Phone: 33 94 653298
Fax: 33 94 658483

Area of study: * Germination, dormancy
 * Propagation methods
 * Culture techniques
 * Reintroduction

Researcher: C. Fawer
Institution: Conservatoire et Jardin Bot.
Address: Geneva, Switzerland

Area of study: * Culture techniques

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Plante d'Italia*. WWF, Rome. 637 pp.

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Gardini, S. (1984) *Flora da Proteggere, Indagine su Alcune Specie Vegetali Minacciate o Rare in Italia*. Errepiesse, Pavia.

Gruppo Lavoro Conservazione Natura S.B.I. (1971) *Censimento dei Biotopi di Rilevante Interesse Vegetazionale Meritevoli di Conservazione in Italia*. Vol. 1. Tip. Savini-Mercuri, Camerino (scheda 20-16 Porto Palmas).

Jeanmonod, D. and Burdet, H.M. (1988) Notes and contributions of Corsican flora III. *Candollea* 43 (1):335-408.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Paradis, G. (1990) Description of the vegetation at an *Anchusa crispa* Viv. site on the eastern coast of Corsica France west of Cannella Bay. *Doc. Phytosociol.* 12 (0):189-202.

Thiebaud, M.A. (1988) Contribution à la connaissance de l'*Anchusa crispa* Viv. en Corse. *Candollea* 43:390-396.

Valsecchi, F. (1976) Il genere *Anchusa* in Sardegna. *Webbia* 30:43-68.

Valsecchi, F. (1980) Le piante endemiche della Sardegna:80-83. *Boll. Soc. Sarda Sci. Nat.* 19:323-342.

Androcymbium europaeum* (Lange) K. Richter*LILIACEAE**

Status: V
Distribution: Spain
Researcher: J. Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: J. Pedrola and J. Caujape
Institution: Est. Inter. Biol. Mediterránea
Address: Jardín Botánico "Marimurtra"
 E-17300 Blanes, Girona, Spain
Phone: 34 72 330826

Area of study: * Genetics

Current research:

Spatial distribution, genetic structure and other biological data of a narrow endemism:
Androcymbium europaeum.

Researcher: D. Rivera, M. Moliner, F.A. Tomas-Barberán, I. Paterna, M.J. Nicolás, C. Marín, J.A. Sánchez and M.A. Morte
Institution: Dpto. Biología Vegetal (Botánica)
 Facultad de Biología
 Universidad de Murcia
Address: 30071 Murcia, Spain
Phone: 34 68 833000 Ext. 2378
Fax: 34 68 835418

Area of study: * Metabolism, enzymes
 * Germination, dormancy
 * Flowering, fruit development, pollination
 * Dispersal
 * Propagation methods
 * Micropropagation
 * Culture techniques
 * Phenology
 * Demography, population dynamics
 * Ecology

Bibliography:

Alcaraz, F. *et al.* (1987) *Androcymbium europaeum* (Lange) K. Richter (Liliaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 62-63.

Bellot, F. (1965) Sobre el *Androcymbium gramineum* (Cav.) Mc. Bride var. *genuinum* Maire. Tres formas españolas. *Anal. Inst. Bot. Cavanilles* 6:439-445.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Losa España, T.M. and Rivas Goday, S. (1968) Estudio florístico y geobotánico de la provincia de Almería I. *Arch. Inst. Aclimat.*, Almería 3:1-111.

Montserrat, P. (1961) Contribución al conocimiento de los pastos almerienses. *Arch. Inst. Aclimat.*, Almería 10:17-31.

Morte, M.A. Paterna, I. Nicolás, M.J. and Moliner, M. (1992) Establecimiento y propagación *in vitro* de *Androcymbium europaeum* (Lange) K. Richter. *Congreso Internacional ETNOBOTANICA* 92, Córdoba.

Sánchez, J.A. Marín, C. Moliner, M. and Tomás-Barberán, F.A. (1992) Cuantificación y variación de colchicina en plantas de *Androcymbium europaeum* predadas por herbívoros. *Congreso ETNOBOTANICA* 92, Córdoba.

Androcymbium rechingeri Greuter**LILIACEAE**

- Status:** I
Distribution: Crete
- Researcher:** W. Greuter
Institution: Botanischer Garten und Botanisches Museum
Berlin-Dahlem
Address: Königin-Luise-Str. 6-8
D-14191 Berlin, Germany
- Area of study:** * Genetics
* Germination, dormancy
* Growth, development
* Reproduction
* Propagation methods
- Bibliography:**
None

Antirrhinum charidemi* Lange*SCROPHULARIACEAE**

- Status:** V
Distribution: Spain
- Researcher:** E. Hernández, P. Contreras and A. Pujadas
Institution: Dpto. Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba
Address: Avda. de Linneo s/n
 E-14004 Córdoba, Spain
Phone: 34 57 200077 / 200018
Fax: 34 57 295333
- Area of study:** * Propagation methods
 * Culture techniques
 * Conservation
 * Distribution

Current research:

Cartography of the populations, estimation of variability, germplasm collection and preservation, development of *ex situ* populations, application of culture techniques. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

Bibliography:

- Clemente, M. (1991) The micropropagation unit at the Córdoba Botanic Garden, Spain. *Botanic Gardens Micropropagation News* 1(3):30-32.
- Hernández-Bermejo, E. Clemente, M. *et al.* (1994) *Protección de la Flora en Andalucía*. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.
- Molero, J. Martínez Parras, J.M. Alcaraz Ariza, F. Garre Belmonte, M. and Peinado Lorca, M. (1987) *Antirrhinum charidemi* Lange (Scrophulariaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 68-69.

Antirrhinum microphyllum* Roth.*SCROPHULARIACEAE**

Status: V
Distribution: Spain

Researcher: E. González-Benito and F. Pérez-García
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
Universidad Politécnica
Address: Ciudad Universitaria
E-28040 Madrid
Phone: 34 1 336 5657
Fax: 34 1 336 5656

Area of study: * Germination
* Micropropagation

Bibliography:

- Fernández-Casas, J. (1974) Notas fitosociológicas breves III. *Cuad. C. Biol.*, 3:91-95.
- Rothmaler, W. (1956) Taxonomische Monographie der Gattung *Antirrhinum*. *Feddes Repert. (beih)*, 136:1-124.

Antirrhinum pertegasii* Rothm.*SCROPHULARIACEAE**

Status: V
Distribution: Spain
Researcher: L. Navarro *et al.*
Institution: Dpto. de Cultivo de Tejidos Vegetales, Instituto Valenciano de Investigaciones Agrarias.
Address: Moncada, Valencia, Spain
Area of study: * Micropropagation

Researcher: I. Qeral
Institution: Independent
Address: C/ Sarratella 3, 2º-4ª
 E-12005 Castellón de la Plana, Spain
Phone: 34 64 243489
Area of study: * Growth, development
 * Demography, population dynamics
 * Ecology

Current research:

Threatened endemisms of Els Ports de Tortosa-Beseit.

Bibliography:

Bolós, O. de (1967) Comunidades vegetales de las comarcas próximas al litoral situadas entre los ríos Llobregat y Segura. *Mem. Real. Acad. Cienc. Art. Barcelona* 38:1-279.

Cañigüeral, J. (1956) El río Cenia. *Ibérica*, núms. 346-353.

Font Quer, P. (1917) Vuit dies d'excursió botànica als Ports de Tortosa. *Publ. Junta Cienc. Naturals* 2:619-632.

Pau, C. (1918) Una explotació botànica als Ports de Beceit. *Comun. verbal Butll. Inst. Cat. d'Historia Natural* 18:76-77.

Qeral, I. (1987) *Antirrhinum pertegasii* Rothm. (Scrophulariaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 76-77.

Apium bermejoi LlorensAPIACEAE

- Status:** E
Distribution: Balearic Islands
- Researcher:** A. Ibars
Institution: Dpto. Biología Vegetal
 Facultad de Farmacia, Universitat de Valencia
 Avda, Vicente Andrés Estellés
Address: E-46100 Burjassot, Valencia, Spain
- Area of study:** * Anatomy
- Researcher:** J.P. Reduron
Institution: Parc Zoologique et Botanic de Mulhouse
Address: Mulhouse, France
- Area of study:** * Propagation methods
 * Culture techniques
- Researcher:** J.A. Rosselló
Institution: Jardín Botánico de Córdoba
Address: Avda. de Linneo s/n
 E-14004 Córdoba, Spain
Phone: 34 57 200077 / 200018
Fax: 34 57 295333
- Area of study:** * Anatomy

Bibliography:

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Ibars, A. and Rosselló, J.A. (1990) Características histológicas de endemismos baleáricos. 1. Umbelíferas. *II Jornadas de Taxonomía Vegetal*, Madrid.

Llorens, L. (1987) *Apium bermejoi* Llorens (Apiaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 80-81.

Aquilegia bertolonii Schott

RANUNCULACEAE

Status: V
Distribution: France, Italy
Researcher: G. Pistolesi
Institution: Istituto ed Orto Botanico della Università
Address: Pisa, Italy
Area of study: * Propagation methods
* Culture techniques

Bibliography:

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Aquilegia cazortensis Heywood**RANUNCULACEAE**

- Status:** E
Distribution: Spain
- Researcher:** M. Clemente, P. Contreras and J. Prados
Institution: Dpto. Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba
Address: Avda. de Linneo s/n
 E-14004 Córdoba, Spain
Phone: 34 57 200077 / 200018
Fax: 34 57 295333
- Area of study:** * Micropropagation
 * Culture techniques
 * Conservation

Current research:

Estimation of variability, germplasm collection and preservation, development of *ex situ* populations, application of culture techniques. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

- Researcher:** J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
- Area of study:** * Culture techniques

Bibliography:

- Clemente, M. (1991) The micropropagation unit at the Cordoba Botanic Garden, Spain. *Botanic Gardens Micropropagation News* 1(3):30-32
- Fernández Galiano, E. and Heywood, V.H. (1960) *Catálogo de plantas de la provincia de Jaén (mitad oriental)*. Inst. Est. Giennenses, Jaén. 205 pp.
- Hernández-Bermejo, E. Clemente M. *et al.* (1994) Protección de la Flora en Andalucía. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.
- Herranz, J.M. and Hernández-Bermejo, J.E. (1987) *Aquilegia cazortensis* Heywood (Ranunculaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales*

Amenazadas de España Peninsular e Islas Baleares. ICONA, Madrid. pp. 84-85.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Aquilegia champagnatii Moraldo, Nardi et La ValvaRANUNCULACEAE

Status: R
Distribution: Italy

Researcher: B. Moraldo, E. Nardi and V. La Valva
Institution: Dip. Biol. Vegetale
Address: via Foria 223
I-80139 Napoli, Italy
Phone: 39 81 440681
Fax: 39 81 450165

Area of study: * Ecology
* Distribution

Bibliography:

- Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Plante d'Italia*. WWF, Rome. 637 pp.
- La Valva, V. Ricciardi, M. Caputo, G. and Nazzaro, R. La flora della Penisola Sorrentina. *Delpinoa* (in press).
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- Moraldo, B. Nardi E. and La Valva, V. (1981) *Aquilegia champagnatii* sp. nov. (*Ranunculaceae*) nell'Appennino campano. *Webbia* 35(1):83-86.
- Ricciardi, M. Aprile, G.G. and Sifola, M.I. (1987) Cartografia floristica della Campania (Primo contributo). *Ann. Bot. (Roma)*, 45(5):65-78.

Aquilegia litardierei* Briq.*RANUNCULACEAE**

Status: V
Distribution: Corsica

Researcher: L. Olivier *et al.*
Institution: Conservatoire Botanique National de
Porquerolles
Address: Castel Sainte-Claire
Rue du Castel Ste. Claire
F-83400 Hyeres, France
Phone: 33 94 653298
Fax: 33 94 658483

Area of study: * Germination, dormancy
* Propagation methods
* Culture techniques

Bibliography:

None

Arbutus canariensis* Veillard ex Duhamel*ERICACEAE**

- Status:** V
Distribution: Canary Islands
- Researcher:** A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898
- Area of study:** * Propagation methods
* Micropropagation

Bibliography:

- Bañares, A. (1992) Contribución al conocimiento de la propagación vegetativa y sexual de las especies vegetales de la Laurisilva Canaria. *Bot. Mac.* 19-20:53-64.
- Delgado, J.C. (1986) *Propagación de árboles canarios*. Exmo. Cabildo Insular de Gran Canaria.

Arenaria rigida Bieb.

CARYOPHYLLACEAE

Status: R
Distribution: Bulgaria, Romania

Researcher: A. Petrova
Institution: Botanical Garden
Bulgarian Academy of Sciences
Address: P.O. Box 664
1000 Sofia, Bulgaria

Area of study: * Demography, population dynamics
* Distribution

Bibliography:

Petrova, A. (1993) Rare plants in "Pobiti Kamani" protected areas in Northeastern Bulgaria. *VII OPTIMA Meeting*, Borovetz, Bulgaria.

Argyranthemum hierrense* Humphries*ASTERACEAE**

Status: V
Distribution: Canary Islands
Researcher: J.A. Rodríguez et al.
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
E-38400 Tenerife, Spain
Fax: 34 22 383572
Area of study: * Culture techniques

Bibliography:

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Armeria soleirolii (Duby) Godron**PLUMBAGINACEAE**

Status: E
Distribution: Corsica
Researcher: J. Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
Area of study: * Culture techniques

Researcher: L. Olivier *et al.*
Institution: Conservatoire Botanique National de
 Porquerolles
Address: Castel Sainte-Claire
 Rue du Castel Ste. Claire
 F-83400 Hyeres, France
Phone: 33 94 653298
Fax: 33 94 658483
Area of study: * Germination, dormancy
 * Propagation methods
 * Culture techniques

Bibliography:

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Artemisia granatensis Boiss.**ASTERACEAE**

- Status:** E
Distribution: Spain
- Researcher:** M. Clemente, P. Contreras, M.A. Gardía and E. Hernández
Institution: Dpto. Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba
Address: Avda. de Linneo s/n
 E-14004 Córdoba, Spain
Phone: 34 57 200077 / 200018
Fax: 34 57 295333
- Area of study:** * Propagation methods
 * Micropropagation
 * Conservation

Current research:

Cartography of the populations, estimation of variability, germplasm collection and preservation, development of *ex situ* populations, propagation methods. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

Bibliography:

- Blanca, G. Salinas, M.J. Díaz de la Guardia, C. and Romero-García, A. (1991) *Fragmenta palynologica baetica* palynologic studies of the subfamily Asteroideae Compositae in the southeast of the Iberian Peninsula. *Acta. Bot. Malacitana* 16 (2):491-500.
- Clemente, M. (1991) The micropropagation unit at the Cordoba Botanic Garden, Spain. *Botanic Gardens Micropropagation News* 1(3):30-32
- Clemente, M. Contreras, P. Susin, J. and Pliego-Alfaro, F. (1991) Micropropagation of *Artemisia granatensis*. *HortScience* 26(4): 420.
- Díaz, R.M. Quevedo Sarmiento, J. Ramos Cormenzana, A. Cabo, P. and Cabo, J. (1989) Phytochemical and antibacterial screening of some species of Spanish Asteraceae. Part II. *Fitoterapia* 60:353-355.
- Font Quer, P. (1924) Datos acerca de la flora orófila de Sierra Nevada. *Bol. Real Soc. Esp. Hist. Nat.* 24:238-244.
- Gómez-Campo, C. (1992) Problems of genetic erosion and conservation of aromatic and medicinal plants. In: *I. Jornadas Ibéricas de Plantas Medicinales, Aromáticas y*

Aceites Esenciales. Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria. Madrid. pp. 35-38.

Hernández-Bermejo, E. Clemente, M. *et al.* (1994) Protección de la Flora en Andalucía. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.

Losa Quintana, J.M. and Giménez, M.A. (1986) Especies medicinales endémicas de Sierra Nevada. *ARS-Pharmaceutica*. 27:381-386.

Martínez Parras, J.M. Molero Mesa, J. and Esteve Chueca, F. (1980) Notas sobre la flora de la provincia de Granada. *Lagascalia* 9:51-64.

Molero, J. Martínez-Parras, J.M. and Pérez-Raya, F. (1987) *Artemisia granatensis* Boiss. (Asteraceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 114-115.

Prieto, P. (1968) Las plantas medicinales de la zona cacuminal de Sierra Nevada y su venta en las oficinas de farmacia más altas de Europa. *Pharm. Medit.* 8:455-460.

Sainz-Ollero, H. and Hernández-Bermejo, J.E. (1979) Experimental reintroductions of endangered plant species in their natural habitats in Spain. *Biol. Conserv.* 16(3):195-206.

Artemisia pancicii* (Janka) Ronn.*ASTERACEAE**

- Status:** V
Distribution: Austria, Czechoslovakia, Yugoslavia
- Researcher:** V. Stevanovic, I. Spasic and S. Pavic
Institution: Institute of Botany and Botanical Garden
Faculty of Biology
Address: University of Belgrade, Yugoslavia
- Area of study:** * Distribution

Bibliography:

Stevanovic, V. and Spasic, I. (1993) The endemic flora of Serbia: Diversity and endangering. *VII OPTIMA Meeting*, Borovetz, Bulgaria.

Asphodelus bento-rainhae P. Silva**LILIACEAE**

- Status:** R
Distribution: Portugal
- Researcher:** Z. Díaz Lifante
Institution: Dpto. Biología Vegetal y Ecología
Facultad de Biología, Universidad de Sevilla.
Address: Avda. Reina Mercedes s/n
E-41080 Sevilla, Spain
- Area of study:**
- * Anatomy
 - * Germination, dormancy
 - * Growth, development
 - * Flowering, fruit development, pollination
 - * Reproduction
 - * Morphology
 - * Palinology
 - * Karyology

Bibliography:

Díaz Lifante, Z., Diez, M.J. and Fernández, I. (1990) Morfología polínica de las subfamilias *Melacthoideae* y *Asphodeloideae* (*Liliaceae*) en la Península Ibérica y su importancia taxonómica. *Lagascalia* 16:211-216.

Asphodelus gracilis Br.- Bl. & Maire**LILIACEAE**

Status: R**Distribution:** Morocco**Researcher:** Z. Díaz Lifante**Institution:** Dpto. Biología Vegetal y Ecología
Facultad de Biología, Universidad de Sevilla.**Address:** Avda. Reina Mercedes s/n
E-41080 Sevilla, Spain**Area of study:**

- * Growth, development
- * Flowering, fruit development, pollination
- * Reproduction
- * Morphology
- * Palynology
- * Karyology

Bibliography:

Díaz Lifante, Z. (1992) Karyological studies in *Asphodelaceae* (*Liliaceae*). I. Chromosome numbers of *Asphodelus* and *Anthericum* from North Africa. *Willdenowia* 22.

Asphodelus roseus* Humbert & Maire*LILIACEAE**

- Status:** R
Distribution: Spain
- Researcher:** Z. Díaz Lifante
Institution: Dpto. Biología Vegetal y Ecología
Facultad de Biología, Universidad de Sevilla.
Address: Avda. Reina Mercedes s/n
E-41080 Sevilla, Spain
- Area of study:**
- * Germination, dormancy
 - * Growth, development
 - * Flowering, fruit development, pollination
 - * Reproduction
 - * Morphology
 - * Palinology
 - * Karyology

Bibliography:

- Díaz Lifante, Z. (1990) *Asphodelus roseus* Humbert & Maire, nuevo para la Península Ibérica. *Lagascclia* 16 (1): 123-125.
- Díaz Lifante, Z. (1992) Karyological studies in *Asphodelaceae* (*Liliaceae*). I. Chromosome numbers of *Asphodelus* and *Anthericum* from North Africa. *Willdenowia* 22.

Astragalus centralpinus* Braun Blanquet*FABACEAE**

Status: V
Distribution: Bulgaria, France, Italy
Researcher: S. Gardini Peccenini
Institution: Institute Botanico "Hanbury"
Address: Università-Corso Dogali, 1/C
 Genova, Italy

Area of study: * Ecology
 * Distribution

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Pampanini, R. (1907) *Astragalus alopecuroides* L. em. Pampanini. *Giorn. Bot. Ital.* (n.s.) 14:327.

Peyronel, B. (1964) Notizie sulle piante rare o critiche della Val di Cogne (Gran Paradiso) III. *Giorn. Bot. Ital.* 71:691.

Peyronel, B. (1967) Notizie sulle piante rare o critiche della Val di Cogne (Gran Paradiso) IV. *Giorn. Bot. Ital.* 101:308.

Vaccari, L. (1904) L'*Astragalus alopecuroides* L. in Val d'Aosta. Una nuova stazione nella Valtornenche. *Bull. Soc. Bot. Ital.* 1904:378.

Astragalus dasyanthus* Pall.*FABACEAE**

- Status:** V
Distribution: Bulgaria, Hungary, Romania, Yugoslavia
- Researcher:** D. Pavlova
Institution: University of Sofia
Biological Faculty, Dept. of Botany
Address: buld. Dr. Tzankov 8
1421 Sofia, Bulgaria
- Area of study:** * Genetics
* Palynology

Bibliography:

Pavlova, D. (1988) Karyological study of several species from g. *Astragalus* L. Comptes rendus *Acad. Bull. Sci.* 41:67-69.

Pavlova, D. *et al.* Pollen morphology of the Bulgarian species from *Astragalus* L. (Fabaceae) subg. *Hypoglottis* Bge., *Phaca* (L.) Bge., *Astragalus*, *Cercidothrix* Bge., *Calycocyttis* Bge. *God. Sof. Univ., Biol. Fac.* (in press).

Astragalus wilmottianus Stoj.FABACEAE

Status: R
Distribution Bulgaria

Researcher: D. Pavlova
Institution: University of Sofia
Biological Faculty
Department of Botany

Address: buld. Dr. Tzankoz 8
1421 Sofia, Bulgaria

Area of study: * Genetics
* Palinology

Bibliography:

Pavlova, D. (1988) Karyological study of several species from g. *Astragalus* L. Comptes rendus *Acad. Bull. Sci.* 41:67-69.

Pavlova, D. *et al.* Pollen morphology of the Bulgarian species from *Astragalus* L. (Fabaceae) subg. *Hypoglottis* Bge., *Phaca* (L.) Bge., *Astragalus*, *Cercidothrix* Bge., *Calycocystis* Bge. *God. Sof. Univ., Biol. Fac.* (in press).

Atractylis arbuscula Svent. & Mich.**ASTERACEAE**

Status: E
Distribution Canary Islands

Researcher: M.F. Fay *et al.* (in liason with D. Bramwell *et al.* (Las Palmas)
Institution: Micropropagation Unit, Royal Botanic Gardens
Address: Kew, Richmond, Surrey TW9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Current research:

Ongoing micropropagation

Bibliography:

Fay, M.F. (in press) Micropropagation of plants from the Canary Islands. *Bol. Mus. Mun. Funchal* Suppl. 2.

González, C., Rubio, A. and Ortega, C.I. (1989) Propagación *in vitro* de endemismos canarios en peligro de extinción: *Atractylis arbuscula* Svent. et Michaelis. *Bot. Macar.* 17.

Kunkel, G. (1982) *Los riscos de Famara (Lanzarote, Islas Canarias). Breve descripción y guía florística.* Naturalia Hispanica n 22. I.C.O.N.A., Madrid.

Maya, P. and Ponce, M. (1989) Algunos datos sobre la interacción entre luz y temperatura en la temperatura en la germinación de algunas especies de Asteraceas endémicas de Canarias. *Bot. Macar.* 17.

Sventenius, E. (1968) *Plantae Macaronesienses Nova Vel Minus Cognitae I.* Santa Cruz de Tenerife.

Atractylis preauxiana* Schultz Bip.*ASTERACEAE**

Status:	E
Distribution	Canary Islands
Researcher:	J.A. Rodríguez et al.
Institution:	Jardín de Aclimatación de la Orotava, CITA
Address:	Puerto de la Cruz E-38400 Tenerife, Spain
Fax:	34 22 383572
Area of study:	* Culture techniques * Germination, dormancy

Bibliography:

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Atropa baetica* Willk.*SOLANACEAE**

- Status:** E
Distribution: Spain
- Researcher:** E. Hernández, J. Prados and A. Lora
Institution: Dpto. Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba
Address: Avda. de Linneo s/n
E-14004 Córdoba, Spain
Phone: 34 57 200077 / 200018
Fax: 34 57 295333
- Area of study:** * Propagation methods
* Conservation

Current research:

Estimation of variability, germplasm collection and preservation, propagation methods. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

Bibliography:

Hernández-Bermejo, E. Clemente, M. *et al.* (1994) Protección de la Flora en Andalucía. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.

Azorina vidalii (H.C. Watson) FeerCAMPANULACEAE

Status: V**Distribution:** Azores**Researcher:** M.L. Caixinhas**Institution:** Universidade Técnica de Lisboa
Dpto. de Botânica e Engenharia Biológica
Instituto Superior de Agronomia**Address:** Tapada da Ajuda
P-1399 Lisboa Codex, Portugal**Area of Study:** * Germination, dormancy**Researcher:** J. Y. Lesouef *et al.***Institution:** Conservatoire Botanique de Brest**Address:** 52 Allée du Bot
F-29200 Brest, France**Phone:** 33 98 418895**Area of study:** * Culture techniques**Researcher:** G.B. Maciel**Institution:** Universidade dos Açores, Dpto. de Biologia**Address:** Rua Mae de Deus 58, Apart. 1422
P-9502 Ponta Delgada Codex, Portugal**Area of study:** * Germination, dormancy**Bibliography:**

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Maciel, G.B. and Caixinhas, H.L. (1992) Etudes sur les dormances de quelques espèces endémiques des Açores. *IVe rencontre internationale sur les semences*, Angers (France).

***Barbarea sicula* Presl**

BRASSICACEAE

Status: V
Distribution: Italy, Sicily
Researcher: F.M. Raimondo
Institution: Dipartimento di Scienze Botaniche
Address: Via Archirafi 38
I-90123 Palermo, Italy
Phone: 39 91 6161493
Area of study: * Autecology
* Distribution
* *Ex situ* and *in situ* conservation

Bibliography:

None

Bassia saxicola (Guss.) A.J. Schott

CHENOPODIACEAE

Status: E
Distribution: Italy, Sicily

Researcher: S. Fici
Institution: Dipartimento di Scienze Botaniche
Address: Via Archirafi 38
I-90123 Palermo, Italy
Phone: 39 91 6161493

Area of study: * Autecology
* Distribution
* Propagation
* *Ex situ* and *in situ* conservation

Bibliography:

Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Plante d'Italia*.
WWF, Rome. 637 pp.

Bellis azorica Hochst. ex Seub.

ASTERACEAE

- Status:** E
Distribution: Azores
- Researcher:** M.L. Caixinhas
Institution: Universidade Técnica de Lisboa
 Dpto. de Botânica e Engenharia Biológica
 Instituto Superior de Agronomia
Address: Tapada da Ajuda
 P-1399 Lisboa Codex, Portugal
- Area of Study:** * Germination, dormancy
- Researcher:** G.B. Maciel
Institution: Universidade dos Açores, Dpto. de Biologia
Address: Rua Mae de Deus 58, Apart. 1422
 P-9502 Ponta Delgada Codex, Portugal
- Fax:** 351 96 653 455
- Area of study:** * Germination, dormancy

Bibliography:

- Furtado, D.S. (1984) Status e distribuição das plantas vasculares endêmicas dos Açores. *Arquipélago*, 5:197-209.
- Hansen, A. and Sundig, P. (1985) Flora of Macaronesia, Checklist of vascular plants. *Sommerfeltia*, 1.
- Maciel, G.B. and Caixinhas, M.L. (1992) Etudes sur les dormances de quelques espèces endémiques des Açores. *IVe rencontre internationale sur les semences*, Angers (France).
- Maciel, G.B. and Caixinhas, M.L. (1993) Etude sur la germination de deux années d'essais de quelques espèces endémiques des Açores. *Primeiro Simposio Fauna e Flora das Ilhas Atlânticas*, Madeira.

Bencomia exstipulata* Svent.*ROSACEAE**

Status: E**Distribution:** Canary Islands**Researcher:** A. Bañares and J. Real**Institution:** Centro Ecológico de La Laguna, ICONA**Address:** Carretera de La Esperanza Km. 2

La Laguna, Tenerife, Spain

Phone: 34 22 259903 / 263898**Area of study:**

- * Flowering, fruit development, pollination
- * Propagation methods
- * Culture techniques
- * Phenology
- * Demography, population dynamics
- * Ecology
- * Reintroduction

Current research:

Genetic recovery of the threatened flora of the Teide National Park.

Bibliography:

None

Biscutella fontqueri* Guinea & Heywood*BRASSICACEAE**

Status: R
Distribution: Spain

Researcher: I. Qeral
Institution: Independent
Address: C/ Sarratella 3, 2º - 4ª
 E-12005 Castellón de la Plana, Spain
Phone: 34 64 243489

Area of study: * Growth, development
 * Demography, population dynamics
 * Ecology

Current research:

Threatened endemisms of Els Ports de Tortosa-Beseit.

Bibliography:

- Bolós, O. de (1967) Comunidades vegetales de las comarcas próximas al litoral, situadas entre los ríos Llobregat y Segura. *Mem. Real Acad. Cienc. Artes* 38:1-279.
- Crespo, M.B. Guemes, J. and Mateo, G. (1992) Notes on some taxa of *Biscutella* ser. *Laevigatae* Malinov. Brassicaceae from the eastern Iberian peninsula. *An. Jard. Bot. Madr.* 50 (1):27-34.
- Font Quer, P. (1917) Vuit dies d'excursió botànica als Ports de Tortosa. *Publ. Junta Cienc. Naturals* 2:619-632.
- Font Quer, P. (1920) Contribució al coneiximent de la flora catalana occidental. *Treb Mus. Cienc. Nat.* 5:193-233.
- Guinea, E. (1968) Iconografía *biscutellarum novarum peninsulae ibericae* (subseries pygmaeae). *Collect. Bot.* 7:539-549.
- Qeral, I. (1987) *Biscutella fontqueri* Guinea & Heywood (Brassicaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 120-121.

Biscutella rotgesii* Foucaud*BRASSICACEAE**

Status: V
Distribution: Corsica

Researcher: L. Olivier *et al.*
Institution: Conservatoire Botanique National de
Porquerolles
Address: Castel Sainte-Claire
Rue du Castel Ste. Claire
F-83400 Hyeres, France
Phone: 33 94 653298
Fax: 33 94 658483

Area of study: * Germination, dormancy
* Propagation methods
* Culture techniques

Bibliography:

None

Brassica insularis* Moris*BRASSICACEAE**

Status: R
Distribution: Corsica, Sardinia and Tunisia

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: L. Olivier *et al.*
Institution: Conservatoire Botanique National de
 Porquerolles
Address: Castel Sainte-Claire
 Rue du Castel Ste. Claire
 F-83400 Hyeres, France
Phone: 33 94 653298
Fax: 33 94 658483

Area of study: * Germination, dormancy
 * Propagation methods
 * Culture techniques

Bibliography:

- Dias, J.S. Lima, M.B. Song, K.M. Monteiro, A.A. Williams, P.H. and Osborn, T.C. (1991) Molecular taxonomy of Portuguese tronchuda cabbage and kale landraces using nuclear RFLPs. *Euphytica* 58:221-229.
- Kianian, S.F. and Quiros, C.F. (1991) Novel variations in the $x = 19$ *Brassica* species. *Cruciferae Newsletter* No. 14-15, 68-69.
- Kianian, S.F. and Quiros, C.F. (1992) Generation of a *Brassica oleracea* composite RFLP map: linkage arrangements among various populations and evolutionary implications. *Theor. Appl. Genet.* 84 (5/6):544-554.
- Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.
- Mithen, R.F. and Lewis, B.G. (1988) Resistance to *Leptosphaeria maculans* in hybrids of *Brassica oleracea* and *Brassica insularis*. *J. Phytopathol.* 123 (3): 253-258.

Mithen, R.F. Lewis, B.G. Heaney, R.K. and Fenwick, G.R. (1987) Glucosinolates of wild and cultivated *Brassica* spp. *Phytochemistry* 26 (7):1969-1974.

Snogerup, S. Gustafsson, M. and Bothmer, R. von (1990) *Brassica* sect. *Brassica* (Brassicaceae). I. Taxonomy and variation. *Willdenowia* 19:271-365.

Snogerup, S. and Persson, D. (1983) Hybridization between *Brassica insularis* Moris and *Brassica balearica* Pers. *Hereditas* 99:187-190.

Bupleurum elatum* Guss.*APIACEAE**

- Status:** V
Distribution: Sicily
- Researcher:** F.M. Raimondo
Institution: Dipartimento di Scienze Botaniche
Address: Via Archirafi 38
I-90123 Palermo, Italy
Phone: 39 91 6161493
- Area of study:** * Autecology
* Propagation
* *Ex situ* and *in situ* conservation

Bibliography:

- Colombo, P. Marcenò, C. and Princiotta, R. (1977-78) Notizie morfo-anatomiche su *Bupleurum elatum* Guss., endemica puntiforme madonita. *Atti Accad. Sci. Palermo*, s.4, 37(1):14.
- Colombo, P. Marcenò, C. and Princiotta, R. (1980) Osservazioni morfo-anatomiche su alcune endemiche siciliane: *Scabiosa limonifolia* Vahl e *Bupleurum elatum* Guss. *Giorn. Bot. Ital.*, 114(3-4):111-112.
- Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Plante d'Italia*. WWF, Rome. 637 pp.

Campanula poscharskyana* Degen*CAMPANULACEAE**

Status: R
Distribution: Yugoslavia
Researcher: J. Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
Area of study: * Culture techniques

Researcher: C. Vander Mey
Institution: Chicago Botanic Garden
Address: Glencoe, USA
Area of study: * Propagation methods
 * Culture techniques

Bibliography:

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Holmenlund, N. (1986) Blomsterdannelse i *Campanula poscharskyana*. *Gartner Tidende* 102: 286-289.

Holmenlund, N. (1987) Vaekstregulering af *Campanula poscharskyana*. *Gartner Tidende* 103: 209-211.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Reimherr, P. and Gradner, U. (1989) Verfruhung von *Campanula* in Topf. *Deutscher-Gartenbau* 43:88-89.

Capsella thracica Velen.**BRASSICACEAE**

- Status:** V
Distribution: Bulgaria
- Researcher:** B. Kuzmanov (deceased)
Institution: Institute of Botany
Bulg. Acad. Sci.
Address: 1113 Sofia, Bulgaria
- Area of study:** * Growth, development
* Demography, population dynamics

Bibliography:

Kuzmanov, B. Ecological features in protection of some rare plant species. *Ekologija* (in press).

Carduncellus dianius WebbASTERACEAE

Status: R
Distribution: Spain
Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
Area of study: * Culture techniques

Researcher: L. Navarro *et al.*
Institution: Dpto. de Cultivo de Tejidos Vegetales, Instituto Valenciano de Investigaciones Agrarias.
Address: Moncada, Valencia, Spain
Area of study: * Micropropagation

Bibliography:

- Costa, M. *et al.* (1987) *Carduncellus dianius* Webb (Asteraceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 138-139.
- Guerau d'Arellano, G. and Torres, N. (1981) *Nova aportació al coneixment de les plantes d'Eivissa. Formentera*. Inst. d'Estudis Eivissens, Ibiza. 132 pp.
- Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.
- Rigual, A. (1972) *Flora y Vegetación de la Provincia de Alicante*. Inst. Est. Alicantinos, Alicante. 403 pp.

Carduus thracicus (Velen.) Hayek

ASTERACEAE

Status: V
Distribution: Bulgaria
Researcher: B. Kuzmanov (deceased)
Institution: Institute of Botany
Bulg. Acad. Sci.
Address: 1113 Sofia, Bulgaria
Area of study: * Growth, development
* Demography, population dynamics

Bibliography:

Kuzmanov, B. Ecological features in protection of some rare plant species. *Ekologija* (in press).

Carex calderae* A. Hansen*CYPERACEAE**

Status: V
Distribution: Canary Islands
Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: J.M. Pita
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
 Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
Phone: 34 1 3365657
Fax: 34 1 3365656

Area of study: * Germination, dormancy

Researcher: J.A. Rodríguez *et al.*
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
 E-38400 Tenerife, Spain
Fax: 34 22 383572

Area of study: * Culture techniques
 * Germination, dormancy

Bibliography:

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Pita, J.M. (1988) Germinación en especies endémicas de las Islas Canarias. *Investigación Agraria* 3:39-43.

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Centaurea balearica* Rodr.*ASTERACEAE**

- Status:** E
Distribution: Balearic Islands
- Researcher:** J. Estades and H. Medrano
Institution: Laboratori de Fisiología Vegetal
 Dep. de Biología I.C.S.
Address: Universitat de les Illes Balears
 Palma de Mallorca, Spain
- Area of study:** * Micropropagation
- Researcher:** J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
- Area of study:** * Culture techniques

Bibliography:

Estades, J. and Medrano, H. (1990) Contribución a la conservación de plantas endémicas de Baleares mediante cultivo *in vitro*. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*, Koeltz Scientific Books, Koenigstein, Germany. pp. 121-123.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Llorens, Ll. (1979) Nueva contribución al conocimiento de la flora balear (3). *Mediterránea* 3:101-122.

Llorens, Ll. (1987) *Centaurea balearica* Rodr. (Asteraceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 148-149.

Rodríguez, J. (1869) *Centaurea balearica* y *Daphne vellaeoides*, dos especies nuevas de la isla de Menorca. *Bull. Soc. Bot. France* 16:237.

Rodríguez, J.J. (1904) *Flórula de Menorca*. Mahón.

Centaurea carratracensis* Lange*ASTERACEAE**

Status: R
Distribution: Spain

Researcher: M. Clemente, P. Contreras and E. Hernández
Institution: Dpto. Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba

Address: Avda. de Linneo s/n
E-14004 Córdoba, Spain

Phone: 34 57 200077 / 200018
Fax: 34 57 295333

Area of study: * Micropropagation

Bibliography:

- Clemente, M. (1991). The micropropagation unit at the Cordoba Botanic Garden, Spain. *Botanic Gardens Micropropagation News* 1(3):30-32
- Hernández-Bermejo, E.; Clemente, M. *et al.* (1994) *Protección de la Flora en Andalucía*. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.
- Salvo, E. (1987) *Centaurea carratracensis* Lange (Asteraceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 154-155.

Centaurea hermannii F. Hermann

ASTERACEAE

Status: V

Distribution: Turkey

Researcher: E. Üzen and B. Tütel

Institution: I.Ü. Fen Fakültesi, Botanik Anabilim Dalı

Address: Süleymaniye - Istanbul, Turkey

Area of study: * Anatomy
* Flowering, fruit development, pollination
* Dispersal

Bibliography:

None

Centaurea lainzii* Fdez. Casas*ASTERACEAE**

Status: R
Distribution: Spain
Researcher: C. Martín and M.E. González-Benito
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
 Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
Area of study: * Micropropagation

Current research:

Micropropagation of *Centaurea lainzii*

Bibliography:

- Asensi, A. and Díez, B. (1977) *Centaurea lainzii* Fdez.Casas en la Sierra Bermeja de Estepona (Málaga). *Anal. Inst. Bot. Cavanilles* 34:183-188.
- Fernández-Casas, J. (1975) *Exsiccata quaedam a me nuper distributa, 1*. Madrid.
- Fernández-Casas, J. and Fernández-Morales, M.J. (1979) *Centaurea lainzii*, un triploide natural. *Mem. Soc. Bot. Geneve* 1:115-122.
- Fernández-Casas, J. Gómez-Campo, C. and Cabezudo, B. (1987) *Centaurea lainzii* Fdez. Casas (Asteraceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 170-171.
- Gómez-Campo, C. and Malato-Beliz, J. (1985) The Iberian Peninsula. In: C. Gómez-Campo (Ed.) *Plant Conservation in the Mediterranean Area*. Dr. W. Junk Pub., Dordrecht. pp. 47-70.
- Trigo, M.M. Recio, M. and Cabezudo, B. (1992) Fragmenta palynologica baetica 10. On the palynology of some endemic and interesting species from Eastern Andalucía V. *Acta Bot. Malacitana*. 17 (0):267-277.

Centaurea rothmalerana* (Arènes) Dostal*ASTERACEAE**

Status: R
Distribution: Portugal
Researcher: M.L. Caixinhas, T. Vasconcelos & A.D. Barao
Institution: Dpto. de Botânica e Engenharia Biológica
Instituto Superior de Agronomia
Address: Tapada da Ajuda
P-1399 Lisboa Codex, Portugal

Area of study: * Germination, dormancy

Bibliography:

Caixinhas, M.L., Vasconcelos, T. and Barao, A.D. (1992) Germination de semences d'espèces endémiques après plusieurs années deconservation. *IV Reencontre Internationale sur les semences*, Angers (France).

Centaurium rigualii Esteve**GENTIANACEAE**

- Status:** E
Distribution: Spain
- Researcher:** E. González-Benito, J.M. Iriondo and C. Pérez
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
- Area of study:** * Micropropagation
* Conservation

Current research:

Micropropagation of *Centaurium rigualii*

Bibliography:

- Alcaraz, F. *et al.* (1987) *Centaurium rigualii* Esteve (Gentianaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 188-189.
- Alcaraz, F. Garre, M. and Robledo, A. (1985) Notas sobre la flora del Sureste Ibérico IV. *Collect. Bot.* 16(1):123-126.
- Esteve-Chueca, F. (1965) Algunas novedades para la flora murciana. *Anal. Inst. Bot. Cavanilles* 23:173-185.
- Esteve-Chueca, F. (1973) *Vegetación y Flora de las Regiones Central y Meridional de la Provincia de Murcia*. Inst. Orient. Asist. Técn. Sureste CSIC, Murcia. 451 pp.
- Gómez-Campo, C. and Malato-Beliz, J. (1985) The Iberian Peninsula. In: C. Gómez-Campo (Ed.) *Plant Conservation in the Mediterranean Area*. Dr. W. Junk Pub., Dordrecht pp.47-70.
- González-Benito, M.E. and Pérez, C. (1994) Studies on the cryopreservation of nodal explants of *Centaurium rigualii* Esteve, an endemic threatened species, through vitrification. *Bot. Gardens Microp. News* 1(7):82-84.

Centranthus trinervis* (Viv.) Béguinot*VALERIANACEAE**

- Status:** E
Distribution: Corsica and Sardinia
- Researcher:** L. Olivier *et al.*
Institution: Conservatoire Botanique National de
 Porquerolles
Address: Castel Sainte-Claire
 Rue du Castel Ste. Claire
 F-83400 Hyeres, France
Phone: 33 94 653298
Fax: 33 94 658483
- Area of study:** * Germination, dormancy
 * Propagation methods
 * Culture techniques

Bibliography:

- Arrigoni, P.V. (1974) I tipi di vegetazione e le entità floristiche in pericolo di estinzione nella Sardegna Centrale. *Biologia Contemporanea* 3:97-104.
- Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Plante d'Italia*. WWF, Rome. 637 pp.
- Corrias, B. (1978) Numeri Cromosomici per la Flora Italiana: 406-408. *Inform. Bot. Ital.* 10:90-93.
- Corrias, B. (1978) Le piante endemiche della Sardegna: 24-28. *Boll. Soc. Sarda Sci. Nat.* 17:243-266.

Chaerophyllum azoricum* Trelease*APIACEAE**

Status: E
Distribution: Azores
Researcher: M.L. Caixinhas
Institution: Universidade Técnica de Lisboa
 Dpto. de Botânica e Engenharia Biológica
 Instituto Superior de Agronomia
Address: Tapada da Ajuda
 P-1399 Lisboa Codex, Portugal

Area of Study: * Germination, dormancy

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: G.B. Maciel
Institution: Dpto. de Biologia
 Universidade dos Açores
Address: Rua Mae de Deus 58, Apart. 1422
 P-9502 Ponta Delgada Codex, Portugal

Fax: 351 96 653 455

Area of study: * Germination, dormancy

Bibliography:

Furtado, D.S. (1984) Status e distribuição das plantas vasculares endémicas dos Açores. *Arquipélago*, 5:197-209.

Hansen, A. and Sundig, P. (1985) Flora of Macaronesia, Checklist of vascular plants. *Sommerfeltia*, 1.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Maciel, G.B. and Caixinhas, M.L. (1992) Etudes sur les dormances de quelques

espèces endémiques des Açores. *IVe rencontre internationale sur les semences*, Angers (France).

Maciel, G.B. and Caixinhas, M.L. (1993) Etude sur la germination de deux années d'essais de quelques espèces endémiques des Açores. *Primeiro Simposio Fauna e Flora das Ilhas Atlânticas*, Madeira.

Cistus osbeckiifolius Webb ex Christ.**CISTACEAE**

Status: E
Distribution: Canary Islands
Researcher: A. Bañares, M. Castroviejo, and J. Real
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km.2
 La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Area of study: * Growth, development
 * Flowering, fruit development, pollination
 * Phenology
 * Demography, population dynamics
 * Ecology
 * Reintroduction
 * Biotic interactions

Current research:

Genetic recovery of the Threatened Flora of the Teide National Park.

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: F. Pérez-García & J.M. Pita
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
 Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
Phone: 34 1 3365657
Fax: 34 1 3365656

Area of study: * Germination, dormancy

Bibliography:

Bañares, A. Castroviejo, M. and Real, J. (1990) Re-establishment plan for the flora of the Teide National Park I. *Cistus osbaeckiaefolius* and *Helianthemum juliae*. *Boletín del Museo Municipal de Funchal* (in press).

Bañares, A. Romero, P. and Rodriguez, C. (1992) Adiciones corológicas de algunos endemismos vegetales canarios en peligro de extinción. *Bot. Macar.*, 19-20:141-144.

Christ, D.H. (1888) *Spicilegium canariense*. *Bot. Jahrb.*, 9:86-172.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Maya, P. Monzon A. and Ponce, M. (1988) Datos sobre la germinación de especies endémicas canarias. *Bot. Macar.* 16: 67-80.

Pérez-García, F. Germinación de semillas de *Cistus osbaeckiaefolius* Webb ex Christ. (Cistaceae) *Bot. Macar.*, (in press).

Pita, J.M. (1988) Germinación en especies endémicas de las Islas Canarias. *Investigación Agraria* 3:39-43.

Sventenius, E.R.S. (1946) Notas sobre la flora de las Cañadas de Tenerife. *Boletín del I.N.I.A.* 15: 149-171.

Cistus palhinhae* Ingram*CISTACEAE**

Status: R
Distribution: Portugal
Researcher: M.L. Caixinhas, T. Vasconcelos & A.D. Barao
Institution: Dpto. de Botânica e Engenharia Biológica
Instituto Superior de Agronomia
Address: Tapada da Ajuda
1399 Lisboa Codex, Portugal

Area of study: * Germination, dormancy

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

Caixinhas, M.L., Vasconcelos, T. and Barao, A.D. (1992) Germination de semences d'espèces endémiques après plusieurs années deconservation. *IV Reencontre Internationale sur les semences*, Angers (France).

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Coincya rupestris Rouy**BRASSICACEAE**

Status: E**Distribution:** Spain**Researcher:** M. Clemente, P. Contreras and E. Hernández**Institution:** Dpto. Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba**Address:** Avda. de Linneo s/n
E-14004 Córdoba, Spain**Phone:** 34 57 200077 / 200018**Fax:** 34 57 295333**Area of study:** * Micropropagation**Bibliography:**

Gómez-Campo, C. (1987) *Coincya rupestris* Rouy (Brassicaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 202-203.

Colchicum chalcedonicum Azn.**LILIACEAE**

- Status:** E
Distribution: Turkey
- Researcher:** O. Küçüker
Institution: Dept. Biology
 University of Istanbul
Address: T-34460 Süleymaniye, Istanbul, Turkey
- Area of study:** * Anatomy
 * Flowering, fruit development, pollination
 * Dispersal
 * Phenology
 * Morphology

Bibliography:

- Baytop, T. (1987) New observations on the *Colchicum* Liliaceae of Turkey. *Istanbul Univ. Eczacilik. Fak. Mecm.* 23 (0):41-50.
- Demiriz, H. (1973) Endemiten der umgebung von Istanbul. *Proc. Int. Symp. Abies Equi-troj. and Turk. Fl.* 147-150.
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- Küçüker, O. (1990) A preliminary report on the position of "Meadow Saffrons" (*Colchicum*) of Turkey. *Threatened Plants Newsletter* (in press).
- Küçüker, O. and Çelebioglu, T. (1988) Micromorphological and anatomical structure of the seed-testa of some *Colchicum* species. *Candollea* 43(1): 129-138.
- Küçüker, O. and Çelebioglu, T. (1990) Morphological and cytotaxonomical notes on some *Colchicum* taxa of Turkey. *Third Plant Life of Southwest Asia Symposium*. Berlin, September 3-9, 1990. Abstracts of the posters, 88.
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Colchicum corsicum* Baker*LILIACEAE**

Status: V
Distribution: Corsica and Sardinia
Researcher: L. Olivier *et al.*
Institution: Conservatoire Botanique National de
Porquerolles
Address: Castel Sainte-Claire
Rue du Castel Ste. Claire
F-83400 Hyeres, France
Phone: 33 94 653298
Fax: 33 94 658483
Area of study: * Germination, dormancy
* Propagation methods
* Culture techniques

Bibliography:

Camarda, I. (1989-1990) Native plants of Sardinia, Italy 198. *Colchicum corsicum* Baker 1879. *Boll. Soc. Sarda. Sci. Nat.* 27 (0):283-287.

Colchicum turcicum Janka**LILIACEAE**

Status: V**Distribution:** Turkey**Researcher:** O. Küçüker**Institution:** Dept. Biology
University of Istanbul**Address:** T-34460 Süleymaniye
Istanbul, Turkey**Area of study:** * Anatomy
* Flowering, fruit development, pollination
* Dispersal
* Phenology
* Morphology**Bibliography:**

Baytop, T. (1987) New observations on the *Colchicum* Liliaceae of Turkey. *Istanbul Univ. Eczacilik. Fak. Mecm.* 23 (0):41-50.

Demiriz, H. and Baytop, T. (1985) The Anatolian Peninsula. In: Gomez-Campo, C. *Plant Conservation in the Mediterranean Area*. W. Junk Publ. Dordrecht.

Husek, A. Sutlupinar, N. Sedmera, P. Voegelien, F. Valka, I. and Simanek, V. (1990) Alkaloids and phenolics of *Colchicum turcicum*. *Phytochemistry* 29 (9):3058-3060.

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Küçüker, O. and Çelebioglu, T. (1988) Micromorphological and anatomical structure of the seed-testa of some *Colchicum* species. *Candollea* 43(1): 129-138.

Synge, H. (1980) Endangered monocotyledons in Europe and Southwest Asia. In: Brickell, C.D. Cutler, D.F. and Gregory, M. (Eds.) *Petaloid Monocotyledons. Horticultural and Botanical Research*. Academic Press. p. 199-205.

Convolvulus canariensis* L.*CONVOLVULACEAE**

Status: V
Distribution: Canary Islands
Researcher: M. González Martín
Institution: Jardín Botánico "Viera y Clavijo"
Address: Apto. Correos 14 de Tafira Alta
E-35017 Las Palmas de Gran Canaria, Spain

Area of study: * Genetics
* Germination, dormancy

Researcher: J.A. Rodríguez et al.
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
E-38400 Tenerife, Spain
Fax: 34 22 383572

Area of study: * Culture techniques

Bibliography:

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Convolvulus caput-medusae LoweCONVOLVULACEAE

- Status:** R
Distribution: Canary Islands
- Researcher:** M. González Martín
Institution: Jardín Botánico "Viera y Clavijo"
Address: Apto. Correos 14 de Tafira Alta
E-35017 Las Palmas de Gran Canaria, Spain
- Area of study:** * Genetics
* Germination, dormancy

Bibliography:

Mendoza-Heuer, I. (1971) Aportación al conocimiento del género *Convolvulus* en la Zona Macaronésica. *Cuad. Bot. Canar.* 12:22-34.

Montelongo, V. (1977) Estudio cuantitativo de la epidermis foliar de las especies endémicas de *Convolvulus* presentes en Gran Canaria. *Bot. Macar.* 4:9-22.

Montelongo, V. (1983) Situación actual de las comunidades costeras del Sureste de Gran Canaria. II Congreso Internacional Pro-Flora Macaronésica, Funchal. 425-435.

Convolvulus lopez-socasii Svent.CONVOLVULACEAE

Status: E
Distribution: Canary Islands
Researcher: M. González Martín
Institution: Jardín Botánico "Viera y Clavijo"
Address: Aptdo. Correos 14 de Tafira Alta
 E-35017 Las Palmas de Gran Canaria, Spain

Area of study: * Genetics
 * Germination, dormancy

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

Bramwell, D. Humphries, C.J. Murray, B.G. and Owens, S.J. (1972) *Bot. Notiser* 125:139-152.

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Mendoza-Heuer, I. (1971) Aportación al conocimiento del género *Convolvulus* en la zona macaronésica. *Cuad. Bot. Canar.* 12:22-34.

Sa'ad, F. (1967) *The Convolvulus species of the Canary Isles, the Mediterranean region and the Near and Middle East*. Bronder-Offset, Rotterdam.

Sventenius, E.R. (1960) *Additamentum ad Floram canariensem*. Madrid.

Coronopus navasii* Pau*BRASSICACEAE**

Status: E
Distribution: Spain

Researcher: J.M. Iriondo and C. Pérez
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
 Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain

Area of study: * Micropropagation

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

Gómez-Campo, C. (1987) *Coronopus navasii* Pau (Brassicaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 206-207.

Gómez-Campo, C. and Malato-Beliz, J. (1985) The Iberian Peninsula. In: C. Gómez-Campo (Ed.) *Plant Conservation in the Mediterranean Area*. Dr. W. Junk Pub., Dordrecht pp.47-70.

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Iriondo, J.M. Plaza, R. and Prieto, C. (1994) Números cromosómicos de plantas occidentales, 709-711. *Anales del Jardín Botánico de Madrid* 52(1):81.

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Crambe arborea Webb ex Christ.**BRASSICACEAE**

Status: E
Distribution: Canary Islands

Researcher: J. Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: J.M. Pita
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
 Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
Phone: 34 1 3365657
Fax: 34 1 3365656

Area of study: * Germination, dormancy

Researcher: J.A. Rodríguez *et al.*
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
 E-38400 Tenerife, Spain
Fax: 34 22 383572

Area of study: * Culture techniques
 * Germination, dormancy

Bibliography:

Bramwell, D. (1969) The genus *Crambe* (Cruciferae) in the Canary Islands Flora. *Cuad. Bot. Canar.* 6:5-12.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest.* Brest. 32 pp.

Pita, J.M. (1988) Germinación en especies endémicas de las Islas Canarias. *Investigación Agraria* 3:39-43.

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de

Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

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Crambe scaberrima* Webb ex Bramwell*BRASSICACEAE**

Status: R
Distribution: Canary Islands

Researcher: J.M. Pita
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
Phone: 34 1 3365657
Fax: 34 1 3365656

Area of study: * Germination, dormancy

Bibliography:

Aguinagalde, I. and Pero-Martinez, M.A. del (1982) The occurrence of acylated flavonol glycosides in the Cruciferae (*Sisymbrium gillesii*, *Crambe tataria*, *Crambe cordifolia*, *Crambe scaberrima*). *Phytochemistry* 21:2875-2878.

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Crepis canariensis (Sch. Bip.) Bab.

ASTERACEAE

Status: V
Distribution: Canary Islands
Researcher: J.A. Rodríguez et al.
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
E-38400 Tenerife, Spain
Fax: 34 22 383572
Area of study: * Culture techniques

Bibliography:

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Crocus etruscus* Parl.*IRIDACEAE**

Status: R
Distribution: Italy

Researcher: Mariotti Mauro Giorgio
Institution: Dip. Biología Ambiental Sec. Botánica
Address: Via P.A. Mattioli 4
 I-53100 Siena, Italy
Phone: 39 577 298869 / 298874
Fax: 39 577 298860

Area of study: * Ecology
 * Taxonomy

Bibliography:

- Baldini, R.M. (1990) Karyological observations on two *Crocus* spp. Iridaceae from Tuscany. *Caryologia*. 43 (3-4):341-345.
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Cupressus dupreziana A. CamusCUPRESSACEAE

Status: E
Distribution: Algeria
Researcher: C. Ducatillion
Institution: Institut National de la Recherche Agronomique
Address: Antibes, France

Area of study: * Propagation methods
 * Culture techniques

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

Andreoli, C. Panconesi, A. Ponchet, J. and Raddi, P. (1984) Etude comparees du comportement des cypres a Florence et a Antibes. In *Maladie du cypres (Coryneum cardinale)*. Report Commission of the European Communities No. EUR 9200:9-20.

Auge, P. and Ducatillion, C. (1991) Cultivation on the French Mediterranean coast (the Côte d'Azur) of rare or threatened tropical or subtropical trees. Two examples: *Juabaea chilensis* and *Cupressus dupreziana*. In: Heywood, V.H. and Wyse Jackson, P.S. (Eds.) *Tropical Botanical Gardens, Their Role in Conservation and Development*. Academic Press, London, 151-162.

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Dobry, J. and Kyncl, J. (1989) *Cupressus dupreziana* threatened coniferous tree of Central Sahara, Algeria. *Lesnictvi.* (Prague) 35 (4):371-384. Czech.

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Hrib, J. and Dobry, J. (1984) An explant culture of Tassilian cypress *Cupressus dupreziana* A. Camus. *For. Ecol. Manage.* 8: 235-242.

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Lothian, T.R.N. (1981) *Cupressus dupreziana* A. Camus he Saharan cypress (Africa). *Arboric J.* 5:107-109.

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Pauly, G. Yani, A. Piovetti, L. and Bernard-Dagan, C. (1983) Volatile constituents of the leaves of *Cupressus dupreziana* and *Cupressus sempervirens*. *Phytochemistry* 22:957-959.

Piovetti, L. Combaut, G. and Diara, A. (1980) Oxygenated mono- and sesquiterpenes from (heartwood extractives of) *Cupressus dupreziana*. *Phytochemistry* 19:2117-2120.

Piovetti, L. and Diara, A. (1977) Les sesquiterpenes de *Cupressus dupreziana*. *Phytochemistry* 16:103-106.

Piovetti, L. Francisco, C. Pauly, G. Benchabane, O. Bernard Dagan, C. and Diara, A. (1981) Volatile constituents of *Cupressus dupreziana* and the sesquiterpenes of *Cupressus sempervirens*. *Phytochemistry* 20:1299-1302.

Piovetti, L. González, E. and Diara, A. (1980) Diterpenè composition of *Cupressus dupreziana* and *Cupressus sempervirens* (heartwood). *Phytochemistry* 19:2772-2773.

Piovetti, L. Yani, A. Combaut, G. and Diara, A. (1981) Waxes (from foliage) of *Cupressus dupreziana* and *Cupressus sempervirens*. *Phytochemistry* 20:1135-1136.

Cytisus aeolicus Guss.**FABACEAE**

Status: E
Distribution: Sicily
Researcher: G. Troja
Institution: Dipartimento di Scienze Botaniche
Address: Via Archirafi 38
I-90123 Palermo, Italy
Phone: 39 91 6161493
Area of study: * Genetics
* Taxonomy

Bibliography:

- Bartolo, G. Brullo, S. Majorana, G. and Pavone, P. (1977) Numeri cromosomici per la Flora Italiana: 315-328. *Inform. Bot. Ital.*, 9:72.
- Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Plante d'Italia*. WWF, Rome. 637 pp.

Cytisus moleroi* Fdez. Casas*FABACEAE**

- Status:** V
Distribution: Spain
- Researcher:** A. Lora, E. Hernández and J. Prados
Institution: Dpto. de Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba
- Address:** Avda. de Linneo s/n
E-14004 Córdoba, Spain
- Phone:** 34 57 200077 / 200018
Fax: 34 57 295333
- Area of study:** * Conservation

Current research:

Cartography of the populations, estimation of variability, germplasm collection and preservation, and propagation methods. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

Bibliography:

- Hernández-Bermejo, E. Clemente, M. *et al.* (1994) *Protección de la Flora en Andalucía*. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.
- Fernández-Casas, J. (1980) *Exsiccata quaedam a nobilis distributa*, II:186.
- Fernández-Casas, J. (1982) De flora occidentali, 2 *Fontqueria* 2:25-42.
- Suasana de la Serna, A. (1987) *Cytisus moleroi* Fern. Casas (Fabaceae). In: C. Gómez-Campo (ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 210-211.

Daboecia azorica* Tutin & E.F. Warb.*ERICACEAE**

Status: R
Distribution: Azores
Researcher: M.L. Caixinhas
Institution: Universidade Técnica de Lisboa
 Dpto. de Botânica e Engenharia Biológica
 Instituto Superior de Agronomia
Address: Tapada da Ajuda
 P-1399 Lisboa Codex, Portugal

Area of Study: * Germination, dormancy

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: G.B. Maciel
Institution: Universidade dos Açores, Dpto. de Biologia
Address: Rua Mae de Deus 58, Apart. 1422
 P-9502 Ponta Delgada Codex, Portugal

Area of study: * Germination, dormancy

Bibliography:

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Maciel, G.B. and Caixinhas, H.L. (1992) Etudes sur les dormances de quelques espèces endémiques des Açores. *IVe rencontre internationale sur les semences*, Angers (France).

McClintock, D. (1984) The white heathers. *Plantsman*. 6:181-191.

McClintock, D. (1989) The heathers of Europe and adjacent areas. *Bot. J. Linn. Soc.* 101 (3):279-290.

Daphne rodriguezii* Teixidor*THYMELACEACEAE**

- Status:** E
Distribution: Balearic Islands
- Researcher:** J. Estades and H. Medrano
Institution: Laboratori de Fisiologia Vegetal
Dep. de Biología I.C.S.
Address: Universitat de les Illes Balears
Palma de Mallorca, Spain
- Area of study:** * Micropropagation

Bibliography:

- Bolós, O. Molinier, R. and Montserrat, P. (1970) Observations phytosociologiques dans l'île de Minorque. *Acta Geobot. Barcin.* 5:1-150.
- Estades, J. and Medrano, H. (1990) Contribución a la conservación de plantas endémicas de Baleares mediante cultivo *in vitro*. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*, Koeltz Scientific Books, Koenigstein, Germany. pp. 121-123.
- Llorens, L. (1979) Nueva contribución al conocimiento de la flora balear (3). *Mediterranea* 3:101-122.
- Llorens, L. and Bermejo, A. (1987) *Daphne rodriguezii* Teixidor (Thymelaeaceae) In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 212-213.

Delphinium pictum* Willd.*RANUNCULACEAE**

Status: V
Distribution: Corsica

Researcher: L. Olivier *et al.*
Institution: Conservatoire Botanique National de
Porquerolles
Address: Castel Sainte-Claire
Rue du Castel Ste. Claire
F-83400 Hyeres, France
Phone: 33 94 653298
Fax: 33 94 658483

Area of study: * Germination, dormancy
* Culture techniques

Bibliography:

Blanche, C. and Molero, J. (1984) Dos combinaciones nuevas y un comentario corológico en el genero *Delphinium* L. *An. Jardín Bot. Madrid* 41:469.

Descurainia gilva Svent.**BRASSICACEAE**

Status: R
Distribution: Canary Islands
Researcher: J.M. Pita
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
Phone: 34 1 3365657
Fax: 34 1 3365656

Area of study: * Germination, dormancy

Bibliography:

- Bramwell, D. (1977) A Revisión of *Descurainia* Webb & Berth. Section Sisymbriodendron (Christ) O. E. Schultz in the Canary Islands. *Bot. Macar.* 4: 31-55.
- Pita, J.M. (1988) Germinación en especies endémicas de las Islas Canarias. *Investigación Agraria* 3:39-43.
- Santos, A. (1983) *Vegetación y Flora de La Palma*. Editorial Interinsular Canaria. Santa Cruz de Tenerife.
- Sventenius, E. (1953) *Specilegium canariense*. III. *Bol. Inst. Nac. Invest. Agronom.* 28(188):15-28.

Dianthus diutinus Kit.

CARYOPHYLLACEAE

Status: R
Distribution: Hungary, Yugoslavia
Researcher: V. Stevanovic, I. Spasic and S. Pavic
Institution: Institute of Botany and Botanical Garden
Faculty of Biology
Address: University of Belgrade, Yugoslavia
Area of study: * Distribution

Bibliography:

Stevanovic, V. and Spasic, I. (1993) The endemic flora of Serbia: Diversity and endangering. *VII OPTIMA Meeting*, Borovetz, Bulgaria.

Dianthus nardiformis Janka**CARYOPHYLLACEAE**

Status: V
Distribution: Bulgaria, Romania, Yugoslavia

Researcher: A. Petrova
Institution: Botanical Garden
Bulgarian Academy of Sciences
Address: P.O. Box 664
1000 Sofia, Bulgaria

Area of study: * Demography, population dynamics
* Distribution

Bibliography:

Petrova, A. (1993) Rare plants in "Pobiti Kamani" protected areas in Northeastern Bulgaria. *VII OPTIMA Meeting*, Borovetz, Bulgaria.

Diploaxis siettiana MaireBRASSICACEAE

- Status:** Ex
Distribution: Spain
- Researcher:** C. Gómez-Campo
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos,
 Universidad Politécnica de Madrid
Address: Ciudad Universitaria
 E-28040 Madrid, Spain
Phone: 34 1 3365657
Fax: 34 1 3365656
- Area of study:** * Reproduction
 * Reintroduction
- Researcher:** J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
- Area of study:** * Culture techniques

Bibliography:

- Génova, M.M. Gómez, F. and Moreno J.C. (1990) Los endemismos de Alboran: seguimiento y valoración de sus poblaciones. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany, pp. 127-130.
- Génova, M.M. Gómez, F. Moreno, J.C. Morla, C. and Sáinz-Ollero, H. (1986) El paisaje vegetal de la isla de Alborán. *Candollea* 41:103-111.
- Gómez-Campo, C. (1979) Protección de especies amenazadas en España. *Fundación Juan March. Serie Universitaria* 87:25-33.
- Gómez-Campo, C. (1981) Studies on Cruciferae: VIII. Nomenclatural adjustments in *Diploaxis* DC. *Anal. Jard. Bot. Madrid* 38:29-35.
- Gómez-Campo, C. (1987) *Diploaxis siettiana* Maire (Brassicaceae) In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 224-225.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Prieto, P. et al. (1972) *La isla de Alborán*. Universidad de Granada 134 pp.

Dorycnium broussonetii (Choisy.) Webb & Berth.

FABACEAE

Status: R
Distribution: Canary Islands

Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit
Royal Botanic Gardens
Address: Kew, Richmond, Surrey
TW 9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Bibliography:

Santos, A. and Fernández, M. (1979) *Plantae in loco natali ab Eric. R. Sventenius inter annos MCMXLIII-MCMLXXI lectae, in herbario ORT Instituto Nationalis Investigationum Agrarium (HortusAcclimatationis Plantarum Arautapae) sunt*. Index Seminum Hort. Accl. Araut. MCMLXXVIII.

Dracunculus canariensis* Kunth.*ARACEAE**

Status: V
Distribution: Canary Islands
Researcher: J.A. Rodríguez et al.
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
E-38400 Tenerife, Spain
Fax: 34 22 383572
Area of study: * Culture techniques

Bibliography:

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Echium acanthocarpum Svent.**BORAGINACEAE**

Status: E
Distribution: Canary Islands
Researcher: A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
 La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Area of study:

- * Germination, dormancy
- * Flowering, fruit development, pollination
- * Reproduction
- * Propagation methods
- * Phenology
- * Demography, population dynamics
- * Ecology
- * Reintroduction

Current research:

Genetic recovery of the endangered flora of the Garajonay National Park.

Bibliography:

Bañares, A. (1990) La flora amenazada de los Parques Nacionales Canarios con especial referencia al P. N. de Garajonay. In: Koeltz Sc. Books (Ed.) *Conservation Techniques in Botanic Gardens*. pp. 87-90.

Bañares, A. (1990) Programa de recuperación de la flora amenazada del P. N. de Garajonay. In: Pérez de Paz (Ed.) *Garajonay, Patrimonio de la Humanidad*. ICONA, Madrid.

Bramwell, D. (1972) A revision of the genus *Echium* in Macaronesia. *Lagascalia* 2:37-115.

Sventenius, E. (1960) *Additamentum ad floram canariensem. I*. Inst. Nac. Invest. Agronóm. Minist. Agricult. Madrid.

Echium auberianum* Webb & Berth.*BORAGINACEAE**

Status: E
Distribution: Canary Islands

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: J. Real and A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Area of study: * Culture techniques
* Phenology
* Demography, population dynamics
* Ecology

Current research:

Study on the germination behaviour of some endemisms of the Supracanary layer.

Bibliography:

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Sventenius, E.R.S. (1946) Notas sobre la flora de las Cañadas de Tenerife. *Bol. Inst. Nac. Invest. Agronom.* 15: 149-171.

Webb, P.B. and Berthelot, S. (1844) *Histoire Naturelle des Iles Canaries. Phytographia Canariensis* 3:42. Paris.

Echium handiense Svent.**BORAGINACEAE**

Status: E
Distribution: Canary Islands

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: J.A. Rodríguez *et al.*
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
 E-38400 Tenerife, Spain
Fax: 34 22 383572

Area of study: * Germination, dormancy

Bibliography:

- Borgen, L. (1970) Chromosome numbers of macaronesian flowering plants. *Nytt. Mag. Bot.* 17: 145-161.
- Bramwell, D. (1972) A revision of the genus *Echium* in Macaronesia. *Lagasalia* 2 (1): 37-115.
- Kunkel, G. (1977) Endemismos canarios: Inventario de las plantas vasculares endémicas en la provincia de Las Palmas. Monografías, 15. ICONA, Madrid 49.
- Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.
- Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Echium hierrense* Webb ex Bolle*BORAGINACEAE**

Status: R
Distribution: Canary Islands
Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit
Royal Botanic Gardens
Address: Kew, Richmond, Surrey
TW 9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524
Area of study: * Micropropagation

Bibliography:

- Bramwell, D. (1972) A Revisión of the genus *Echium* in Macaronesia. *Lagascalia* 2:37-115.
- Santos, A. (1980) Contribución al conocimiento de la flora y vegetación de la isla de Hierro (I. Canarias). *Fund. Juan March. Ser. Univ.* 114. Madrid.

Echium leucophaeum* Webb ex Spr. & Hutch.*BORAGINACEAE**

Status: R
Distribution: Canary Islands

Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit
Royal Botanic Gardens
Address: Kew, Richmond, Surrey
TW 9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Bibliography:

- Bramwell, D. (1972) A revision of the genus *Echium* in Macaronesia. *Lagascalia* 2(1):37-115.
- Sprague, T.A. and Hutchinson, J. (1974) *Echiums* from the Atlantic Islands. I. *Kew. Bull.* 141:287-299.

Echium pininana* Webb & Berth.*BORAGINACEAE**

Status: E
Distribution: Canary Islands
Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit
Royal Botanic Gardens
Address: Kew, Richmond, Surrey
TW 9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524
Area of study: * Micropropagation

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
F-29200 Brest, France
Phone: 33 98 418895
Area of study: * Culture techniques

Bibliography:

Bramwell, D. (1972) A Revisión of the genus *Echium* in Macaronesia. *Lagasalia* 2:37-115.

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Santos, A. (1983) *Vegetación y Flora de La Palma*. Editorial Interinsular Canaria. Santa Cruz de Tenerife.

Erodium cazorlanum* Heywood*GERANIACEAE**

Status: E**Distribution:** Spain**Researcher:** E. Hernández, M. Clemente, A. Lora and J. Prados**Institution:** Dpto. de Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba**Address:** Avda. de Linneo s/n
E-14004 Córdoba, Spain**Phone:** 34 57 200077 / 200018**Fax:** 34 57 295333**Area of study:** * Conservation**Current research:**

Estimation of variability, germplasm collection and preservation, and propagation methods. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

Bibliography:

Hernández-Bermejo, E. Clemente, M. *et al.* (1994) *Protección de la Flora en Andalucía*. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.

Martínez-Parras, J.M. and Molero-Mesa, J. (1987) *Erodium cazorlanum* Heywood (Geraniaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 238-239.

Erodium paularense Fdez. Glez. & IzcoGERANIACEAE

Status: V**Distribution:** Spain**Researcher:** J.M. Iriondo *et al.***Institution:** Dpto. Biología Vegetal, E.T.S.I. Agrónomos,
Universidad Politécnica de Madrid**Address:** Ciudad Universitaria
E-28040 Madrid, Spain**Phone:** 34 1 3365657**Fax:** 34 1 3365656**Area of study:** * Germination, dormancy

* Flowering, fruit development, pollination

* Reproduction

* Dispersal

* Propagation methods

* Micropropagation

* Culture techniques

* Phenology

* Demography, population dynamics

* Ecology

Current research:Population dynamics of *Erodium paularense***Bibliography:**Domínguez, F. Galicia, D. y Moreno, L. (1993) El geranio de El Paular, un náufrago en el valle de Lozoya. *Quercus*, 93:32-33.Fernández-González, F. (1987) *Erodium paularense* Fdez. González & Izco (Geraniaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 240-241.Fernández-González, F. (1989) *Erodium paularense* nueva especie de la subsección *Petraea* Brumh. *Candollea*, 44 (1):241-248.González-Benito, M.E. Martín, C. and Iriondo, J.M. (in press) Autecology and conservation of *Erodium paularense* Fdez. Glez. & Izco. *Biological Conservation*.Guittonneau, G. (1972) Contribution à l'étude biosystématique du genre *Erodium* L'Hérit. dans le bassin méditerranéen occidental. *Boissiera* 20:1-154.Iriondo, J.M. González-Benito, M.E. and Martín, C. (1994) Conservación sobre el terreno y en laboratorio del geranio de El Paular. *Quercus*, 104:22-24.

Iriondo, J.M. González-Benito, M.E. and Martín, C. (1994) Estudios demográficos y fenológicos en el endemismo madrileño *Erodium paularense* Fdez. Glez. & Izco (Geraniaceae). *Studia Oecologica*, 10-11:183-189.

Iriondo, J.M. Plaza, R. and Prieto, C. (1994) Números cromosómicos de plantas occidentales, 709-711. *Anales del Jardín Botánico de Madrid* 52(1):81.

Erodium rupicola* Boiss.*GERANIACEAE**

Status: E
Distribution: Spain

Researcher: E. Hernández, M. Clemente, A. Lora and J. Prados
Institution: Dpto. de Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba
Address: Avda. de Linneo s/n
E-14004 Córdoba, Spain
Phone: 34 57 200077 / 200018
Fax: 34 57 295333

Area of study: * Conservation

Current research:

Estimation of variability, germplasm collection and preservation, and propagation methods. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

Bibliography:

Blanca-López, G. and Cueto-Romero, M. (1987) *Erodium rupicola* Boiss. (Geraniaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 244-245.

Hernández-Bermejo, E. Clemente, M. *et al.* (1994) *Protección de la Flora en Andalucía*. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.

Erucastrum palustre (Pirona) Vis.**BRASSICACEAE**

Status: E
Distribution: Italy

Researcher: S. Gardini Peccenini
Institution: Istitute Botanico "Hanbury"
Address: Università-Corso Dogali, 1/C
 Genova, Italy

Area of study: * Ecology
 * Distribution

Bibliography:

Béguinot, A. (1906) Sulla *Brassica palustris* Pir., *B. elongata* Ehrh. e *B. perscica* Boiss. et Hohen. nella Flora Italiana. *Boll. Soc. Bot. Ital.* 1905:258-264.

Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Plante d'Italia*. WWF, Rome. 637 pp.

Gruppo Lavoro Conservazione Natura S.B.I. (1971) *Censimento dei Biotopi di Rilevante Interesse Vegetazionale Meritevoli di Conservazione in Italia*. Vol. 1. Tip. Savini-Mercuri, Camerino. (scheda 7-3 Risorgive del Fiume Taglio).

Martini, F. (1987) L'endemismo vegetale nel Friuli - Venezia Giulia. *Biogeographia* 13:339-399.

Martini, F. and Poldini, L. (1986) Distribuzione ed ecologia di *Erucastrum palustre* (Pir.) Vis. *Atti Museo Friul. Storia Nat.* 8:221-242.

Poldini, L. (1973) Die Pflanzendecke der Kalkflachmoore in Friaul (Nordostitalien). *Veröff. Geobot. Inst. EHT Stiftung Rübel, Zürich* 51:166-178.

Euonymus latifolius MillerCELASTRACEAE

- Status:** E
Distribution: Spain
- Researcher:** M. Clemente, E. Hernández, P. Contreras and J. Prados
Institution: Dpto. de Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba
- Address:** Avda. de Linneo s/n
E-14004 Córdoba, Spain
- Phone:** 34 57 200077 / 200018
Fax: 34 57 295333
- Area of study:** * Conservation

Current research:

Estimation of variability, germplasm collection and preservation, and propagation methods. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

Bibliography:

Hernández-Bermejo, E. Clemente, M. *et al.* (1994) *Protección de la Flora en Andalucía*. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.

Euphorbia azorica Seub.**EUPHORBIACEAE**

- Status:** V
Distribution: Azores
- Researcher:** M.L. Caixinhas
Institution: Universidade Técnica de Lisboa
 Dpto. de Botânica e Engenharia Biológica
 Instituto Superior de Agronomia
Address: Tapada da Ajuda
 P-1399 Lisboa Codex, Portugal
- Area of Study:** * Germination, dormancy
- Researcher:** J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
- Area of study:** * Culture techniques
- Researcher:** G.B. Maciel
Institution: Universidade dos Açores, Dpto. de Biologia
Address: Rua Mae de Deus 58, Apart. 1422
 P-9502 Ponta Delgada Codex, Portugal
- Area of study:** * Germination, dormancy

Bibliography:

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Maciel, G.B. and Caixinhas, H.L. (1992) Etudes sur les dormances de quelques espèces endémiques des Açores. *IVe rencontre internationale sur les semences*, Angers (France).

Euphorbia gaditana Cosson**EUPHORBIACEAE**

Status: E**Distribution:** Spain**Researcher:** M.J. Gallego**Institution:** Dpto. Biología Vegetal y Ecología, Facultad de Farmacia, Universidad de Sevilla.**Address:** Prof. García González, s/n.

E-41012 Sevilla, Spain.

Phone: 34 5 4556787**Fax:** 34 5 4233765**Area of study:**

- * Germination, dormancy
- * Growth, development
- * Flowering, fruit development, pollination
- * Reproduction
- * Dispersal
- * Phenology
- * Demography, population dynamics

Bibliography:

None

Euphorbia handiensis* Burchd.*EUPHORBIACEAE**

Status: E
Distribution: Canary Islands

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: C. Ortega
Institution: Jardín Botánico "Viera y Clavijo"
Address: Aptdo. Correos 14 de Tafira Alta
 E-35017 Las Palmas de Gran Canaria, Spain

Area of study: * Micropropagation

Researcher: J.A. Rodríguez *et al.*
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
 E-38400 Tenerife, Spain
Fax: 34 22 383572

Area of study: * Culture techniques

Bibliography:

Aldridge, A.E. and Ortega, J. (1976) Estudios en la Flora de Macaronesia: Algunos números de cromosomas II. *Bot. Macar.* 2: 9-18.

Bramwell, D. (1990) The role of *in vitro* cultivation in the conservation of endangered species. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 3-15.

González, C. Ortega, C. and Rubio, A. (1988) Propagación *in vitro* de endemismos canarios en peligro de extinción: *Euphorbia handiensis* Burchd. *Botanica Macaronesica* 16:15-28.

Kunkel, G. (1977) *Endemismos canarios. Inventario de las Plantas Vasculares Endémicas en la provincia de Las Palmas*. Ed. Ministerio de Agricultura, ICONA. Monografías 15. Madrid. pág. 111.

Kunkel, G. (1977) *Las plantas vasculares de Fuerteventura (Islas Canarias), con especial interés de las forrajeras*. Ministerio de Agricultura. ICONA Naturalia Hispanica 8. Madrid.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Euphorbia lambii Svent.**EUPHORBIACEAE**

Status: E
Distribution: Canary Islands

Researcher: A. Bañares and J. Real
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
 La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Area of study: * Propagation methods
 * Phenology
 * Demography, population dynamics
 * Ecology

Current research:

Genetic recovery of the endangered flora of the Garajonay National Park.

Bibliography:

- Bañares, A. Romero, P. and Rodriguez, C. (1992) Adiciones corológicas de algunos endemismos vegetales canarios en peligro de extinción. *Bot. Macar.*, 19-20:141-144.
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- Groeneveld, H.W. Elings, J.C. Blanco, M.S.J. and Bramwell, D. (1989) Quantitative aspects of triacylglycerol metabolism and sterol synthesis from carbon-14 acetate in etiolated seedlings of *Euphorbia lambii*. *Physiol. Plant.* 75 (2): 227-232.
- Groeneveld, H.W. Idzinga, T.M. and Elings, J.C. (1990) Organic acids and cellular changes in the endosperm of *Euphorbia lambii* seedlings. *Physiol. Plant.* 79 (3):465-470.
- Sventenius, E. (1960) Additamentum ad floram canariensem. I. Inst. Nac. Invest. Agronóm. Minist. Agricult., Madrid.

Euphorbia maresii Knoche**EUPHORBIACEAE**

- Status:** R
Distribution: Balearic Islands
- Researcher:** J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
F-29200 Brest, France
Phone: 33 98 418895
- Area of study:** * Culture techniques
- Researcher:** M. Mus and J.A. Rosselló
Institution: Dpto. Biología y Ciencias, Salut. Botánica,
Fac. Ciencias, Univ. Islas Baleares
Address: E-07071 Palma de Mallorca, Spain
Phone: 34 71 207111
Fax: 34 71 200741
- Area of study:** * Germination, dormancy
* Growth, development
* Flowering, fruit development, pollination

Bibliography:

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Euphorbia mellifera AitonEUPHORBIACEAE

Status: E
Distribution: Canary Islands
Researcher: A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
 La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Area of study: * Propagation methods
 * Culture techniques

Researcher: J.A. Rodríguez et al.
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
 E-38400 Tenerife, Spain
Fax: 34 22 383572

Area of study: * Culture techniques

Bibliography:

Bañares, A. (1992) Contribución al conocimiento de la propagación vegetativa y sexual de las especies vegetales de la Laurisilva Canaria. *Bot. Mac.* 19-20:53-54.

Bañares, A. and Beltran E. (1985) Nuevas aportaciones a la flora vascular de la Gomera I. Canarias. Notas corológicas-ecológicas. *Vieraea* 15 (1-2): 41-55.

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Ferreira, M.J.U. Lobo, A.M. O'Mahoney, C.A Williams, D.J. and Wyler, H. (1991) Madeiranones a new class of pentacyclic triterpenes D friedomadeir-14-en-3-beta-ol and D friedomadeir-14-en-3-one D C friedomadeir-7-en-3-beta-ol and D C friedomadeir-7-en-3-one. *Helv. Chim. Acta* 74 (6):1329-1338.

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Euphorbia stygiana H.C. WatsonEUPHORBIACEAE

Status: V**Distribution:** Azores**Researcher:** M.L. Caixinhas**Institution:** Universidade Técnica de Lisboa
Dpto. de Botânica e Engenharia Biológica
Instituto Superior de Agronomia**Address:** Tapada da Ajuda
P-1399 Lisboa Codex, Portugal**Area of Study:** * Germination, dormancy**Researcher:** J.Y. Lesouef *et al.***Institution:** Conservatoire Botanique de Brest**Address:** 52 Allée du Bot
F-29200 Brest, France**Phone:** 33 98 418895**Area of study:** * Culture techniques**Researcher:** G.B. Maciel**Institution:** Universidade dos Açores, Dpto. de Biologia**Address:** Rua Mae de Deus 58, Apart. 1422
P-9502 Ponta Delgada Codex, Portugal**Fax:** 351 96 653 455**Area of study:** * Germination, dormancy**Bibliography:**

Furtado, D.S. (1984) Status e distribuição das plantas vasculares endémicas dos Açores. *Arquipélago*, 5:197-209.

Hansen, A. and Sundig, P. (1985) Flora of Macaronesia, Checklist of vascular plants. *Sommerfeltia*, 1.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Maciel, G.B. and Caixinhas, M.L. (1992) Etudes sur les dormances de quelques espèces endémiques des Açores. *IVe reencontre internationale sur les semences*, Angers (France).

Maciel, G.B. and Caixinhas, M.L. (1993) Etude sur la germination de deux années d'essais de quelques espèces endémiques des Açores. *Primeiro Simposio Fauna e Flora das Ilhas Atlânticas*, Madeira.

Euzomodendron bourgaeum Cosson**BRASSICACEAE**

Status: R
Distribution: Spain

Researcher: J. Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: A. Lora, J. Prados, A. Pujadas and E. Hernández
Institution: Dpto. de Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba
Address: Avda. de Linneo s/n
 E-14004 Córdoba, Spain
Phone: 34 57 200077 / 200018
Fax: 34 57 295333
Area of study: * Conservation

Current research:

Cartography and status of the populations. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

Researcher: M.E. Merlo, M.M. Marquez and M. Alemán
Institution: Dpto. Biología Vegetal
 E.U. Politécnica
Address: Campus Universitario de Almería
 Almería, Spain
Area of study: * Germination, dormancy

Bibliography:

Gómez-Campo, C. (1978) Studies on Cruciferae: VI. Geographical distribution and conservation status of *Boleum* Desv., *Guiraoa* Coss. and *Euzomodendron* Coss. *Anal. Inst. Bot. Cavanilles* 35:165-176.

Gómez-Campo, C. (1981) Taxonomic and evolutionary relationships in the genus *Vella* L. (Cruciferae). *Bot. Journ. Linnean Soc.* 82:165-179.

Gómez-Campo, C. (1987) *Euzomodendron bourgaeum* Cosson (Brassicaceae) In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 258-259.

Hernández-Bermejo, E. Clemente, M. *et al.* (1994) *Protección de la Flora en Andalucía*. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Losa-España, T. and Rivas-Goday, S. (1958) Estudio florístico y geobotánico de la provincia de Almería. *Arch. Inst. Acclim.*, 13(1):191.

Rivas-Martínez, S. *et al.* (1991) Endemismos vasculares de Andalucía. *Rivasgodaya* 6:32.

Sagredo, R. (1987) *Flora de Almería*. Diputación Provincial de Almería. 552 pp.

Festuca arenicola* (Prod.) Soó*POACEAE**

- Status:** K
Distribution: Bulgaria, Romania
- Researcher:** A. Petrova
Institution: Botanical Garden
Bulgarian Academy of Sciences
Address: P.O. Box 664
1000 Sofia, Bulgaria
- Area of study:** * Demography, population dynamics
* Distribution

Bibliography:

Petrova, A. (1993) Rare plants in "Pobiti Kamani" protected areas in Northeastern Bulgaria. *VII OPTIMA Meeting*, Borovetz, Bulgaria.

Fritillaria conica* Boiss.*LILIACEAE**

Status: V
Distribution: Greece
Researcher: G. Kamari
Institution: Botanical Institute, Department of Biology,
University of Patras
Address: G-26010 Patras, Greece

Area of study: * Culture techniques
* Distribution
* Karyology

Bibliography:

- Kamari, G. (1991) The genus *Fritillaria* L. in Greece: taxonomy and karyology. In: D. Phitos & W. Greuter (Eds.) Proceedings of the 6th OPTIMA Meeting, *Bot. Chron.* 10:253-270.
- Rix, E.M. (1975) Notes on *Fritillaria* (*Liliaceae*) in the eastern Mediterranean region. *Kew Bull.* 30:153-162.
- Zaharof, E. (1987) Biometrical and cytological studies of the genus *Fritillaria* L. in Greece. Ph. D. Thesis, Univ. Thessaloniki (in Greek).
- Zaharof, E. (1989) Karyological studies of twelve *Fritillaria* species from Greece. *Caryologia.* 42 (2):91-102.

Genista benehoavensis* (Bolle ex Svent.) M. del Arco*FABACEAE**

Status: E
Distribution: Canary Islands
Researcher: A. Palomares and A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
 La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Area of study:

- * Germination, dormancy
- * Growth, development
- * Flowering, fruit development, pollination
- * Propagation methods
- * Culture techniques
- * Phenology
- * Demography, population dynamics
- * Ecology
- * Biotic interactions
- * Reintroduction

Current research:

Recovery plan for the endangered flora of La Caldera de Taburiente National Park.

Bibliography:

- Del Arco Aguilar, M. (1982) Sobre la presencia de *Genista benehoavensis* (Bolle ex Svent.) M del Arco, *comb. nov.* (Fabaceae-Genisteae) en la isla de la Palma (I. Canarias) *Vieraea* 11: 267-282.
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- Sventenius, E. (1954) Revisión de *Genista benehoavensis* Bolle: *Cytisus benehoavensis* (Bolle) Svent. *comb. nova.* *Bol. Inst. Nac. Invest. Agron.* 30 (203):83-94.

Genista cilentina Valsecchi

FABACEAE

Status: V
Distribution: Italy, Sicily
Researcher: F. Valsecchi
Institution: Istituto di Botanica
Address: Via Muroli 25
I-07100, Sassari, Italy
Phone: 39 79 237087
Area of study: * Taxonomy

Bibliography:

Valsecchi, F. (1993) Il genere *Genista* L. in Italia. I. Le specie dell sezioni *Erinacoides* Spach, *Ephedrospartum* Spach, *Ameospartum* sect. nova. *Webbia* 48: 779-824.

Geranium cazortense* Heywood*GERANIACEAE**

- Status:** E
Distribution: Spain
- Researcher:** E. Hernández, A. Pujadas, J. Prados and A. Lora
Institution: Dpto. de Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba
Address: Avda. de Linneo s/n
E-14004 Córdoba, Spain
Phone: 34 57 200077 / 200018
Fax: 34 57 295333
- Area of study:** * Conservation

Current research:

Estimation of variability, germplasm collection and preservation, and propagation methods. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

Bibliography:

Hernández-Bermejo, E. Clemente, M. *et al.* (1994) *Protección de la Flora en Andalucía*. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.

Geranium dolomiticum* Roth.*GERANIACEAE**

- Status:** R
Distribution: Spain
- Researcher:** M. Velasco and M. Moreno
Institution: Dpto. Biología Vegetal I. Facultad de Biología
 Universidad Complutense
Address: E-28040 Madrid, Spain
Phone: 34 1 5490029 / 5492382
- Area of study:**
- * Anatomy
 - * Genetics
 - * Germination, dormancy
 - * Reproduction
 - * Dispersal
 - * Culture techniques
 - * Phenology

Current research:

Taxonomic revision of the Spanish species of genus *Geranium*.

Bibliography:

- Laínz, M. (1976) Aportaciones al conocimiento de la flora cántabro-astur. *Bol. Inst. Est. Astur.* 11:19.
- Moreno, M. and Velasco, M. (1987) *Geranium dolomiticum* Roth. (Geraniaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 290-291.
- Nieto-Feliner, G. (1985) Estudio crítico de la flora orófila del Suroeste de León: Mtes. Aquilianos, Sierra del Teleno y Sierra de la Cabrera. *Ruizia* 2:1-239.
- Velasco, M. (1992) Estudios taxonómicos de las especies del género *Geranium*, sección subcaulia Koch. *Bull. Soc. Bot. Fr. Lett. Bot.* 139 (3):295-303.

Geranium rubescens Yeo**GERANIACEAE**

Status: R**Distribution:** Madeira**Researcher:** J.P. Reduron**Institution:** Parc Zoologique et Botanic de Mulhouse**Address:** Mulhouse, France**Area of study:** * Propagation methods

* Culture techniques

Bibliography:

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Teo. 1969 *Bol. Mus. Munic. Funchal* 2.

Widler-Kiefer, H. and Yeo, P.F. (1987) Fertility relationships of *Geranium* Geraniaceae section ruberta anemonifolia lucida and unguiculata. *Plant. Syst. Evol.* 155 (1-4):283-306.

Gesnouinia arborea* (L.f.) Gaudich*URTICACEAE**

Status: V
Distribution: Canary Islands
Researcher: A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Area of study: * Propagation methods
* Culture techniques

Bibliography:

- Bañares, A. (1990) Contribución al conocimiento de la propagación vegetativa y sexual de las especies vegetales de la Laurisilva Canaria. *Bot. Mac.* 19-20:53-64.
- Kravtsova, T.I. (1992) The origin and structure of pseudanthic inflorescence in the genus *Gesnouinia*, Urticaceae. *Bot. Zh. (St. Petersburg.)* 77 (4):39-44. (in Russian).

Globularia ascanii* Bramwell & Kunkel*GLOBULARIACEAE**

- Status:** E
Distribution: Canary Islands
- Researcher:** M.A. Cabrera
Institution: Jardín Botánico "Viera y Clavijo"
Address: Apto. Correos 14 de Tafira Alta
E-35017 Las Palmas de Gran Canaria, Spain
- Area of study:** * Micropropagation
* Genetic variability
* Somaclonal variation

Bibliography:

Bramwell, D. (1990) The role of *in vitro* cultivation in the conservation of endangered species. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 3-15.

Bramwell, D. and Rodrigo, J. (1984) Prioridades para la conservación de la diversidad genética en la flora de las Islas Canarias. *Bot. Macar.* 10:13-17.

Globularia neapolitana O. Schwarz**GLOBULARIACEAE**

Status: V
Distribution: Italy
Researcher: B. Moraldo, V. La Valva, M. Ricciardi, G. Caputo and R. Nazzaro
Institution: Dip. Biol. Vegetale
Address: via Foria 223
 I-80139 Napoli, Italy
Phone: 39 81 440681
Fax: 39 81 450165
Area of study: * Distribution

Bibliography:

Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Piante d'Italia*. WWF, Rome. 637 pp.

Gardini-Peccenini, S. (1984) *Flora da Proteggere, Indagine se Alcune Specie Vegetali Minacciate o Rare in Italia*. Errepiesse, Pavia.

Guadagno, M. (1931-1932) Flora Caprearum nova. *Arch. Bot.* 8: 276.

La Valva, V. Ricciardi, M. Caputo, G. and Nazzaro, R. La flora della Penisola Sorrentina. *Delpinoa*. (in press).

Moraldo, B. La Valva, V., Ricciardi, M. and Caputo, G. (1985-1986) La flora dei Monti Picentini (Campania). Pars altera: *Pyrolaceae - Orchidaceae*. *Delpinoa* n.s., 27-28:59-149.

Ricciardi, M. Aprile, G.G. and Sifola, M.I. (1987) Cartografia floristica della Campania (Primo contributo). *Ann. Bot.* 45, suppl. 5:65-78.

Schwarz, O. (1938) Die gattung *Globularia*. *Bot. Jahrb.* 69: 348-350.

Globularia sarcophylla* Svent.*GLOBULARIACEAE**

Status: E
Distribution: Canary Islands
Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit
Royal Botanic Gardens
Address: Kew, Richmond, Surrey
TW 9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524
Area of study: * Growth, development
* Micropropagation

Current research:

Cryopreservation, continued micropropagation with additional clones.

Bibliography:

- Bramwell, D. & Rodrigo, J. (1982) Prioridades para la conservación de la diversidad genética en la flora de las islas Canarias. *Bot. Macar.*, 10:3-17.
- Fay, M.F. In what situations is *in vitro* culture appropriate to plant conservation? *Biodiversity and Conservation*. (in press).
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- Sventenius, E. (1954) *Specilegium canariense*. *Bol. Inst. Nac. Invest. Agrar.* 13:15-20.

Gonospermum gomerae* Bolle*ASTERACEAE**

Status: V
Distribution: Canary Islands

Researcher: A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
 La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Area of study: * Flowering, fruit development, pollination
 * Propagation methods
 * Culture techniques
 * Phenology
 * Demography, population dynamics
 * Ecology
 * Reintroduction

Current research:

Genetic recovery of the threatened flora of the Garajonay National Park.

Researcher: Rosa Febles
Institution: Jardín Botánico "Viera y Clavijo"
Address: Apto. Correos 14 de Tafira Alta
 E-35017 Las Palmas de Gran Canaria, Spain

Area of study: * Genetics

Researcher: J.M. Pita
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
 Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
Phone: 34 1 3365657
Fax: 34 1 3365656

Area of study: * Germination, dormancy

Bibliography:

Bolle, C. (1859) *Addenda ad floram Atlantidis, praecipue insularum Canariensium Gorgadumque*. *Bonplandia* 7:293-298.

Febles, R. (1990) *Análisis citogenético y evolutivo en las especies endémicas de los géneros *Gonospermum* Less., *Lugoa* D.C. y *Tanacetum* L. (Compositae: Anthemideae) de las Islas Canarias*. Doctoral Thesis, Madrid.

Febles, R. Fernandez, A.M. and Gonzalez, J.J. (1989) Análisis cariotípico de los géneros *Gonospermum* Less y *Lugoa* DC. *Bot. Macar.* 17: 77-92.

J.M. Pita (1988) Germinación en especies endémicas de las Islas Canarias. *Investigación Agraria* 3:39-43.

Gypsophila papillosa* Porta*CARYOPHYLLACEAE**

Status: R
Distribution: Italy
Researcher: S. Gardini Peccenini
Institution: Istitute Botanico "Hanbury"
Address: Università-Corso Dogali, 1/C
Genova, Italy

Area of study: * Ecology

Bibliography:

Bianchini, F. (1974) *Gypsophila papillosa* Porta endemismo puntiforme. *Boll. Mus. Civ. St. nat. Verona* 1:531-534.

Bianchini, F. (1976) Flora della regione veronese. Parte III. Spermatofite (Poligonali Centrosperme). *Boll. Mus. Civ. St. Nat. Verona* 3:53-145.

Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Plante d'Italia*. WWF, Rome. 637 pp.

Gardini-Peccenini, S. (1984) *Flora da Proteggere. Indagine su Alcune Specie Vegetali Minacciate o Rare in Italia*. Errepiesse, Pavia.

Haplophyllum patavinum* (L.) G. Don fil.*RUTACEAE**

Status: E**Distribution:** Italy**Researcher:** R. Filippini, R. Caniato, E.M. Cappelletti *et al.***Institution:** Dipartimento di Biologia**Address:** Via Trieste, 75
I-35121 Padova, Italy**Area of study:** * Micropropagation**Bibliography:**

Chiesura, F. Curti, L. Lorenzoni, G.G. Marchiori, N. and Caniglia, G. (1978) Situazione attuale di *Haplophyllum patavinum* (L.) G. Don fil. sui Colli Euganei (Padova). *Giorn. Bot. Ital.*, 11:320-321.

Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Plante d'Italia*. WWF, Rome. 637 pp.

Dolcher, T. (1957) La posizione sistematica e geografica dell'*Haplophyllum patavinum* (L.) G. Don fil.(= *Ruta patavina* L.) e i caratteri delle sue stazioni euganee. *Atti Ist. Veneto Scienze, Lettere, Arti*, 115:183-216.

Filippini, R. Piovan, A. Cassina, G. and Cappelletti, E.M. (1992) Germinazione dei semi e propagazione in vitro di *Haplophyllum patavinum* (L.) G. Don fil. (Rutaceae). Prove preliminari. *Giorn. Bot. Ital.*, 126:66.

Filippini, R. Caniato, R. Cappelletti, E.M. Piovan, A. Innocenti, G. and Cassina, G. (1994) *In vitro* regeneration of *Haplophyllum patavinum* (L.) G. Don fil., a rare and endangered plant. *Botanic Gardens Micropropagation News*, 1(7):87-90.

Gardini, S. (1984) Flora da proteggere, indagine su alcune specie vegetali minacciate o rare in Italia. Errepiesse, Pavia.

Guzzo, F. De Luca, A. Chiesura, F. and Mariani, P. (1991) *Haplophyllum patavinum* G. Don: caratterizzazione istologica degli apparati riproduttori. *Giorn. Bot. Ital.*, 125: 229.

Maggioni, L. (1991) Un esempio realizzato: lo studio di una pianta in pericolo di estinzione. *Panda*, 9:25-26.

Heberdenia excelsa (Aiton) Banks ex DC.

MYRSINACEAE

Status: V
Distribution: Canary Islands

Researcher: A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Area of study: * Propagation methods
* Culture techniques

Bibliography:

Bañares, A. (1992) Contribución al conocimiento de la propagación vegetativa y sexual de las especies vegetales de la Laurisilva Canaria. *Bot. Mac.* 19-20:59-64.

Helianthemum juliae Wildpret**CISTACEAE**

Status: E
Distribution: Canary Islands
Researcher: A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
 La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Area of study:

- * Growth, development
- * Flowering, pollination, fruit development
- * Propagation methods
- * Culture techniques
- * Phenology
- * Demography, population dynamics
- * Ecology
- * Biotic interactions
- * Reintroduction

Current research:

Genetic recovery of the threatened flora of the Teide National Park.

Bibliography:

- Bañares, A. Castroviejo, M. and Real, J. (1990) Re-establishment Plan for the flora of the Teide National Park I. *Cistus osbaeckiaefolius* and *Helianthemum juliae*. *Boletín del Museo Municipal de Funchal* (in press).
- Bañares, A. Romero, P. and Rodríguez, C. (1992) Adiciones corológicas de algunos endemismos vegetales canarios en peligro de extinción. *Bot. Macar.* 19-20:141-144.
- Maya, P. Monzon, A. and Ponce, M. (1988) Datos sobre la germinación de especies endémicas canarias. *Bot. Macar.* 16: 67-80.
- Wildpret, W. (1986) *Helianthemum juliae* Wildpret, sp. nov. (Cistaceae) un nuevo endemismo canario. *Vieraea* 16: 361-364.

Helianthemum polygonoides* Pein., Mtez.-Parras, Alc. & Esp.*CISTACEAE**

Status: R
Distribution: Spain

Researcher: J.M. Iriondo and F. Pérez-García
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
 Universidad Politécnica
Address: Ciudad Universitaria
 E-28040 Madrid, Spain
Phone: 34 1 336 5657
Fax: 34 1 336 5656

Area of study: * Germination
 * Micropropagation

Bibliography:

- Iriondo, J.M. Plaza, R. and Prieto, C. (1994) Números cromosómicos de plantas occidentales, 709-711. *Anales del Jardín Botánico de Madrid* 52(1):81.
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- Peinado, M. Martínez-Parras, J.M. Alcaraz, F. and Espuelas, I. (1987) *Helianthemum polygonoides*, a new species of the SE Iberian Peninsula. *Candollea*, 42:361-364.

Helichrysum monogynum* Burt & Sunding*ASTERACEAE**

Status: E
Distribution: Canary Islands
Researcher: J.A. Rodríguez et al.
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
E-38400 Tenerife, Spain
Fax: 34 22 383572
Area of study: * Culture techniques
* Germination, dormancy

Bibliography:

- Burt, B.L. and Sunding (1973) *Helichrysum monogynum*, a new species from Lanzarote, Canary Island. *Bot. Notiser*. Vol. 126: 340-344.
- Kunkel, G. (1982) *Los riscos de Famara (Lanzarote, islas Canarias). Breve descripción y guía florística*. I.C.O.N.A. Naturalia Hispanica n 22. Madrid.
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- Maya, P. Monzón, A. and Ponce, M. (1988) Datos sobre la germinación de especies endémicas canarias. *Bot. Macar.* 16.
- Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Hieracium valentinum Arv.-Touvet et Rev.**ASTERACEAE**

Status: R
Distribution: Spain

Researcher: I. Qeral
Institution: Independent
Address: C/ Sarratella 3, 2º - 4ª
 E-12005 Castellón de la Plana, Spain
Phone: 34 64 243489

Area of study: * Growth, development
 * Demography, population dynamics
 * Ecology

Current research:

Threatened endemic plant species from Els Ports and Maestrat

Bibliography:

Bolós, O. (1967) Comunidades vegetales de las comarcas próximas al litoral situadas entre los ríos Llobregat y Segura. *Mem. Real Acad. Cienc. Art. Barcelona* 38:1-279.

Qeral, I. (1987) *Hieracium valentinum* Arvet-Touvet & Reverchon (Asteraceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 312-313.

Vigo-Bonada, J. (1968) La vegetació del Massís de Penyagolosa. *Inst. Est. Catalans, sec. Cienc.* 37:1-246.

Hippocrepis valentina* Boiss.*FABACEAE**

Status: R
Distribution: Spain

Researcher: A. Montolio and F. González
Institution: Dep. de Genética, Universitat de València
Address: c/ Dr. Moliner, 50
E-46100 Bujassot, Valencia, Spain

Area of study: * Genetics

Researcher: L. Navarro *et al.*
Institution: Dpto. de Cultivo de Tejidos Vegetales,
Instituto Valenciano de Investigaciones
Agrarias.
Address: Moncada, Valencia, Spain

Area of study: * Micropropagation

Bibliography:

- Bolós, O. de (1967) Comunidades vegetales de las comarcas próximas al litoral situadas entre los ríos Llobregat y Segura. *Mem. Acad. Ci. Arts.* 38:1-269.
- Costa, M. *et al.* (1987) *Hippocrepis valentina* Boiss. (Fabaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 314-315.
- Guemes-Heras, J. (1992) *Hippocrepis valentina* Boiss. endemic in Alicante. *An. Jard. Bot. Madr.* 50 (2):260-262.

Hypericum athoum* Boiss. & Orph.*GUTTIFERAE**

Status: R**Distribution:** Greece**Researcher:** I. Hagemann and R. Vogt**Institution:** Botanischer Garten und Botanisches Museum
Berlin-Dahlem**Address:** Königin-Luise-Str. 6-8
D-14191 Berlin, Germany**Area of study:** * Germination, dormancy
* Growth, development
* Reproduction
* Propagation methods**Bibliography:**

Papanicolaou, K. (1986) Contribution to the flora of Mount Pangeon Northeast Greece. *Ann. Mus. Goulandris*. 7 (0):67-156.

Hypericum delphicum* Boiss. & Heldr.*GUTTIFERAE**

- Status:** R
Distribution: Greece
- Researcher:** I. Hagemann and R. Vogt
Institution: Botanischer Garten und Botanisches Museum
Berlin-Dahlem
Address: Königin-Luise-Str. 6-8
D-14191 Berlin, Germany
- Area of study:** * Germination, dormancy
* Growth, development
* Reproduction
* Propagation methods
- Bibliography:**
None

Hypericum kelleri Baldacci

GUTTIFERAE

Status: R

Distribution: Crete

Researcher: I. Hagemann and R. Vogt

Institution: Botanischer Garten und Botanisches Museum
Berlin-Dahlem

Address: Königin-Luise-Str. 6-8
D-14191 Berlin, Germany

Area of study: * Germination, dormancy
* Growth, development
* Reproduction
* Propagation methods

Bibliography:

None

Hypochoeris oligocephala* (Svent. & Bramw.) Lack*ASTERACEAE**

Status: E
Distribution: Canary Islands

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: J.A. Rodríguez *et al.*
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
 E-38400 Tenerife, Spain
Fax: 34 22 383572

Area of study: * Germination, dormancy

Bibliography:

Lack, H. W. (1978) Die Gattung *Heywoodiella* Svent. & Bramw. (Asteraceae, Lactuceae) *Willdenowia* 8(2):329-339.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Sventenius, E. and Bramwell, D. (1971) *Heywoodiella* Svent. & Bramwell; genus novum. *Acta Phytotaxonomica Barcinonensia* 7:5-8.

Iberis fontqueri Pau**BRASSICACEAE**

Status: R
Distribution: Spain

Researcher: M. Moreno
Institution: Dpto. Biología Vegetal I.
 Facultad Biología
 Universidad Complutense

Address: E-28040 Madrid, Spain
Phone: 34 1 5490029 / 5492382

Area of study: * Anatomy
 * Genetics
 * Germination, dormancy
 * Phenology

Bibliography:

- Asensi, A., Díez, B. and Esteve, F. (1978) Contribución al estudio del *Omphalodion brassicaefoliae* Riv. Mart., Izco & Costa en el Sur de la Península Ibérica. *Acta Bot. Malacitana*, 4:63-70.
- Del Mar Trigo, M. Hidalgo, M.I. Bootello, M.L. and Cabezudo, B. (1991) Fragmenta palynologica baetica palynology of some endemic and interesting species in Eastern Andalusia IV. *Acta Bot. Malacitana* 16:500-508.
- Moreno, M. (1982) Taxonomía de las especies endémicas del género *Iberis* L.(Cruciferae) en la Península Ibérica. *Tesis Doctoral*. Facultad Biología. Universidad Complutense. Madrid. (2 vols.) 697 pp.
- Moreno, M. (1984) Contribución al estudio del grano de polen en el g. *Iberis* L. *Anal. Asoc. Pal. Lengua Esp.* 1: 5-14.
- Moreno, M. (1985) Números cromosómicos 394-403. *Lagascalia* 13 (2): 307-311.
- Moreno, M. (1986) Nota taxonómica sobre *Iberis fontqueri* Pau, endemismo malagueño. *Acta Bot. Malacitana* 11: 205-214.
- Moreno, M. and Cabezudo, B. (1987) *Iberis fontqueri* Pau (Brassicaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 330-331.
- Pau, C. (1924) Contribución a la flora española. Plantas de Almería. *Mem. Mus. Cienc. Nat. Barcelona ser. Bot.* 1(1):1-34.
- Portela, I. and Moreno, M. (1984) Contribución al estudio de la semilla en el g. *Iberis* L. *Bol. Soc. Broteriana* (Ser. 2) 57: 161 -177.

Portela, I. and Moreno, M. (1985) Contribución al estudio de la semilla en el g. *Iberis* L. II. *Bol. Soc. Broteriana* (Ser. 2) 58: 63-83.

Rivas-Goday and Esteve-Chueca, F. (1972) Flora serpentínicola española. 2. Nuevos edafismos endémicos y sus respectivas asociaciones en el Reino de Granada. *Anal. Real Acad. Farmacia* 38:409-462.

Iberis grosii Pau**BRASSICACEAE**

Status: R
Distribution: Spain

Researcher: M. Moreno
Institution: Dpto. Biología Vegetal I.
 Facultad Biología
 Universidad Complutense
Address: E-28040 Madrid, Spain
Phone: 34 1 5490029 / 5492382

Area of study: * Anatomy
 * Genetics
 * Germination, dormancy
 * Phenology

Bibliography:

- Moreno, M. (1982) Taxonomía de las especies endémicas del género *Iberis* L. (Cruciferae) en la Península Ibérica. Tesis Doctoral. Facultad Biología. Universidad Complutense. Madrid. (2 vols.) 697 pp.
- Moreno, M. (1983) *Iberis grosii* Pau: una especie poco conocida de la flora andaluza. *Anal. Jard. Bot. Madrid* 40: 53-61.
- Moreno, M. (1984) Contribución al estudio del grano de polen en el g. *Iberis* L. *Anal. Asoc. Pal. Lengua Esp.* 1: 5-14.
- Moreno, M. (1985) Números cromosómicos 394-403. *Lagascalia* 13 (2): 307-311.
- Moreno, M. Cabezudo, B. and Nieto, J.M. (1987) *Iberis grosii* Pau (Brassicaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 332-333.
- Pau, C. (1924) Contribución a la flora española. Plantas de Almería. *Mem. Mus. Cienc. Nat. Barcelona ser. Bot.* 1(1):1-34.
- Portela, I. and Moreno, M. (1984) Contribución al estudio de la semilla en el g. *Iberis* L. *Bol. Soc. Broteriana Ser. 2.* 57:161-177.
- Portela, I. and Moreno, M. (1985) Contribución al estudio de la semilla en el g. *Iberis* L. II. *Bol. Soc. Broteriana Ser. 2.* 58: 63-83.

Ilex perado Aiton**AQUIFOLIACEAE**

- Status:** R
Distribution: Azores, Canary Islands and Madeira
- Researcher:** A. Bañares and J. Real
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
 La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898
- Area of study:**
- * Flowering, fruit development, pollination
 - * Reproduction
 - * Propagation methods
 - * Culture techniques
 - * Phenology
 - * Demography, population dynamics
 - * Ecology
 - * Re-introduction

Current research:

Genetic recovery of the threatened flora of the Garajonay National Park.

Bibliography:

- Andrews, S. (1984) A reappraisal of *Ilex aquifolium* and *Ilex perado* (Aquifoliaceae) *Kew Bull.* 39: 141-145.
- Bañares, A. (1992) Contribución al conocimiento de la propagación vegetativa y sexual de las especies vegetales de la Laurisilva Canaria. *Bot. Mac.* 19-20:53-64.
- Bañares, A. Romero, P. and Rodríguez, C. (1992) Adiciones corológicas de algunos endemismos vegetales canarios en peligro de extinción. *Bot. Mac.* 19-20:141-144.
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- Langmaid, M.C. (1989) *Ilex x altaclerensis* "Wight Selection" variety. *The Office* issue 6978. Plant Pat. U.S. Pat. Trademark Off., Washington, D.C.
- Lecuona Neumann, R.M. La Serna Ramos, I. Méndez Pérez, B. and Wildpret de La Torre, W. (1988) Contribution to the palynological study of the endemic Macaronesian flora. *Pollen Spores.* 29:359-390.

Ipomoea imperati* (Vahl) Griseb.*CONVOLVULACEAE**

Status: Ex
Distribution: Italy
Researcher: V. La Valva
Institution: Dip. Biol. Vegetale
Address: Via Foria 223
I-80139 Napoli, Italy
Phone: 39 81 440681
Fax: 39 81 450165

Area of study: * Taxonomy

Bibliography:

Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Piante d'Italia*. WWF, Rome. 637 pp.

Gardini-Peccenini, S. (1984) *Flora da Proteggere, Indagine su Alcune Specie Vegetali Minacciate o Rare in Italia*. Errepiesse, Pavia.

Greuter, W. Burdet, H.M. and Long, G. (1986) *Med-Checklist*. Vol. 3. Conservatoire et Jardin botaniques de la Ville de Genève, Genève.

La Valva, V. and Sabato, S. (1983) Nomenclature and typification of *Ipomea imperati* (Convolvulaceae). *Taxon* 32: 110-132.

Iris pamphylica Hedge**IRIDACEAE**

Status: R
Distribution: Turkey

Researcher: W. Lobin
Institution: Botanischer Garten der Universität Bonn
Address: Bonn, Germany

Area of study: * Propagation methods
* Culture techniques

Bibliography:

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Isatis amani Davis**BRASSICACEAE**

- Status:** K
Distribution: Turkey
- Researcher:** Sinasi Yildirimli
Institution: Hacettepe Üniversitesi
Fen Fakültesi Biyoloji Bölümü
Address: Beytepe 06532, Ankara, Turkey
Phone: 90 4 2352500 / 1321
- Area of study:** * Phenology
* Distribution

Bibliography:

- Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Cantılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isatis arenaria Azn.

BRASSICACEAE

Status: E

Distribution: Turkey

Researcher: Sinasi Yildirimli

Institution: Hacettepe Üniversitesi

Fen Fakültesi Biyoloji Bölümü

Address: Beytepe 06532, Ankara, Turkey

Phone: 90 4 2352500 / 1321

Area of study: * Phenology

* Distribution

Bibliography:

Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Cantılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isatis aucheri Boiss.

BRASSICACEAE

Status: R
Distribution: Turkey
Researcher: Sinasi Yildirimli
Institution: Hacettepe Üniversitesi
Fen Fakültesi Biyoloji Bölümü
Address: Beytepe 06532, Ankara, Turkey
Phone: 90 4 2352500 / 1321
Area of study: * Phenology
* Distribution

Bibliography:

Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Canlılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isatis bitlisica Davis**BRASSICACEAE**

- Status:** R
Distribution: Turkey
- Researcher:** Sinasi Yildirimli
Institution: Hacettepe Üniversitesi
Fen Fakültesi Biyoloji Bölümü
Address: Beytepe 06532, Ankara, Turkey
Phone: 90 4 2352500 / 1321
- Area of study:** * Phenology
* Distribution

Bibliography:

- Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Canlılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isatis callifera Boiss. et Bal.

BRASSICACEAE

Status: R
Distribution: Turkey
Researcher: Sinasi Yildirimli
Institution: Hacettepe Üniversitesi
Fen Fakültesi Biyoloji Bölümü
Address: Beytepe 06532, Ankara, Turkey
Phone: 90 4 2352500 / 1321
Area of study: * Phenology
* Distribution

Bibliography:

Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Canlılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isatis candolleana* Boiss.*BRASSICACEAE**

- Status:** R
Distribution: Turkey
- Researcher:** Sinasi Yildirimli
Institution: Hacettepe Üniversitesi
Fen Fakültesi Biyoloji Bölümü
Address: Beytepe 06532, Ankara, Turkey
Phone: 90 4 2352500 / 1321
- Area of study:** * Phenology
* Distribution

Bibliography:

- Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Canlılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isatis cappadocica* Desv.*BRASSICACEAE**

- Status:** R
Distribution: Turkey, Caucasia, Iran, Irak
- Researcher:** Sinasi Yildirimli
Institution: Hacettepe Üniversitesi
Fen Fakültesi Biyoloji Bölümü
Address: Beytepe 06532, Ankara, Turkey
Phone: 90 4 2352500 / 1321
- Area of study:** * Phenology
* Distribution

Bibliography:

Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Canlılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isatis constricta* Davis*BRASSICACEAE**

Status:	R
Distribution:	Turkey
Researcher:	Sinasi Yildirimli
Institution:	Hacettepe Üniversitesi Fen Fakültesi Biyoloji Bölümü
Address:	Beytepe 06532, Ankara, Turkey
Phone:	90 4 2352500 / 1321
Area of study:	* Phenology * Distribution

Bibliography:

Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Canlılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isatis ermenekensis Yildirimli**BRASSICACEAE**

- Status:** R
Distribution: Turkey
- Researcher:** Sinasi Yildirimli
Institution: Hacettepe Üniversitesi
Fen Fakültesi Biyoloji Bölümü
Address: Beytepe 06532, Ankara, Turkey
Phone: 90 4 2352500 / 1321
- Area of study:** * Phenology
* Distribution

Bibliography:

Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Canlılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isatis frigida* Boiss. et Kotschy*BRASSICACEAE**

- Status:** E
Distribution: Turkey
- Researcher:** Sinasi Yildirimli
Institution: Hacettepe Üniversitesi
Fen Fakültesi Biyoloji Bölümü
Address: Beytepe 06532, Ankara, Turkey
Phone: 90 4 2352500 / 1321
- Area of study:** * Phenology
* Distribution

Bibliography:

- Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Canlılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isatis huber-morathii Davis**BRASSICACEAE**

- Status:** R
Distribution: Turkey
- Researcher:** Sinasi Yildirimli
Institution: Hacettepe Üniversitesi
Fen Fakültesi Biyoloji Bölümü
Address: Beytepe 06532, Ankara, Turkey
Phone: 90 4 2352500 / 1321
- Area of study:** * Phenology
* Distribution

Bibliography:

- Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Canlılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isatis kozlowskyi Grossh**BRASSICACEAE**

- Status:** R
Distribution: Turkey, Caucasia
- Researcher:** Sinasi Yildirimli
Institution: Hacettepe Üniversitesi
Fen Fakültesi Biyoloji Bölümü
Address: Beytepe 06532, Ankara, Turkey
Phone: 90 4 2352500 / 1321
- Area of study:** * Phenology
* Distribution

Bibliography:

- Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Canlılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isatis lockmanniana Kotschy et Boiss.

BRASSICACEAE

Status: R
Distribution: Turkey
Researcher: Sinasi Yildirimli
Institution: Hacettepe Üniversitesi
Fen Fakültesi Biyoloji Bölümü
Address: Beytepe 06532, Ankara, Turkey
Phone: 90 4 2352500 / 1321
Area of study: * Phenology
* Distribution

Bibliography:

Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Canlılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isatis pinnatiloba* Davis*BRASSICACEAE**

Status: E**Distribution:** Turkey**Researcher:** Sinasi Yildirimli**Institution:** Hacettepe Üniversitesi

Fen Fakültesi Biyoloji Bölümü

Address: Beytepe 06532, Ankara, Turkey**Phone:** 90 4 2352500 / 1321**Area of study:** * Phenology

* Distribution

Bibliography:

Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Canlılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isatis spatella DavisBRASSICACEAE

Status: R
Distribution: Turkey
Researcher: Sinasi Yildirimli
Institution: Hacettepe Üniversitesi
Fen Fakültesi Biyoloji Bölümü
Address: Beytepe 06532, Ankara, Turkey
Phone: 90 4 2352500 / 1321
Area of study: * Phenology
* Distribution

Bibliography:

Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Canlılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isatis undulata Aucher ex Boiss.

BRASSICACEAE

Status: V

Distribution: Turkey

Researcher: Sinasi Yildirimli

Institution: Hacettepe Üniversitesi

Fen Fakültesi Biyoloji Bölümü

Address: Beytepe 06532, Ankara, Turkey

Phone: 90 4 2352500 / 1321

Area of study: * Phenology

* Distribution

Bibliography:

Yildirimli, S. (1982) Türkiye'deki *Isatis L.* türleri ve çevre. In: M.A. Öztürk, I. Türkan (Eds.) *Canlılar ve Çevre*. Efe Üniv. Fen Fak. Botanik Anabilim Dalı, Bornova, İzmir.

Isoetes malinverniana Ces. et De Not.ISOETACEAE

Status: V
Distribution: Italy
Researcher: S. Gardini Peccenini
Institution: Istituto Botanico "Hanbury"
Address: Università-Corso Dogali, 1/C
 Genova, Italy

Area of study: * Ecology
 * Distribution

Bibliography:

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Mattirolo, O. (1912) Sull'endemismo dell'*Isoetes malinverniana* di Cesati e De Notaris. *Ann. Bot.* 10:129-146.

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Soldano, A. and Badino, A. (1990) Nuove stazioni di *Isoetes malinverniana* Cesati e De Notaris nel Vercellese. Tipificazione (Pteridophyta, Isoetaceae) *Riv. Piem. St. Nat.* 11:65-69.

Isoplexis chalcantha Svent. & O'Shan.**SCROPHULARIACEAE**

Status: E
Distribution: Canary Islands
Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit
 Royal Botanic Gardens
Address: Kew, Richmond, Surrey
 TW 9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524
Area of study: * Micropropagation

Current research:

Continued micropropagation of clones derived from different seeds.

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
Area of study: * Culture techniques

Bibliography:

González, A.G. Breton, J.L. Navarro, E. Trujillo, J. Boada, J. and Rodríguez, R. (1985) Phytochemical study of *Isoplexis chalcantha*. *Plant Medica*. 1:9-11.

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Isoplexis sceptrum (L.f.) Loudon**SCROPHULARIACEAE**

Status: R
Distribution: Madeira

Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit
Royal Botanic Gardens
Address: Kew, Richmond, Surrey
TW 9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Jankaia heldreichii (Boiss.) Boiss.**GESNERIACEAE**

Status: V
Distribution: Greece
Researcher: J. Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
Area of study: * Culture techniques

Researcher: W. Lobin and M. Koenen
Institution: Botanischer Garten der Universität Bonn
Address: Bonn, Germany
Area of study: * Propagation methods
 * Culture techniques

Researcher: B. Stevanovic and O. Damajanovic
Institution: Botanical Institute
 Faculty of Biology
Address: University of Belgrade, Yugoslavia
Area of study: * Anatomy
 * Ecology

Bibliography:

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest.* Brest. 32 pp.

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Lactuca watsoniana TreleaseASTERACEAE

Status: E
Distribution: Azores

Researcher: M.L. Caixinhas
Institution: Universidade Técnica de Lisboa
Dpto. de Botânica e Engenharia Biológica
Instituto Superior de Agronomia
Address: Tapada da Ajuda
P-1399 Lisboa Codex, Portugal

Area of Study: * Germination, dormancy

Researcher: G.B. Maciel
Institution: Universidade dos Açores, Dpto. de Biologia
Address: Rua Mae de Deus 58, Apart. 1422
P-9502 Ponta Delgada Codex, Portugal

Fax: 351 96 653 455

Area of study: * Germination, dormancy

Bibliography:

Furtado, D.S. (1984) Status e distribuição das plantas vasculares endémicas dos Açores. *Arquipélago*, 5:197-209.

Hansen, A. and Sundig, P. (1985) Flora of Macaronesia, Checklist of vascular plants. *Sommerfeltia*, 1.

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Maciel, G.B. and Caixinhas, M.L. (1993) Etude sur la germination de deux années d'essais de quelques espèces endémiques des Açores. *Primeiro Simposio Fauna e Flora das Ilhas Atlânticas*, Madeira.

Lavatera acerifolia Cav.MALVACEAE

Status: R
Distribution: Canary Islands
Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit, Royal Botanic Gardens
Address: Kew, Richmond, Surrey TW9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Researcher: J. Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

Kunkel, G. (1977) *Endemismos canarios. Inventario de las Plantas Vasculares Endémicas en la provincia de Las Palmas*. Ed. Ministerio de Agricultura, ICONA. Monografías 15. Madrid. pag. 111.

La Serna Ramos, I. and Domínguez Santana, M.D. (1991) Contribution to the palynological study of the genus *Lavatera* L. Malvaceae in the Canary Islands. In: A. Ballouche and J. Maley (Eds.) *Palaeoecology of Africa* Vol. 22. A. Balkema, Rotterdam. pp.35-47.

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Sventenius, E.R. (1960) *Aditamentum ad Floram canariensem*. Madrid. pag. 32.

Lavatera oblongifolia* Boiss.*MALVACEAE**

Status: R**Distribution:** Spain**Researcher:** J.M. Iriondo & C. Pérez**Institution:** Dpto. Biología Vegetal, E.T.S.I. Agrónomos
Universidad Politécnica de Madrid**Address:** E-28040 Madrid, Spain**Area of study:** * Micropropagation**Bibliography:**

Blanca, G. and Cueto, M. (1987) *Lavatera oblongifolia* Boiss. (Malvaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 346-347.

Iriondo, J.M. and Pérez, C. (1991) *In vitro* storage of three endangered species from S.E. Spain. *Botanic Gardens Micropropagation News* 1:46-48.

Iriondo, J.M. and Pérez, C. (1992) *In vitro* plant regeneration of *Lavatera oblongifolia* (Malvaceae), an endangered species. *Botanic Gardens Micropropagation News* 1(5):54-57.

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Molero, J. and Pérez-Raya, F. (1987) *La Flora de Sierra Nevada. Avance sobre el Catálogo Florístico Nevadense*. Universidad de Granada. 397 pp.

Lavatera phoenicea* Vent.*MALVACEAE**

Status: E
Distribution: Canary Islands
Researcher: J.M. Pita
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
Phone: 34 1 3365657
Fax: 34 1 3365656
Area of study: * Germination, dormancy

Bibliography:

La Serna Ramos, I. and Domínguez Santana, M.D. (1991) Contribution to the palynological study of the genus *Lavatera* L. Malvaceae in the Canary Islands. In: A. Ballouche and J. Maley (Eds.) *Palaeoecology of Africa* Vol. 22. A. Balkema, Rotterdam. pp.35-47.

Pita, J.M. (1988) Germinación en especies endémicas de las Islas Canarias. *Investigación Agraria* 3:39-43.

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Leucanthemum arundanum* (Boiss.) Cuatrec.*ASTERACEAE**

- Status:** R
Distribution: Spain
- Researcher:** I. Hagemann and R. Vogt
Institution: Botanischer Garten und Botanisches Museum
Berlin-Dahlem
Address: Königin-Luise-Str. 6-8
D-14191 Berlin, Germany
- Area of study:**
- * Anatomy
 - * Genetics
 - * Germination, dormancy
 - * Growth, development
 - * Reproduction
 - * Propagation methods

Bibliography:

- Blanca, G. Salinas, M.J. Díaz de la Guardia, C. and Romero García, A. (1991) Fragmenta palynologica baetica palynologic studies of the subfamily Asteroideae Compositae in the Southeast of the Iberian Peninsula. *Acta Bot. Malacitana* 16:491-500.

Leucanthemum gracilicaule (Dufour) Alavi & HeywoodASTERACEAE

- Status:** R
Distribution: Spain
- Researcher:** I. Hagemann and R. Vogt
Institution: Botanischer Garten und Botanisches Museum
Berlin-Dahlem
Address: Königin-Luise-Str. 6-8
D-14191 Berlin, Germany
- Area of study:**
- * Genetics
 - * Germination, dormancy
 - * Growth, development
 - * Reproduction

Bibliography:

Costa, M. *et al.* (1987) *Leucanthemum gracilicaule* (Dufour) Alavi & Heywood (Asteraceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 354-355.

Gómez-Campo, C. (1978) La flora espontánea y sus posibilidades en jardinería. *Jardín y Paisaje* 40:31-34.

Leucojum nicaeense* Ard.*AMARYLLIDACEAE**

Status: V**Distribution:** France**Researcher:** W. Lobin and M. Koenen**Institution:** Botanischer Garten der Universität Bonn**Address:** Bonn, Germany**Area of study:** * Propagation methods
* Culture techniques**Bibliography:**

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Ligusticum corsicum GayAPIACEAE

- Status:** R
Distribution: Corsica
- Researcher:** L. Olivier *et al.*
Institution: Conservatoire Botanique National de
Porquerolles
Address: Castel Sainte-Claire
Rue du Castel Ste. Claire
F-83400 Hyeres, France
Phone: 33 94 653298
Fax: 33 94 658483
- Area of study:** * Germination, dormancy
- Bibliography:**
None

Limonium arborescens (Brouss.) O. Kuntze**PLUMBAGINACEAE**

Status: E
Distribution: Canary Islands
Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit, Royal Botanic Gardens
Address: Kew, Richmond, Surrey TW9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Researcher: J. Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

Fay, M.F. (in press) Micropropagation of plants from the Canary Islands. *Bol. Mus. Mun. Funchal* Suppl. 2.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Santos Guerra, A. and Fernández Galván, M. (1983) Vegetación del macizo de Teno. Datos para su conservación. *II Congr. Inter. Pro Flora Mac.*, Funchal. pp. 385-423.

Webb, P.B. and Berthelot, S. (1836-1850) Histoire Naturelle des Iles Canaries. *Phytographia Canariensis* 3(2):496.

Limonium carthaginense (Rouy) C.E. Hubb. & Sandw.

PLUMBAGINACEAE

Status: V
Distribution: Spain

Researcher: C. Martín
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
Phone: 34 1 3365663
Fax: 34 1 3365656

Area of study: * Micropropagation

Bibliography:

Hubbard, C.E. and Sandwith, N.Y. (1928) New plants from Spain. *Kew Bull. Jg.*, 1928:150-155.

Pau, C. (1903) Plantas nuevas para la flora española procedentes de Cartagena. *Bol. Soc. Aragon. Cienc. Nat. (Zaragoza)*, 2:65-72.

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Limonium castellanense Erben**PLUMBAGINACEAE**

Status: I
Distribution: Spain
Researcher: I. Qeral
Institution: Independent
Address: C/ Sarratella 3, 2º - 4ª
E-12005 Castellón de la Plana, Spain
Phone: 34 64 243489
Area of study: * Demography, population dynamics
* Ecology

Current research:

Threatened plant species in the littoral and marshes.

Bibliography:

- Dorda, E. *et al.* (1987) *Limonium castellanense* Erben (Plumbaginaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 364-365.
- Erben, M. (1980) Bemerkungen zur Taxonomie der Gattung *Limonium* I. *Mitt. Bot. München* 16:547-563.
- Socorro, O. and Tarrega, S. (1983) *Limonium castellanense* (Plumbaginaceae). A new species for the Spanish flora. *An. Jardín Bot. Madrid* 40(1):83-87.

Limonium cavanillesii Erben**PLUMBAGINACEAE**

Status: V
Distribution: Spain
Researcher: I. Qeral
Institution: Independent
Address: C/ Sarratella 3, 2º - 4ª
E-12005 Castellón de la Plana, Spain
Phone: 34 64 243489
Area of study: * Demography, population dynamics
* Ecology

Current research:

Threatened plant species in the littoral and marshes.

Bibliography:

Costa-Talens, M. (1986) *Ecosistemas Vegetales del Litoral Mediterráneo Español*. Monografías Dir. Gen. Med. Amb. MOPU. 270 pp.

Dorda, E. *et al.* (1987) *Limonium cavanillesii* Erben (Plumbaginaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 366-367.

Erben, M. (1980) Bemerkungen zur Taxonomie der Gattung *Limonium* I. *Mitt. Bot. München* 16:547-563.

Sennen, F. (1913) Plantes d'Espagne: 3me note. *Bull. Acad. Int. Geogr. Bot.* 23:14.

Limonium dendroides Svent.**PLUMBAGINACEAE**

Status: E
Distribution: Canary Islands
Researcher: J.Y. Lesouef
Institution: Conservatoire Botanique de Brest
Address: Vallou du Stang-Alard 52, Allé du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Germination, dormancy
 * Propagation methods
 * Micropropagation
 * Culture techniques
 * Ecology

Researcher: A. Marrero and M.A. Cabrera
Institution: Jardín Botánico "Viera y Clavijo"
Address: Aptdo. Correos 14 de Tafira Alta
 E-35017 Las Palmas de Gran Canaria, Spain

Area of study: * Germination, dormancy
 * Propagation methods
 * Micropropagation
 * Culture techniques
 * Ecology

Bibliography:

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Marrero, A. Lesouef, J.Y. and Cabrera, M.A. (1992) Estudios previos para un programa de rescate genético de *Limonium dendroides* Svent. *Botanica Macaronésica*, 19-20:3-14.

Sventenius, E. (1960) *Additamentum ad floram canariensem I*. Inst. Nac. Invest. Agronom. Madrid.

Limonium duforei* (Girard) O. Kuntze*PLUMBAGINACEAE**

Status: V
Distribution: Spain
Researcher: M.D. Lledó, M.B. Crespo and J.B. del Amo-Marco
Institution: Dpto. de Biología Vegetal
 Facultat de Ciències Biològiques
 Universitat de Valencia
Address: C/Dr. Moliner 50
 46100 Burjassot, Valencia, Spain
Area of study: * Micropropagation

Researcher: Carmen Martín
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
 Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
Phone: 34 1 3365663
Fax: 34 1 3365656
Area of study: * Micropropagation

Researcher: I. Queral
Institution: Independent
Address: C/ Sarratella 3, 2º - 4ª
 E-12005 Castellón de la Plana, Spain
Phone: 34 64 243489
Area of study: * Demography, population dynamics
 * Ecology

Current research:

Threatened plant species in the littoral and marshes.

Bibliography:

Costa, M. (1982) La vegetación costera valenciana: Los Cabos. *Doc. Phytosociol.* 6:355-364.

Costa, M. *et al.* (1987) *Limonium duforei* (Girard) O. Kuntze (Plumbaginaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 370-371.

Erben, M. (1978) Die gattung *Limonium* im Südwestmediterranean raum. *Mitt. Bot. München* 14:361-631.

Lledó, M.D. Crespo, M.B. and del Amo-Marco, J.B. (1993) Preliminary remarks on micropropagation of threatened *Limonium* species (Plumbaginaceae). *Botanic Gardens Micropropagation News* 1(6):72-74.

Limonium estevei Fdez. Casas**PLUMBAGINACEAE**

Status: V
Distribution: Spain
Researcher: C. Martín
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
Phone: 34 1 3365663
Fax: 34 1 3365656
Area of study: * Micropropagation

Bibliography:

- Alcaraz, F. *et al.* (1987) *Limonium estevei* Fdez. Casas (Plumbaginaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 374-375.
- Erben, M. (1978) Die gattung *Limonium* im Südwestmediterranean raum. *Mitt. Bot. München* 14:361-631.
- Fernández-Casas, J. (1971) Nueva especie del género *Limonium* (Tourd.) Miller *Cuad. Biol.* 1:23-24.
- Martín, C. and Pérez, C. (1992) Multiplication *In vitro* of *Limonium estevei* Fdez. Casas. *Ann. Bot.* 70: 165-167.
- Pount, H. (1973) *Limonium almeriense*, espece nouvelle du sud de l'Espagne. *Bull. Soc. Bot. Fr.* 120:341-346.

Limonium fruticans (Webb) O. Kuntze**PLUMBAGINACEAE**

Status: E
Distribution: Canary Islands

Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit, Royal Botanic Gardens
Address: Kew, Richmond, Surrey TW9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

- Bramwell, D. (1971) Studies in the Canary Islands Flora: The vegetation of Punta de Teno, Tenerife. *Cuad. Bot. Canar.* 11:4-37.
- Calero, A. and Santos, A. (1988) Reproductive biology of threatened species in the flora of the Canary Islands, Spain. *Lagascalia* 15 (Suppl.):661-664.
- Fay, M.F. (in press) Micropropagation of plants from the Canary Islands. *Bol. Mus. Mun. Funchal* Suppl. 2.
- Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Limonium gibertii (Sennen) Sennen**PLUMBAGINACEAE**

Status: R
Distribution: Spain
Researcher: C. Martín
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
Phone: 34 1 3365663
Fax: 34 1 3365656
Area of study: * Micropropagation

Bibliography:

- Erben, M. (1982) Revision der gattung *Limonium*. Die gattung *Limonium* in Südwestmediterranean raum. *Mitt. Bot. Munchen*, 14:361-631.
- Llorens, L. (1985) El género *Limonium* Miller en la isla de Formentera (Balears). *Lazaroa* 8:69-83.
- Romo, A.M. (1987) *Limonium gibertii* (Sennen) Sennen. In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 380-381.

Limonium imbricatum* (Webb & Berthel.) Hubbard*PLUMBAGINACEAE**

Status: E
Distribution: Canary Islands

Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit, Royal Botanic Gardens
Address: Kew, Richmond, Surrey TW9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

Fay, M.F. (in press) Micropropagation of plants from the Canary Islands. *Bol. Mus. Mun. Funchal* Suppl. 2.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Santos, A. (1983) *Vegetación y Flora de La Palma*. Editorial Interinsular Canaria. S/C de Tenerife. 348 pp.

Voggenreiter, V. (1974) *Geobotanische untersuchungen an der natürlichen végetation der Kanareninsel Tenerife*. Dissert. Bot. 26. J. Cramer, Lehre. 718 pp.

Limonium malacitanum* B. Díez Garretas*PLUMBAGINACEAE**

Status: E
Distribution: Spain

Researcher: E. Hernández, A. Pujadas, J. Prados and A. Lora
Institution: Dpto. de Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba
Address: Avda. de Linneo s/n
 E-14004 Córdoba, Spain
Phone: 34 57 200077 / 200018
Fax: 34 57 295333

Area of study: * Conservation

Current research:

Estimation of variability, germplasm collection and preservation, and propagation methods. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

Bibliography:

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- Guerra Montes, J. (1987) *Limonium malacitanum* B. Díez Garretas (Plumbaginaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA; Madrid. pp. 386-387.
- Hernández-Bermejo, E. Clemente, M. *et al.* (1994) *Protección de la Flora en Andalucía*. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.
- Rivas-Martínez, S. *et al.* (1991) Endemismos vasculares de Andalucía. *Rivasgodaya* 6:43.

Limonium optimae* Raimondo*PLUMBAGINACEAE**

Status: E**Distribution:** Sicily**Researcher:** L. Gianguzzi**Institution:** Dipartimento di Scienze Botaniche**Address:** Via Archirafi 38

I-90123 Palermo, Italy

Phone: 39 91 6161493**Area of study:**

- * Autecology
- * Distribution
- * Propagation
- * *Ex situ* and *in situ* conservation

Bibliography:

Colombo, P., Gianguzzi, L. and Raimondo, F.M. (1993) Osservazioni ecomorfologiche e cariologiche su un nuovo *Limonium* della Sicilia centrale. *Giorn. Bot. Ital.*, 127 (3): 52.

Raimondo, F.M. (1993) *Limonium optimae*, a new species from central Sicily. *Flora Med.*, 3:13-18.

Limonium parvibracteatum Pignatti**PLUMBAGINACEAE**

- Status:** R
Distribution: Spain
- Researcher:** M.D. Lledó, M.B. Crespo and J.B. del Amo-Marco
Institution: Dpto. de Biología Vegetal
Facultat de Ciències Biològiques
Universitat de Valencia
- Address:** C/Dr. Moliner 50
46100 Burjassot, Valencia, Spain
- Area of study:** * Micropropagation

Bibliography:

Lledó, M.D. Crespo, M.B. and del Amo-Marco, J.B. (1993) Preliminary remarks on micropropagation of threatened *Limonium* species (Plumbaginaceae). *Botanic Gardens Micropropagation News* 1(6):72-74.

Limonium preauxii* (Webb & Berth.) O. Kuntze*PLUMBAGINACEAE**

Status: E
Distribution: Canary Islands
Researcher: J.A. Rodríguez et al.
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
E-38400 Tenerife, Spain
Fax: 34 22 383572
Area of study: * Germination, dormancy

Bibliography:

- Bramwell, D. and Rodrigo, J. (1984) Prioridades para la conservación de la diversidad genética en la flora de las Islas Canarias. *Bot. Macar.* 10:13-17 (1982).
- Marrero, A. and Suárez, C. (1990) Notas corológicas de especies en peligro. *Bot. Macar.* 18:86-88.
- Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Limonium redivivum* (Svent.) Kunkel & Sund.*PLUMBAGINACEAE**

Status: V
Distribution: Canary Islands
Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit, Royal Botanic Gardens
Address: Kew, Richmond, Surrey TW9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

Fay, M.F. (in press) Micropropagation of plants from the Canary Islands. *Bol. Mus. Mun. Funchal* Suppl. 2.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Sventenius, E. (1954) *Specilegium canariense*. *Bol. Inst. Nac. Invest. Agronom.* 30:30-42.

Limonium rumicifolium* (Svent) Kunkel & Sund.*PLUMBAGINACEAE**

Status: R
Distribution: Canary Islands
Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit, Royal Botanic Gardens
Address: Kew, Richmond, Surrey TW9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Bibliography:

Fay, M.F. (in press) Micropropagation of plants from the Canary Islands. *Bol. Mus. Mun. Funchal* Suppl. 2.

Limonium spectabile* (Svent.) Kunkel & Sund.*PLUMBAGINACEAE**

Status: E
Distribution: Canary Islands
Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit, Royal Botanic Gardens
Address: Kew, Richmond, Surrey TW9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

Fay, M.F. (in press) Micropropagation of plants from the Canary Islands. *Bol. Mus. Mun. Funchal* Suppl. 2.

Kunkel, G. and Sunding, P. (1967) Enumeration of the species of *Limonium* Mill. (Plumbaginaceae) in the Canary Islands with nomenclatural notes. *Cuad. Bot. Canar.* 2:9-18.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Sventenius, E. (1949) Plantas nuevas o poco conocidas de Tenerife. *Bol. Inst. Nac. Invest. Agronóm.* 20(111):197-209.

Limonium todaroanum* Raimondo & Pign.*PLUMBAGINACEAE**

- Status:** V
Distribution: Sicily
- Researcher:** L. Gianguzzi
Institution: Dipartimento di Scienze Botaniche
Address: Via Archirafi 38
I-90123 Palermo, Italy
Phone: 39 91 6161493
- Area of study:** * Autecology
* Distribution
* Propagation
* *Ex situ* and *in situ* conservation

Bibliography:

- Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Plante d'Italia*. WWF, Rome. 637 pp.
- Raimondo, F.M. and Pignatti, S. (1986) Una nuova specie di *Limonium* (Plumbaginaceae) della Sicilia. *Webbia* 39(2):417-421.

Linaria tursica Valdés & Cabezudo**SCROPHULARIACEAE**

- Status:** V
Distribution: Spain
- Researcher:** B. Valdés and Z. Diaz Lifante
Institution: Departamento de Biología Vegetal y Ecología
 Facultad de Biología, Universidad de Sevilla.
Address: Avda. Reina Mercedes s/n
 E-41080 Sevilla, Spain
- Area of study:**
- * Germination, dormancy
 - * Growth, development
 - * Flowering, fruit development, pollination
 - * Reproduction
 - * Dispersal
 - * Propagation methods
 - * Phenology
 - * Demography
 - * Ecology

Bibliography:

- Cabezudo, B. (1981) Nota sobre *Linaria tursica* Valdés & Cabezudo y *Linaria donyanae* Valdés-Bermejo et al. *Trab. Monogr. Dept. Bot. Málaga* 2:131-132.
- Costa, M. Castroviejo, S. Rivas-Martínez, S. and Valdés-Bermejo, E. (1978) Sobre la vegetación de terófitos efímeros de las dunas fósiles del Coto de Doñana. *Col. Phytosoc.* (Lille) 6:101-108.
- Rivas-Martínez, S. Costa, M. Castroviejo, S. and Valdés-Bermejo, E. (1980) Vegetación de Doñana (Huelva, España). *Lazaroo* 2:5-189.
- Valdés, B. (1982) *Linaria tursica* Valdés & Cabezudo. In: B. Valdés & al., *Herb. Univ. Hisp., Fl-Select., Cent.* 1:23.
- Valdés, B. (1987) *Linaria tursica* Valdés & Cabezudo (Scrophulariaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp.185-186.
- Valdés, B. and Cabezudo, B. (1977) *Linaria tursica* Valdés & Cabezudo, *sp. nov.* *Lagascalía* 7:9-12.

Lithodora nitida* (Ern.) R. Fernandes*BORAGINACEAE**

Status: E
Distribution: Spain
Researcher: J. Pedrola and J. Caujape
Institution: Est. Inter. Biol. Mediterránea
Address: Jardín Botánico "Marimurtra"
 E-17300 Blanes, Girona, Spain
Phone: 34 72 330826
Area of study: * Genetics

Current research:

Morphologic variability and genetics of the heterostyly of *L. nitida* and *L. oleifolia*.

Genetic distance of two Spanish endemisms from northern and southern Spain: *L. oleifolia* and *L. nitida*.

Researcher: H. Ern and I. Hagemann
Institution: Botanischer Garten und Botanisches Museum
 Berlin-Dahlem
Address: Königin-Luise-Str. 6-8
 D-14191 Berlin, Germany
Phone: 030 83006143

Area of study: * Anatomy
 * Genetics
 * Germination, dormancy
 * Growth, development
 * Flowering, fruit development, pollination
 * Reproduction
 * Dispersal
 * Propagation methods
 * Phenology

Bibliography:

Brummit, R.K. and Fernández, R. (1971) In "Short Notes" *Bot.J.Linn.Soc.* 64(1):73.

Ern, H. (1968) Zwei neue Unterarten von Pflanzen der Iberischen Halbinsel. *Senckenbergiana biol.* 49:79-84.

Ern, H. Martínez-Parras, J.M. Molero, J. and Peinado, M. (1987) *Lithodora nitida* (Ern) R. Fernandes (Boraginaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 416-417.

Lithodora oleifolia (Lapeyr.) Griseb.**BORAGINACEAE**

Status: R
Distribution: Spain

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: J. Pedrola and J. Caujape
Institution: Est. Inter. Biol. Mediterránea
Address: Jardín Botánico "Marimurtra"
 E-17300 Blanes, Girona, Spain
Phone: 34 72 330826

Area of study: * Genetics
 * Reproduction

Current research:

Morphologic variability and genetics of the heterostile of *L. nitida* and *L. oleifolia*.

Genetic distance of two Spanish endemisms from northern and southern Spain: *L. oleifolia* and *L. nitida*.

Reproduction of genus *Lithodora* in the Iberian Peninsula.

Bibliography:

Bou, J. (1987) *Lithodora oleifolia* (Lapeyr.) Griseb (Boraginaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 418-419.

Bolós, O. de (1964) Sobre el *Lithospermum oleifolium* Lap. *Collect. Bot.* 6(3):475-477.

Cadevall-Diars, J. (1932) *Flora de Catalunya*. 4:151-152.

Fernandes, R. (1972) *Lithodora*. In: Tutin *et al.* (Eds.) *Flora Europaea*. Cambridge University Press 3:88-89.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Lithodora rosmarinifolia (Ten.) Johnston**BORAGINACEAE**

- Status:** R
Distribution: Italy and Sicily
- Researcher:** V. La Valva, M. Ricciardi, G. Caputo and R. Nazzaro
Institution: Dip. Biol. Vegetale
Address: via Foria 223
 I-80139 Napoli, Italy
Phone: 39 81 440681
Fax: 39 81 450165
- Area of study:** * Taxonomy
 * Distribution

Bibliography:

- AA.VV. (1986) *Atlante Iconografico delle Piante Endemiche o Rare della Riserva Naturale Orientata dello Zingaro (Sicilia)*. Azienda Foreste Demaniali della Regione Siciliana.
- Brullo, S. and Marceno', C. (1979) *Dianthion rupicolae* nouvelle alliance sud-tyrrhenienne des *Asplenietalia glandulosi*. *Doc. Phytosoc.* 4:131-146.
- Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Piante d'Italia*. WWF, Rome. 637 pp.
- Francini, E. and Messeri, A. (1955) L'isola di Marettimo nell'arcipelago delle Egadi e la sua vegetazione. *Webbia* 11:607-846.
- Gruppo Lavoro Conservazione Natura S.B.I. (1971) *Censimento dei Biotopi di Rilevante Interesse Vegetazionale Meritevoli di Conservazione in Italia*. Vol. 1. Tip Savini-Mercuri, Camerino (schede 19-4 Monte Pellegrino; 19-11 Monte Cofano).
- Gruppo Lavoro Conservazione Natura S.B.I. (1979) *Censimento dei Biotopi di Rilevante Interesse Vegetazionale Meritevoli di Conservazione in Italia*. Vol. 2. Tip Savini-Mercuri, Camerino (schede 19-24 Capo Gallo; 19-25 Rupi di Catalfano e Capo Zafferana).
- La Valva, V. (1981-1982) Piante endemiche o rare dell'Italia meridionale: 1-2 *Delpinoa* n.s., 23-24: 115-128.
- La Valva, V. Ricciardi, M. Caputo, G. and Nazzaro, R. La flora della Penisola Sorrentina. *Delpinoa* (in press).

Lotus azoricus P.W. BallFABACEAE

- Status:** E
Distribution: Azores
- Researcher:** M.L. Caixinhas
Institution: Universidade Técnica de Lisboa
 Dpto. de Botânica e Engenharia Biológica
 Instituto Superior de Agronomia
Address: Tapada da Ajuda
 P-1399 Lisboa Codex, Portugal
- Area of Study:** * Germination, dormancy
- Researcher:** G.B. Maciel
Institution: Universidade dos Açores, Dpto. de Biologia
Address: Rua Mae de Deus 58, Apart. 1422
 P-9502 Ponta Delgada Codex, Portugal
- Fax:** 351 96 653 455
- Area of study:** * Germination, dormancy

Bibliography:

Furtado, D.S. (1984) Status e distribuição das plantas vasculares endémicas dos Açores. *Arquipélago*, 5:197-209.

Hansen, A. and Sundig, P. (1985) Flora of Macaronesia, Checklist of vascular plants. *Sommerfeltia*, 1.

Maciel, G.B. and Caixinhas, M.L. (1992) Etudes sur les dormances de quelques espèces endémiques des Açores. *IVe reencontre internationale sur les semences*, Angers (France).

Maciel, G.B. and Caixinhas, M.L. (1993) Etude sur la germination de deux années d'essais de quelques espèces endémiques des Açores. *Primeiro Simposio Fauna e Flora das Ilhas Atlânticas*, Madeira.

Lotus berthelotii* Masferrer*FABACEAE**

Status: E
Distribution: Canary Islands

Researcher: R.W. Anson
Institution: City of Liverpool Botanic Gardens
Address: Liverpool, Great Britain

Area of study: * Propagation methods
* Culture techniques

Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit, Royal Botanic Gardens
Address: Kew, Richmond, Surrey TW9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Current research:

Induction of callus cultures for possible somaclonal variation studies.

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: C. Ortega
Institution: Jardín Botánico "Viera y Clavijo"
Address: Aptdo. Correos 14 de Tafira Alta
E-35017 Las Palmas de Gran Canaria, Spain

Area of study: * Micropropagation

Researcher: J.A. Rodríguez et al.
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
 E-38400 Tenerife, Spain
Fax: 34 22 383572

Area of study: * Culture techniques
 * Germination, dormancy

Bibliography:

Bramwell, D. (1990) The role of *in vitro* cultivation in the conservation of endangered species. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 3-15.

Brand, A. (1898) Monographie der Gattung *Lotus*. *Bot. Jahrb.* 25:166-232.

Calero, A. and Santos, A. (1988) Reproductive biology of threatened species in the flora of the Canary Islands, Spain. *Lagascalia* 15 (Suppl.):661-664.

Calero, A. and Santos, A. (1984) *Lotus berthelotii* Mas. X *L. eremiticus* Santos: nuevo híbrido para las especies de *Lotus* en las Islas Canarias. *Comunicaciones de la III reunión de ornamentales*. Jornadas técnicas. Sociedad Española de Ciencias Hortícolas. pp. 85-89.

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Hooker, J.D. (1884) *Lotus peliorhynchus* (native of Tenerife) *Curtis's Botanical Magazine*. 110:Tab. 6733.

Kunkel, G. (1974) Notes on the genus *Heinekenia* (Fabaceae) from the Canary Islands. *Cuad. Bot. Canar.* 22:7-10.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Olesen, J.M. (1985) The Macaronesian bird-flower element and its relation to bird and bee opportunists. *Bot. J. Linn. Soc.* 91:395-414.

Ortega, C. (1982) Micropropagación de *Lotus berthelotii* Masf. (Leguminosae), un endemismo canario en peligro de extinción. *Bot. Macar.* 10:19-25.

Owens, S.J. (1985) Seed set in *Lotus berthelotii* Masferrer. *Ann. Bot.* 6:811-814.

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Waffenschmidt, H. (1984) Wie bewahren sich *Lotus berthelotii*? *Gruener Markt Gartencenter und Freizeit*. 25: 284.

Lotus campylocladus* Webb & Berth.*FABACEAE**

Status: R
Distribution: Canary Islands

Researcher: J. Real and A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Area of study: * Propagation methods
* Culture techniques

Current research:

Study on the germinative behaviour of some endemisms of the Supracanary Floor.

Bibliography:

- Lecuona, R.M. La Serna, I. Méndez, B. and Wildpret, W. (1988) Contribution to the palynological study of the endemic Macaronesian flora. *Pollen Spores*. 29:359-390.
- León, M. Gutiérrez, A.M. Pérez, R. and Corzo, J. (1991) Characterization of Canary Island North Atlantic Ocean isolates of Bradyrhizobium Sp. *Chamaecytisus proliferus*. *Soil Bio. Biochem.* 23:487-490.
- Rodríguez, J.L. Rodríguez, J.C. and Ramos, M.T. (1988) Autumn diet selectivity of the Corsica mouflon *Ovis ammon musimon* Schreber 1782 on Tenerife Canary Islands Spain. *Mammalia* 52:475-482.

Lotus kunkelii* (Esteve) Bramwell & Davis*FABACEAE**

Status: E
Distribution: Canary Islands
Researcher: D. Bramwell
Institution: Jardín Botánico "Viera y Clavijo"
Address: Aptdo. Correos 14 de Tafira Alta
 E-35017 Las Palmas de Gran Canaria, Spain

Area of study: * Micropropagation

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

Bramwell, D. (1990) The role of *in vitro* cultivation in the conservation of endangered species. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 3-15.

Bramwell, D. and Davis, D.H. (1972) A contribution to the study of *Lotus* L. on Gran Canaria. *Cuad. Bot. Canar.* 16:51-54.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Ortega, J. (1976) Citogenética de *Lotus* en Macaronesia I. Números de cromosomas. *Bot. Macar.* 1: 17-24.

Lotus maculatus* Breitf.*FABACEAE**

Status: E
Distribution: Canary Islands

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: J.A. Rodríguez *et al.*
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
E-38400 Tenerife, Spain
Fax: 34 22 383572

Area of study: * Germination, dormancy

Bibliography:

Breitfeld, C. (1973) *Lotus maculatus*, eine bisher unbeschriebene Art von Tenerife. *Cuad. Bot. Can.* 17:27-31.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Lugoa revoluta DC.**ASTERACEAE**

Status: E
Distribution: Canary Islands

Researcher: R. Febles
Institution: Jardín Botánico "Viera y Clavijo"
Address: Apto. Correos 14 de Tafira Alta
 E-35017 Las Palmas de Gran Canaria, Spain

Area of study: * Genetics

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

- Candolle, A.P. de (1838) *Prodromus systematis naturalis regni vegetabilis*. VI:14.
- Febles, R. (1990) *Análisis citogenético y evolutivo en las especies endémicas de los géneros Gonospermum Less., Lugoa D.C. y Tanacetum L. (Compositae: Anthemideae) de las Islas Canarias*. Doctoral Thesis, Madrid.
- Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Lysimachia minoricensis Rodr.PRIMULACEAE

Status: Ex
Distribution: (Balearic Islands)

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: J. Pedrola *et al.*
Institution: Est. Inter. Biol. Mediterránea
Address: Jardín Botánico "Marimurtra"
 E-17300 Blanes, Girona, Spain
Phone: 34 72 330826

Area of study: * Genetic conservation

Current research:

Genetic conservation of an extinct endemism: *Lysimachia minoricensis*.

Bibliography:

Bolós, A. (1962) Algunas novedades florísticas. *Collect. Bot.* 6(10):357-362.

Gómez-Campo, C. (1987) *Lysimachia minoricens* Rodr. (Primulaceae) In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 422-423.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Maytenus canariensis* (Loes.) Kunkel & Sunding*CELASTRACEAE**

Status: R
Distribution: Canary Islands
Researcher: A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
 La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898
Area of study: * Propagation methods
 * Culture techniques
Bibliography:

Bañares, A. (1992) Contribución al conocimiento de la propagación vegetativa y sexual de las especies vegetales de la Laurisilva Canaria. *Bot. Mac.* 19-20:53-64.

Delgado, J.C. (1986) *Propagación de Arboles Canarios*. Exmo. Cabildo Insular de Gran Canaria.

González, A.G. Jiménez, I.A. and Ravelo, A.G. (1992) Triterpenes from *Maytenus canariensis* and synthesis of a derivative from betulin. *Phytochemistry* 31:2069-2072.

González, A.G. Jiménez, I.A. Ravelo, A.G. and Bazzocchi, I.L. (1990) Beta agarofuran sesquiterpenes from *Maytenus canariensis*. *Phytochemistry* 29:2577-2580.

González, A.G. Jiménez, I.A. Ravelo, A.G. Belles, X. and Piulachs, M.D. (1992) Antifeedant activity of Dihydro-Beta-Agarofuran sesquiterpenes from Celastraceae against *Spodoptera littoralis*. *Biochem. Syst. Ecol.* 20:311-315.

González, A.G. Jiménez, I.A. Ravelo, A.G. Luis, J.G. and Bazzocchi, I.L. (1989) Beta agarofuran sesquiterpene esters from *Maytenus canariensis*. *Phytochemistry* 28:173-176.

González, A.G. Jiménez, I.A. Ravelo, A.G. Sazatornil, J.G. and Bazzocchi, I.L. (1993) New sesquiterpenes with antifeedant activity from *Maytenus canariensis* Celastraceae. *Tetrahedron* 49:697-702.

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Santos, A. (1980) Contribución al conocimiento de la flora y vegetación de la isla de Hierro (I. Canarias). *Fund. Juan March. Ser. Univ.* 114.

Santos, A. (1983) *Vegetación y Flora de la Isla de La Palma*. Ed. Interinsular Canaria. Santa Cruz de Tenerife.

Medicago strasseri Greuter, Matthäs & Risse**FABACEAE.**

Status: R**Distribution:** Crete**Researcher:** J.L. Ceresuela**Institution:** Dpto. Biología Vegetal, E.T.S. Ingenieros Agrónomos, Universidad Politécnica de Madrid.**Address:** Ciudad Universitaria, E-28040 Madrid, Spain**Phone:** 34 1 3365657**Fax:** 34 1 3365656

Area of study:

- * Germination, dormancy
- * Growth, development
- * Flowering, fruit development, pollination
- * Reproduction
- * Dispersal
- * Propagation methods
- * Micropropagation
- * Culture techniques
- * Phenology
- * Ecology

Current research:Karyology and propagation of *Medicago strasseri***Researcher:** W. Greuter and R. Vogt**Institution:** Botanischer Garten und Botanisches Museum
Berlin-Dahlem**Address:** Königin-Luise-Str. 6-8
D-14191 Berlin, Germany

Area of study:

- * Genetics
- * Germination, dormancy
- * Growth, development
- * Flowering, fruit development, pollination
- * Reproduction
- * Propagation methods

Bibliography:

Ceresuela, J.L. (1991) La alfalfa leñosa de Creta (*Medicago strasseri* Matthäs, Greuter & Risse) Leguminosae, primeros datos acerca de su potencial interés forrajero. XXXI Reunión Científica Sociedad Española para el Estudio de los Pastos, Murcia.

Pérez-García, F. Ceresuela, J.L. González, A. E. and Aguinagalde, I. (1992) Flavonoids in seed coats of *Medicago arborea* and *M. strasseri* (Leguminosae): Ecophysiological aspects. *J. Basic Microbiol.* 32:241-248.

Strasser, W. (1988) *Medicago strasseri* new record and *Draba strasseri* new record two new species from Greece. *Mitt. Naturforsch. Ges. Bern.* 45:168-171.

Melanoselinum decipiens* (Schrader & Wendl.) Hoffmann*APIACEAE**

- Status:** R
Distribution: Azores, Madeira
- Researcher:** J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
F-29200 Brest, France
Phone: 33 98 418895
- Area of study:** * Culture techniques
- Researcher:** J.P. Reduron
Institution: Parc Zoologique et Botanic de Mulhouse
Address: Mulhouse, France
- Area of study:** * Propagation methods
* Culture techniques

Bibliography:

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest.* Brest. 32 pp.

Myrica rivasmartinezii A. Santos**MYRICACEAE**

- Status:** E
Distribution: Canary Islands
- Researcher:** A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
 La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898
- Area of study:** * Germination, dormancy
 * Propagation methods
 * Culture techniques

Bibliography:

Bañares, A. (1992) Contribución al conocimiento de la propagación vegetativa y sexual de las especies vegetales de la Laurisilva Canaria. *Bot. Mac.* 19-20:53-64.

Bañares, A. Lecuona, R.M. La Serna, I. and Beltran, E. (1985) Sobre la presencia de *Myrica rivas-martinezii* Santos en la isla de Gomera (I. Canarias). Estudio corológico, ecológico y palinológico. *Vieraea* 14 (1-2): 41-55.

Romero, P. (1990) Aportaciones a la flora vascular de La Palma (Islas Canarias). *Vieraea* 18: 3-9.

Santos, A. (1980) *Contribución al conocimiento de la flora y vegetación de la isla de El Hierro (I. Canarias)*. Fund. Juan March. Serie Universitaria, n. 114. Madrid.

Nananthea perpusilla* (Loisel.) DC.*ASTERACEAE**

- Status:** V
Distribution: Corsica and Sardinia
- Researcher:** L. Olivier *et al.*
Institution: Conservatoire Botanique National de Porquerolles
- Address:** Castel Sainte-Claire
 Rue du Castel Ste. Claire
 F-83400 Hyeres, France
- Phone:** 33 94 653298
Fax: 33 94 658483
- Area of study:** * Germination, dormancy
 * Propagation methods
 * Culture techniques

Bibliography:

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- Corrias, B. (1981) Le piante endemiche della Sardegna:92-93. *Boll. Soc. Sarda Sci. Nat.* 20:275-286.
- Desole, L. (1959) Presenza di *Nananthea perpusilla* DC. nella Penisola di Stintino (Sardegna). Osservazioni critiche sulla distribuzione e sulla ecologia della specie. *Webbia* 15:111-139.
- Gruppo Lavoro Conservazione Natura S.B.I. (1971) *Censimento dei Biotopi di Rilevante Interesse Vegetazionale Meritevoli di Conservazione in Italia*. Vol. 1. Tip. Savini-Mercuri, Camerino (scheda 20-30 Capo del Falcone).
- Gruppo Lavoro Conservazione Natura S.B.I. (1971) *Censimento dei Biotopi di Rilevante Interesse Vegetazionale Meritevoli di Conservazione in Italia*. Vol. 2. Tip. Savini-Mercuri, Camerino (scheda 20-52 Isola di San Pietro).

Narcissus bugiei (Fdez. Casas) Fdez. Casas

AMARYLLIDACEAE

Status: V
Distribution: Spain

Researcher: M. Clemente, M.A. García, P. Contreras and E. Hernández
Institution: Dpto. de Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba
Address: Avda. de Linneo s/n
E-14004 Córdoba, Spain
Phone: 34 57 200077 / 200018
Fax: 34 57 295333

Area of study: * Conservation

Current research:

Cartography of the populations, estimation of variability, germplasm collection and preservation, development of *ex situ* populations, propagation methods. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

Bibliography:

- Fernández Casas, J. (1986) *Narcissus bugiei* new combination. *Lagascalia* 14:176.
- Hernández-Bermejo, E. Clemente, M. *et al.* (1994) *Protección de la Flora en Andalucía*. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.

Narcissus longispathus PugsleyAMARYLLIDACEAE

- Status:** R
Distribution: Spain
- Researcher:** M. Clemente, M.A. García, P. Contreras and E. Hernández
Institution: Dpto. Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba
- Address:** Avda. de Linneo s/n
 E-14004 Córdoba, Spain
- Phone:** 34 57 200077 / 200018
Fax: 34 57 295333
- Area of study:** * Micropropagation
 * Conservation

Current research:

Estimation of variability, germplasm collection and preservation, development of *ex situ* populations, propagation methods. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

Bibliography:

- Blanca, G. (1987) *Narcissus longispathus* Pugsley (Amaryllidaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 442-443.
- Clemente, M. (1991) The micropropagation unit at the Cordoba Botanic Garden, Spain. *Botanic Gardens Micropropagation News* 1(3):30-32
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- Fernández Casas, J. (1986) *Narcissus bugei* new combination. *Lagascalia*. 14:176.
- Hernández-Bermejo, E. Clemente, M. *et al.* (1994) *Protección de la Flora en Andalucía*. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.

Narcissus nevadensis Pugsley**AMARYLLIDACEAE**

- Status:** E
Distribution: Spain
- Researcher:** M. Clemente, M.A. García, P. Contreras and E. Hernández
Institution: Dpto. Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba
Address: Avda. de Linneo s/n
 E-14004 Córdoba, Spain
Phone: 34 57 200077 / 200018
Fax: 34 57 295333
- Area of study:** * Micropropagation
 * Conservation

Current research:

Estimation of variability, germplasm collection and preservation, development of *ex situ* populations, propagation methods. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

Bibliography:

- Clemente, M. (1991) The micropropagation unit at the Cordoba Botanic Garden, Spain. *Botanic Gardens Micropropagation News* 1(3):30-32
- Fernández-Casas, J. (1983) Materiales para una monografía de *Narcissus* I. *Fontqueria* 3:33.
- Fernández-Casas, J. and Muñoz-Garmendia, F. (1978) *Exsiccata quaedam a nobis nuper distributa*, I. Madrid.
- Hernández-Bermejo, E. Clemente, M. *et al.* (1994) *Protección de la Flora en Andalucía*. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.
- Molero, J. Martínez-Parras, J.M. and Pérez-Raya, F. (1987) *Narcissus nevadensis* Pugsley (Amaryllidaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 446-447.
- Pugsley, H.W. (1933) A monograph of *Narcissus*. Subgenus Ajax. *Jour. Roy. Hort. Soc.* 58:17-93.

Narcissus tortifolius Fdez. CasasAMARYLLIDACEAE

Status: R**Distribution:** Spain**Researcher:** M. Clemente, M.A. García, P. Contreras and E. Hernández**Institution:** Dpto. Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba**Address:** Avda. de Linneo s/n
E-14004 Córdoba, Spain**Phone:** 34 57 200077 / 200018**Fax:** 34 57 295333**Area of study:** * Micropropagation

* Conservation

Current research:

Estimation of variability, germplasm collection and preservation, development of *ex situ* populations, propagation methods. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

Bibliography:

Barra, A. and López-González, G. (1982) Una nueva localidad para *Narcissus tortifolius* Fdez. Casas. *Anal. Jard. Bot. Madrid* 39(1):212.

Bastida, J. Codina, C. Viladomat, F. Rubiralta, M. Quirion, J.C. and Husson, H.P. (1990) 9-O Demethyl-2-Alpha-Hydroxyhomolycorine an alkaloid from *Narcissus tortifolius*. *Phytochemistry* 29:2683-2684.

Clemente, M. (1991) The micropropagation unit at the Cordoba Botanic Garden, Spain. *Botanic Gardens Micropropagation News* 1(3):30-32

Codina, C. Viladomat, F. Bastida, J. Rubiralta, M. and Quirion, J.C. (1990) A heterodimer alkaloid from *Narcissus pallidiflorus*. *Phytochemistry* 29:2685-2687.

Fernández-Casas, J. (1977) Recuentos cromosómicos en plantas vasculares españolas. *Saussurea* 8:33-55.

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Fernández-Casas, J. (1987) *Narcissus tortifolius* Fdez. Casas (Amaryllidaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 448-449.

Hernández-Bermejo, E. Clemente, M. *et al.* (1994) *Protección de la Flora en Andalucía*. Jardín Botánico de Córdoba y Agencia de Medio Ambiente de Andalucía.

Naufraga balearica Const. & Cannon

APIACEAE

- Status:** E
Distribution: Balearic Islands , Corsica
- Researcher:** M. Clemente, P. Contreras, A. Pujadas and E. Hernández
Institution: Dpto. Ciencias y Recursos Agrícolas y Forestales, Jardín Botánico de Córdoba
Address: Avda. de Linneo s/n
 E-14004 Córdoba, Spain
Phone: 34 57 200077 / 200018
Fax: 34 57 295333
- Area of study:** * Micropropagation
- Researcher:** J. L. Gradaille
Institution: Jardín Botánico de Sóller
 Museo Balear de Ciencias Naturales
Address: Aptdo. Correos 55
 E-07100 Sóller, Mallorca, Spain
- Area of study:** * Propagation methods
 * Culture techniques
 * Conservation
 * Re-introduction
- Researcher:** A. Ibars
Institution: Dpto. Biología Vegetal
 Facultad de Farmacia, Universitat de Valencia
Address: Avda. Vicente Andrés Estellés s/n
 E-46100 Burjassot, Valencia, Spain
- Area of study:** * Anatomy
- Researcher:** J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 29200 Brest, France
Phone: 98 418895
- Area of study:** * Culture techniques
- Researcher:** J.P. Reduron

Institution: Parc Zoologique et Botanic de Mulhouse
Address: Mulhouse, France

Area of study: * Propagation methods
 * Culture techniques

Researcher: J.A. Rosselló
Institution: Jardín Botánico de Córdoba
Address: Avda. de Linneo s/n
 E-14004 Córdoba, Spain
Phone: 34 57 200077 / 200018
Fax: 34 57 295333

Area of study: * Anatomy

Bibliography:

Constance, L. y Cannon, F.M. (1967) *Naufraga*, a new genus of Umbelliferae. *Feddes Repert.*, 74:1-4.

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Duvigneaud, J. (1969) Ecologie de *Naufraga balearica* Const. et Cannon (Umbelliflorae). *Bull. Soc. Roy. Bel.*, 103:31.

Ibars, A. and Rosselló, J.A. (1990) Características histológicas de endemismos baleáricos. I. Umbelíferas. *II Jornadas de Taxonomía Vegetal*, Madrid.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Llorens, L. (1987) *Naufraga balearica* Const. & Cannon (Apiaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 450-451.

Snogerup, S. (1985) The Mediterranean Islands. In: C. Gómez-Campo (Ed.) *Plant Conservation in the Mediterranean Area*. Dr. W. Junk, Dordrecht, pp. 159-173.

Nepeta teydea* Webb & Berth.*LAMIACEAE**

Status: R
Distribution: Canary Islands

Researcher: J. Real and A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
 La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Area of study: * Propagation methods
 * Culture techniques
 * Phenology

Current research:

Study of the germinative behaviour of some endemisms of the Supracanary Floor.

Bibliography:

Rodríguez, J.L. Rodríguez, J.C. and Ramos, M.T. (1988) Autumn diet selectivity of the Corsica mouflon *Ovis ammon musimon* Schreber 1782 on Tenerife Canary Islands Spain. *Mammalia* 52:475-482.

Velasco Negueruela, A. Pérez Alonso, M.J. and Buades Rodríguez, A. (1989) Essential oil analysis of *Nepeta teydea* Webb. and Berth. *Flavour Fragrance J.* 4:197-200.

Ocotea foetens* (Aiton) Benth. & Hook. f.*LAURACEAE**

Status: V
Distribution: Canary Islands, Madeira

Researcher: A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Area of study: * Propagation methods
* Culture techniques

Bibliography:

Bañares, A. (1992) Contribución al conocimiento de la propagación vegetativa y sexual de las especies vegetales de la Laurisilva Canaria. *Bot. Mac.* 19-20:53-64.

Nobrega, M.D. (1990) Contribution to the flora of mosses of Madeira. *Bol. Mus. Munic. Funchal.* 42:17-38.

Papaver rupifragum* Boiss. & Reuter*PAPAVERACEAE**

Status: R
Distribution: Spain, Morocco
Researcher: S. Silvestre
Institution: Dpto. Biología Vegetal y Ecología, Facultad de Farmacia, Universidad de Sevilla.
Address: Prof. García González, s/n.
E-41012 Sevilla, Spain.
Phone: 34 5 4556787
Fax: 34 5 4233765

Area of study: * Germination, dormancy
* Growth, development
* Flowering, fruit development, pollination
* Reproduction
* Dispersal
* Phenology
* Demography, population dynamics

Bibliography:

Silvestre, S. (1985) Chromosome numbers for Spanish flora 353-362. *Lagascalía*. 12:298-304.

Pericallis hadrosoma (Svent.) B. Nord.

ASTERACEAE

Status: E

Distribution: Canary Islands

Researcher: D. Bramwell et al.

Institution: Jardín Botánico "Viera y Clavijo"

Address: Aptdo. Correos 14 de Tafira Alta

E-35017 Las Palmas de Gran Canaria, Spain

Area of study: * Propagation methods

* Micropropagation

* Culture techniques

Bibliography:

Bramwell, D. (1990) The role of *in vitro* cultivation in the conservation of endangered species. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 3-15.

Ortega, C. and González, C. (1990) *Senecio hadrosomus*: cultivos *in vitro* y reintroducción en su hábitat natural. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 161-162.

Suárez, C. (1984) Aportación a la distribución y ecología de *Senecio appendiculatus* (L. fil.) var. *Preauxiana* Sch. Bip. y *Senecio hadrosomus* Svent. en Gran Canaria. *Bot. Mac.* 10(1982):85-92.

Sventenius, E. (1950) *Specilegium canariense* Centro de las Islas Canarias, I.N.I.A. Jardín de Aclimatación de La Orotava.

Pericallis hansenii (Kunkel) Sund.**ASTERACEAE**

- Status:** E
Distribution: Canary Islands
- Researcher:** A. Bañares and J. Real
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
 La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898
- Area of study:**
- * Germination, dormancy
 - * Flowering, fruit development, pollination
 - * Reproduction
 - * Propagation methods
 - * Culture techniques
 - * Phenology
 - * Demography, population dynamics
 - * Ecology
 - * Reintroduction

Current research:

Genetic recovery of the threatened flora of the Garajonay National Park.

Bibliography:

- Bañares, A. and Beltrán, E. (1985) Nuevas aportaciones a la flora vascular de la Gomera I. Canarias. Notas corológicas-ecológicas. *Vieraea* 15(1-2):41-55
- Bañares, A. (1990) La flora amenazada de los Parques Nacionales Canarios con especial referencia al P. N. de Garajonay. In: *Conservation Techniques in Botanic Gardens*. pp. 87-90. Ed. Koeltz Sc. Books.
- Bañares, A. (1990) Programa de recuperación de la flora amenazada del P. N. de Garajonay. In: Pérez de Paz (Ed.), *Garajonay, Patrimonio de la Humanidad*. ICONA, Madrid.
- Kunkel, G. (1975) Novedades y táxones críticos en la flora de Gomera. *Cuad. Bot. Canar.* 25:17-49.

Petagnaea gussonei (Spreng.) RauschertAPIACEAE

- Status:** V
Distribution: Sicily
- Researcher:** L. Gianguzzi
Institution: Dipartimento di Scienze Botaniche
Address: Via Archirafi 38
I-90123 Palermo, Italy
Phone: 39 91 6161493
- Area of study:** * Anatomy
* Autecology
* Distribution
* *Ex situ* and *in situ* conservation

Bibliography:

Brullo, S., Grillo, M. and Guglielmo, A. (1976) Osservazioni ecologiche preliminary su *Petagnia saniculifolia* Guss., raro endemismo siculo. *Giorn. Bot. Ital.* 110(4-5): 293-296.

Colombo, P.M., Melati, R., Scialabba, A. and Raimondo, F.M. (1994) Comparative anatomy and development in *Petagnia*, *Lereschia* and *Sanicula*. *Abstr. VII OPTIMA Meeting, Bulgaria 18-30 July 1993*. p. 172.

Petrocoptis crassifolia Rouy**CARYOPHYLLACEAE**

Status: R
Distribution: Spain

Researcher: B. García-González
Institution: Instituto Pirenaico de Ecología (C.S.I.C.)
Address: Apdo. 64
 E-22700 Jaca, Huesca Spain
Phone: 34 74 361441
Fax: 34 74 363222

Area of study: * Flowering, fruit development, pollination
 * Dispersal
 * Phenology
 * Demography, population dynamics
 * Ecology

Researcher: M. Mayol
Institution: Facultat de Ciències Biològiques. Botànica
 Dpto. de Biología Vegetal
 Universitat de Valencia
Address: E-46100 Burjassot, Valencia, Spain
Phone: 96 3864300 Ext. 3238
Fax: 96 3864372

Area of study: * Anatomy
 * Genetics
 * Metabolism, enzymes
 * Flowering, fruit development, pollination
 * Reproduction
 * Experimental hybridization
 * Evolution

Current research:

Comparative electrophoretic studies of seed protein and leaf isozyme in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1994).

Hybridization studies in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1995).

Seed morphology and taxonomy in *Petrocoptis* A. Braun (Caryophyllaceae) (1993).

Bibliography:

Fernández-Casas, J. (1975) De flora hispanica II. *Candollea* 30:286.

Fernández-González, D. Díaz González, T.E. Fombella Blanco, M.A. and Valencia Barrera, R.M. (1988) Contribution to the palynological study of the genus *Petrocoptis* A. Br. Caryophyllaceae. *Lagascalia* 15 (Suppl):213-220.

García, M.B. Antor, R.J. and Villar, L. (1992) Are the flowers of *Petrocoptis* actinomorphic? Influence of the position of the flower and pollinators on symmetry. *An. Jard. Bot. Madr.* 50:116-117.

Montserrat, G. (1987) *Petrocoptis crassifolia* Rouy (Caryophyllaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 460-461.

Montserrat, P. (1979) Biogeographie de la graine des *Petrocoptis*. *Webbia* 34(1):523-527.

Montserrat, P. and Montserrat, J.M. (1978) El *Petrocoptis crassifolia*, su variabilidad y distribución. *Doc. Phytosociol.* 2:321-327.

Rothmaler, W. (1942) Monographie der gattung *Petrocoptis* A. Br. *Bot. Jahrb.* 72:117-130.

Petrocoptis grandiflora Rothm.**CARYOPHYLLACEAE**

- Status:** V
Distribution: Spain
- Researcher:** J. Guitian, J.M. Sanchez-Fernández and M. Rodriguez-Guitian
Institution: Laboratorio de Botánica, Facultad de Farmacia
 Universidad de Santiago
Address: E-15706 Santiago de Compostela, Spain
Phone: 34 81 595280
- Area of study:** * Germination, dormancy
 * Flowering, fruit development, pollination
 * Reproduction
 * Dispersal
 * Phenology

Current research:

Data on reproductive biology of *Petrocoptis grandiflora*.

- Researcher:** M. Mayol
Institution: Facultat de Ciències Biològiques. Botànica
 Dpto. de Biología Vegetal
 Universitat de Valencia
Address: E-46100 Burjassot, Valencia, Spain
Phone: 96 3864300 Ext. 3238
Fax: 96 3864372
- Area of study:** * Anatomy
 * Genetics
 * Metabolism, enzymes
 * Flowering, fruit development, pollination
 * Reproduction
 * Experimental hybridization
 * Evolution

Current research:

Comparative electrophoretic studies of seed protein and leaf isozyme in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1994)

Hybridization studies in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1995)

Seed morphology and taxonomy in *Petrocoptis* A. Braun (Caryophyllaceae) (1993)

Bibliography:

- Fernández-Areces, M.P. Penas-Merino, A. and Díaz-González, T.E. (1983) Aportaciones al conocimiento de las comunidades vegetales de los paredones rocosos calizos de la Cordillera Cantábrica (revisión de la alianza *Saxifragion trifurcata canaliculatae*; clase *Asplenietea trichomanis*). *Anal.Jard.Bot. Madrid* 40(1):213-235.
- Fernández González, D. Díaz González, T.E. Fombella Blanco, M.A. and Valencia Barrera, R.M. (1988) Contribution to the palynological study of the genus *Petrocoptis* A. Br. Caryophyllaceae. *Lagascalia* 15 (Suppl):213-220.
- Ferreras, J.M. Diez, J.M. Iglesias, R. Merino, M.J. and Girbes, T. (1989) Presence of translational inhibitory activity in partially purified extracts from *Petrocoptis* species. *Cell. Mol. Biol.* 35:89-96.
- Giménez, M.A. (1976) *Estudio de comunidades vegetales naturales en la comarca de El Bierzo*. Doctoral Thesis. Facultad de Farmacia. Santiago de Compostela. 379 pp.
- Gutián, J. and Sánchez, J.M. (1992) Flowering phenology and fruit set of *Petrocoptis grandiflora* Caryophyllaceae. *Int. J. Plant Sci.* 153:409-412.
- Izco, J. and Gutián, P. (1987) *Petrocoptis grandiflora* Rothm. (Caryophyllaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 464-465.
- Merxmüller, H. and Grau, J. (1968) Ergazicende studien an *Petrocoptis* (Caryophyllaceae). *Collect.Bot.* 7(2):787-797.
- Rothmaler, W. (1935) *Plantae novae vel criticae Peninsulae Ibericae*. *Cavanillesia* 7:111-121.
- Silva Pando, F.J. Rodríguez García, V. García Martínez, X.R. and Valdes Bermejo, E. (1987) Contributions to the flora of Galicia Spain II. *Bol. Soc. Broteriana.* 60:29-68.

Petrocoptis guarensis Fernández Casas**CARYOPHYLLACEAE**

- Status:** R
Distribution: Spain
- Researcher:** M. Mayol
Institution: Facultat de Ciències Biològiques. Botànica
 Dpto. de Biologia Vegetal
 Universitat de Valencia
- Address:** E-46100 Burjassot, Valencia, Spain
Phone: 96 3864300 Ext. 3238
Fax: 96 3864372
- Area of study:**
- * Anatomy
 - * Genetics
 - * Metabolism, enzymes
 - * Flowering, fruit development, pollination
 - * Reproduction
 - * Experimental hybridization
 - * Evolution

Current research:

Comparative electrophoretic studies of seed protein and leaf isozyme in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1994)

Hybridization studies in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1995)

Seed morphology and taxonomy in *Petrocoptis* A. Braun (Caryophyllaceae) (1993)

Bibliography:

Fernández-Casas, J. (1973) Estudios sobre el género *Petrocoptis*. *Cuad. Cienc. Biol.* 2(1):43-45.

Montserrat, P. (1979) Biogeographie de la graine des *Petrocoptis*. *Webbia* 34(1):523-527.

Montserrat, P. and Montserrat, J.M. (1978) El *Petrocoptis crassifolia*, su variabilidad y distribución. *Doc. Phytosociol.* 2:321-328.

Petrocoptis hispanica* (Willk.) Pau*CARYOPHYLLACEAE**

Status: R
Distribution: Spain
Researcher: M. Mayol
Institution: Facultat de Ciències Biològiques. Botànica
Dpto. de Biologia Vegetal
Universitat de Valencia
Address: E-46100 Burjassot, Valencia, Spain
Phone: 96 3864300 Ext. 3238
Fax: 96 3864372

Area of study:

- * Anatomy
- * Genetics
- * Metabolism, enzymes
- * Flowering, fruit development, pollination
- * Reproduction
- * Experimental hybridization
- * Evolution

Current research:

Comparative electrophoretic studies of seed protein and leaf isozyme in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1994)

Hybridization studies in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1995)

Seed morphology and taxonomy in *Petrocoptis* A. Braun (Caryophyllaceae) (1993)

Bibliography:

None

Petrocoptis montserratii* Fernández Casas*CARYOPHYLLACEAE**

- Status:** V
Distribution: Spain
- Researcher:** M. Mayol
Institution: Facultat de Ciències Biològiques. Botànica
Dpto. de Biologia Vegetal
Universitat de Valencia
- Address:** E-46100 Burjassot, Valencia, Spain
Phone: 96 3864300 Ext. 3238
Fax: 96 3864372
- Area of study:**
- * Anatomy
 - * Genetics
 - * Metabolism, enzymes
 - * Flowering, fruit development, pollination
 - * Reproduction
 - * Experimental hybridization
 - * Evolution

Current research:

Comparative electrophoretic studies of seed protein and leaf isozyme in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1994)

Hybridization studies in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1995)

Seed morphology and taxonomy in *Petrocoptis* A. Braun (Caryophyllaceae) (1993)

Bibliography:

None

Petrocoptis montsicciana* O. Bolós & Rivas-Martínez*CARYOPHYLLACEAE**

Status: V
Distribution: Spain

Researcher: M. Mayol
Institution: Facultat de Ciències Biològiques. Botànica
 Dpto. de Biologia Vegetal
 Universitat de Valencia
Address: E-46100 Burjassot, Valencia, Spain
Phone: 96 3864300 Ext. 3238
Fax: 96 3864372

Area of study:

- * Anatomy
- * Genetics
- * Metabolism, enzymes
- * Flowering, fruit development, pollination
- * Reproduction
- * Experimental hybridization
- * Evolution

Current research:

Comparative electrophoretic studies of seed protein and leaf isozyme in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1994)

Hybridization studies in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1995)

Seed morphology and taxonomy in *Petrocoptis* A. Braun (Caryophyllaceae) (1993)

Bibliography:

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Bolós, O. de and Rivas-Martínez, S. (1970) Comentarios sobre el género *Petrocoptis*. *Petrocoptis montsicciana* sp. nova. *Anal. Inst. Bot. Cavanilles* 26:53-60.

Fernández-Casas, J. (1972) Notas fitosociológicas breves II. *Trab. Dep. Bot. Univ. Granada* 1:21-57.

Fernández-Casas, J. Romo, A.M. and Susanna, A. (1986) Asientos para un Atlas corológico de la Flora occidental. 3. *Fontqueria* 10:14-15.

Montserrat, P. and Monserrat, J.M. (1978) El *Petrocoptis crassifolia*. Su variabilidad y distribución. *Doc. Phytosociol.* 2:321-328.

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Romo, A.M. and Fernández-Casas, J. (1987) *Petrocoptis montsiciana* O. Bolós & Riv. Mnez. (Caryophyllaceae) In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 468-469.

Petrocoptis pardoii Pau**CARYOPHYLLACEAE**

Status: V
Distribution: Spain
Researcher: M. Mayol
Institution: Facultat de Ciències Biològiques. Botànica
 Dpto. de Biología Vegetal
 Universitat de Valencia
Address: E-46100 Burjassot, Valencia, Spain
Phone: 96 3864300 Ext. 3238
Fax: 96 3864372

Area of study: * Anatomy
 * Genetics
 * Metabolism, enzymes
 * Flowering, fruit development, pollination
 * Reproduction
 * Experimental hybridization
 * Evolution

Current research:

Comparative electrophoretic studies of seed protein and leaf isozyme in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1994)

Hybridization studies in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1995)

Seed morphology and taxonomy in *Petrocoptis* A. Braun (Caryophyllaceae) (1993)

Researcher: L. Navarro *et al.*
Institution: Dpto. de Cultivo de Tejidos Vegetales, Instituto Valenciano de Investigaciones Agrarias.
Address: Moncada, Valencia, Spain

Area of study: * Micropropagation

Researcher: I. Qeral
Institution: Independent
Address: C/ Sarratella 3, 2º - 4ª
 E-12005 Castellón de la Plana, Spain
Phone: 34 64 243489

Area of study: * Demography, population dynamics
 * Ecology

Current research:

Threatened endemic plant species from Els Ports and Maestrat.

Bibliography:

Costa, M. *et al.* (1987) *Petrocoptis pardoii* Pau (Caryophyllaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 470-471.

Fernández-Casas, J. (1972) Notas fitosociológicas breves II. *Trab. Dep. Bot. Univ. Granada* 1:21-57.

Fernández-Casas, J. (1974) Notas fitosociológicas breves III. *Cuadernos Cienc. Biol.* 3:91-95.

Fernández González, D. Díaz González, T.E. Fombella Blanco, M.A. and Valencia Barrera, R.M. (1988) Contribution to the palynological study of the genus *Petrocoptis* A. Br. Caryophyllaceae. *Lagascalia* 15 (Suppl):213-220.

Pau, C. (1898) Noticia de algunas plantas curiosas o nuevas. *Act. Soc. Esp. Hist. Nat.* 27:196.

Peris, J.B. Figuerola, R. Costa, M. and Esteso, F. (1990) Some endangered endemic or rare species of interior Valencia Spain. In: J.E. Hernández Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 171-174.

Rothmaler, W. (1941) Monographie der gattung *Petrocoptis* A. Br. *Bot. Jahrb.* 72(1):117-130.

Petrocoptis pseudoviscosa* Fernández Casas*CARYOPHYLLACEAE**

Status: V
Distribution: Spain

Researcher: M. Mayol
Institution: Facultat de Ciències Biològiques. Botànica
Dpto. de Biologia Vegetal
Universitat de Valencia
Address: E-46100 Burjassot, Valencia, Spain
Phone: 96 3864300 Ext. 3238
Fax: 96 3864372

Area of study:

- * Anatomy
- * Genetics
- * Metabolism, enzymes
- * Flowering, fruit development, pollination
- * Reproduction
- * Experimental hybridization
- * Evolution

Current research:

Comparative electrophoretic studies of seed protein and leaf isozyme in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1994)

Hybridization studies in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1995)

Seed morphology and taxonomy in *Petrocoptis* A. Braun (Caryophyllaceae) (1993)

Bibliography:

Fernández-Casas, J. (1973) Estudios sobre el género *Petrocoptis* A. Br. *Cuad.Ci. Biol.* 2(1):43-45.

Montserrat, G. (1987) *Petrocoptis pseudoviscosa* Fdez. Casas (Caryophyllaceae) In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 472-473.

Montserrat, P. (1979) Biogeographie de la graine des *Petrocoptis*. *Webbia* 34(1):523-527.

Petrocoptis viscosa* Rothm.*CARYOPHYLLACEAE**

Status: V
Distribution: Spain
Researcher: M. Mayol
Institution: Facultat de Ciències Biològiques. Botànica
 Dpto. de Biologia Vegetal
 Universitat de Valencia
Address: E-46100 Burjassot, Valencia, Spain
Phone: 96 3864300 Ext. 3238
Fax: 96 3864372

Area of study: * Anatomy
 * Genetics
 * Metabolism, enzymes
 * Flowering, fruit development, pollination
 * Reproduction
 * Experimental hybridization
 * Evolution

Current research:

Comparative electrophoretic studies of seed protein and leaf isozyme in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1994)

Hybridization studies in genus *Petrocoptis* A. Braun (Caryophyllaceae) (1995)

Seed morphology and taxonomy in *Petrocoptis* A. Braun (Caryophyllaceae) (1993)

Bibliography:

Carbó, R. Mayor, M. Andrés, J. and Losa-Quintana, J.M. (1977) Aportaciones al catálogo florístico de la provincia de León II. *Acta Bot. Malacitana* 3:63-120.

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Izco, J. and Guitián, P. (1987) *Petrocoptis viscosa* Rothm. (Caryophyllaceae) In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 474-475.

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Rothmaler, W. (1935) *Plantae novae vel criticae Peninsulae Ibericae*. *Cavanillesia* 7:111-121.

Picconia azorica* (Tutin) Knobl.*OLEACEAE**

Status: R
Distribution: Azores

Researcher: M.L. Caixinhas
Institution: Universidade Técnica de Lisboa
 Dpto. de Botânica e Engenharia Biológica
 Instituto Superior de Agronomia
Address: Tapada da Ajuda
 P-1399 Lisboa Codex, Portugal

Area of Study: * Germination, dormancy

Researcher: J. Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: G.B. Maciel
Institution: Universidade dos Açores, Dpto. de Biologia
Address: Rua Mae de Deus 58, Apart. 1422
 P-9502 Ponta Delgada Codex, Portugal

Fax: 351 96 653 455

Area of study: * Germination, dormancy

Bibliography:

Furtado, D.S. (1984) Status e distribuição das plantas vasculares endémicas dos Açores. *Arquipélago*, 5:197-209.

Hansen, A. and Sundig, P. (1985) Flora of Macaronesia, Checklist of vascular plants. *Sommerfeltia*, 1.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Maciel, G.B. and Caixinhas, M.L. (1992) Etudes sur les dormances de quelques espèces endémiques des Açores. *IVE reencontre internationale sur les semences*, Angers (France).

Maciel, G.B. and Caixinhas, M.L. (1993) Etude sur la germination de deux années d'essais de quelques espèces endémiques des Açores. *Primeiro Simposio Fauna e Flora das Ilhas Atlânticas*, Madeira.

Pimpinella anagodendron BolleAPIACEAE

Status: V
Distribution: Canary Islands
Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit
Royal Botanic Gardens
Address: Kew, Richmond, Surrey
TW 9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524
Area of study: * Micropropagation

Researcher: J. Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
F-29200 Brest, France
Phone: 33 98 418895
Area of study: * Culture techniques

Bibliography:

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Pimpinella bicknellii* Briq.*APIACEAE**

Status: V
Distribution: Balearic Islands

Researcher: A. Ibars
Institution: Dpto. Biología Vegetal
 Facultad de Farmacia, Universitat de València
Address: Avda. Vicente Andrés Estellés s/n
 E-46100 Burjassot, Valencia, Spain

Area of study: * Anatomy

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: J.A. Rosselló
Institution: Jardín Botánico de Córdoba
Address: Avda. de Linneo s/n
 E-14004 Córdoba, Spain
Phone: 34 57 200077 / 200018
Fax: 34 57 295333

Area of study: * Anatomy

Bibliography:

Cardona, M.A. Roselló, J.A. and Pericás, J.J. (1987) *Pimpinella bicknellii* Briq. (Apiaceae) In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 476-477.

Ibars, A. and Rosselló, J.A. (1990) Características histológicas de endemismos balearicos. 1. Umbelíferas. *II Jornadas de Taxonomía Vegetal*, Madrid.

Knoche, H. (1921-23) *Flora Balearica. Etude phytogeographique sur les Iles Baléares*. Roumég. et Déhen (4 vols.) Montpellier.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Pinguicula nevadensis* (Lindb.) Casper*LENTIBULARIACEAE**

Status: V
Distribution: Spain
Researcher: Christian Breckpot
Institution: ---
Address: Ninovestraat 6
 B-9450 Haaltert, Belgium

Area of study: * Ecology

Current research:

On the ecology of *Pinguicula* species in Southern Spain

Bibliography:

Aguilar, J. Varo, J. and Morales, C. (1972) Estudio de las turberas del barranco de S. Juan (Sierra Nevada). *Trab. Dep. Bot. Univ. Granada* 1:7-20.

Fernández-Casas, J. (1974) Vegetación y flora de Sierra Nevada. Los borreguiles. *Bol. Est. Central Ecología* 3(5):29-42.

Molero, J. Martínez-Parras, J.M. and Casares, M. (1987) *Pinguicula nevadensis* (Lindb.) Casper (Lentibulariaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 480-481.

Pau, C. (1909) Mi segunda visita a Sierra Nevada. *Bol. Soc. Aragon. C. Nat.* 8:104-124 and 130-134.

Prieto, P. (1975) Flora de la tundra de Sierra Nevada. *Col. Monogr. Secr. Publ. Universidad de Granada* 36:1-236.

Quézel, P. (1953) Contribution a l'étude phytosociologique et geobotanique de la Sierra Nevada. *Mem. Soc. Broter.* 9:5-82.

Pinguicula vallisneriifolia Webb**LENTIBULARIACEAE**

Status: E
Distribution: Spain
Researcher: Christian Breckpot
Institution: ---
Address: Ninovestraat 6
B-9450 Haaltert, Belgium
Area of study: * Ecology

Current research:

On the ecology of *Pinguicula* species in Southern Spain

Bibliography:

Díaz-González, T.E. Guerra, J. and Nieto, J.M. (1982) Contribución al conocimiento de la clase Adiantetea Br. Bl. 1942 en la Península Ibérica. *Anal. Jard. Bot. Madrid* 38(2):497-506.

Herranz, J.M. (1987) *Pinguicula vallisneriifolia* Webb (Lentibulariaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 482-483.

Heywood, V.H. (1953) El concepto de asociación en las comunidades rupícolas. *Anal. Inst. Bot. Cavanilles* 11(2):463-481.

Primula allionii* Loisel.*PRIMULACEAE**

- Status:** V
Distribution: France, Italy
- Researcher:** W. Lobin
Institution: Botanischer Garten der Universität Bonn
Address: Bonn, Germany
- Area of study:** * Propagation methods
 * Culture techniques

Bibliography:

Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Piante d'Italia*. WWF, Rome. 637 pp.

Corti, R. (1959) Specie rare or minacciate della flora mediterranea in Italia. *Comptes rendus Réunion Technique Athènes U.I.C.N.* 5:112-129.

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Gruppo Lavoro Conservazione Natura S.B.I. (1979) *Censimento dei Biotopi di Rilevante Interesse Vegetazionale Meritevoli di Conservazione in Italia*. Vol. 2. Tip. Savini-Mercuri, Camerino (scheda 4-25 Alpi Liguri di Triora e Pigna).

Martini, E. (1982) Lineamenti geobotanici delle Alpi Liguri e Marittime: endemismi e fitocenosi. *Lav. Soc. Ital. Biogeogr.* 9:51-134.

Martini, E. (1985) *Primula allionii* Loisel. In: Segnalazioni Floristiche Italiane: 298-303. *Inform. Bot. Ital.* 17:112-116.

Primula palinuri PetagnaPRIMULACEAE

Status: R
Distribution: Italy

Researcher: V. La Valva
Institution: Dip. Biol. Vegetale
Address: Via Foria 223
 I-80139 Napoli, Italy
Phone: 39 81 440681
Fax: 39 81 450165

Area of study: * Ecology
 * Distribution

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

- Brullo, S. and Marceno', C. (1979) *Dianthion, rupicolae* nouvelle alliance sud-tyrrhenienne des *Asplenietalia glandulosi*. *Doc. Phytosoc.* 4:131-146.
- Chiarugi, A. (1955) *Primula palinuri* Petagna. Posizione sistematica e significato fitogeografico attraverso l'indagine citogenetica. *Webbia* 11:861-888.
- Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Plante d'Italia*. WWF, Rome. 637 pp.
- Crescenzi, A. (1991) Biological and molecular characterization of a CMV isolate from *Primula palinuri*. *Riv. Patol. Veg.* 1:15-22.
- Dietz, K.J. and Heber, U. (1983) Carbon dioxide gas exchange and the energy status of leaves of *Primula palinuri* under water stress. *Planta* 4:349-356.
- Gardini-Peccenini, S. (1984) *Flora da Proteggere. Indagine su Alcune Specie Vegetali Minacciate o Rare in Italia*. Errepiesse, Pavia.
- Gruppo Lavoro Conservazione Natura S.B.I. (1971) *Censimento dei Biotopi di*

Rilevante Interesse Vegetazionale Meritevoli di Conservazione in Italia. Vol. 1. Tip. Savini-Mercuri, Camerino (scheda 15-4 Capo Palinuro).

Gruppo Lavoro Conservazione Natura S.B.I. (1979) *Censimento dei Biotopi di Rilevante Interesse Vegetazionale Meritevoli di Conservazione in Italia*. Vol. 2. Tip. Savini-Mercuri, Camerino (scheda 5-13 Costa degli Infreschi e della Masseta).

Honsell, E. (1962) La diffusione di forme esaploidi di *Primula palinuri* Pet. in diverse stazioni della costa tirrenica tra Palinuro e Scalea. *Annali di Botanica* 1: 135-143.

La Valva, V. (1976-1977) Flora e vegetazione dell'Isola di Dino alabria). *Delpinoa* 23-24: 27-51.

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Ricciardi, M. Aprile, G.G. and Sifola, M.I. (1987) Cartografia floristica della Campania (Primo contributo). *Ann. Bot.* (Rome) 45(5):65-78.

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Pulicaria canariensis BolleASTERACEAE

Status: E
Distribution: Canary Islands
Researcher: J. Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
Area of study: * Culture techniques

Researcher: J.M. Pita
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
 Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
Phone: 34 1 3365657
Fax: 34 1 3365656
Area of study: * Germination, dormancy

Bibliography:

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Santos, A. and Fernández, M. (1984) Notas florísticas de las islas de Lanzarote y Fuerteventura. (Islas Canarias). *Anales Jard. Bot. Madrid.* 41(1):167-174.

Ramonda nathaliae* Panc. & Petrov*GESNERIACEAE**

- Status:** R
Distribution: Yugoslavia
- Researcher:** B. Stevanovic and O. Damajanovic
Institution: Botanical Institute
Faculty of Biology
Address: University of Belgrade, Yugoslavia
- Area of study:** * Anatomy
* Ecology

Bibliography:

- Stevanovic, B. and Damajanovic, O. (1993) Ecoanatomical differences between Balkan endemo-relict species of Gesneriaceae. *VII OPTIMA Meeting*, Borovetz, Bulgaria.

***Ramonda serbica* Panc.**

GESNERIACEAE

- Status:** R
Distribution: Albania, Bulgaria, Greece, Yugoslavia
Researcher: B. Stevanovic and O. Damajanovic
Institution: Botanical Institute
Faculty of Biology
Address: University of Belgrade, Yugoslavia
Area of study: * Anatomy
* Ecology

Bibliography:

Stevanovic, B. and Damajanovic, O. (1993) Ecoanatomical differences between Balkan endemo-relict species of Gesneriaceae. *VII OPTIMA Meeting*, Borovetz, Bulgaria.

Rhamnus glandulosa* Aiton*RHAMNACEAE**

- Status:** V
Distribution: Canary Islands
- Researcher:** A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898
- Area of study:** * Propagation methods
* Culture techniques

Bibliography:

- Bañares, A. (1992) Contribución al conocimiento de la propagación vegetativa y sexual de las especies vegetales de la Laurisilva Canaria. *Bot. Mac.* 19-20:53-64.
- Delgado, J.C. (1986) *Propagación de árboles canarios*. Exmo. Cabildo Insular de Gran Canaria.
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Rhamnus lojaconoi* Raimondo*RHAMNACEAE**

- Status:** V
Distribution: Sicily
- Researcher:** F.M. Raimondo
Institution: Dipartimento di Scienze Botaniche
Address: Via Archirafi 38
I-90123 Palermo, Italy
Phone: 39 91 6161493
- Area of study:**
- * Morphology
 - * Propagation
 - * Cultivation
 - * *Ex situ* and *in situ* conservation

Bibliography:

Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Piante d'Italia*. WWF, Rome. 637 pp.

Raimondo, F.M. (1980) *Rhamnus lojaconoi*, nuova specie endemica della Sicilia. *Giorn. Bot. Ital.*, 113:369-377.

Rosmarinus tomentosus* Huber-Morat & Maire*LAMIACEAE**

Status: E
Distribution: Spain

Researcher: E. Hernández, P. Contreras, J. Prados and A. Lora
Institution: Dpto. Ciencias y Recursos Agrícolas y Forestales,
 Jardín Botánico de Córdoba

Address: Avda. de Linneo s/n
 E-14004 Córdoba, Spain

Phone: 34 57 200077 / 200018
Fax: 34 57 295333

Area of study: * Conservation

Current research:

Cartography of the populations, estimation of variability, germplasm collection and preservation, development of *ex situ* populations, propagation methods. Work under the Agreement between Jardín Botánico de Córdoba and Agencia de Medio Ambiente, Junta de Andalucía for the preparation of the Recovery Plans of Andalusian endangered wild plant species.

Bibliography:

- Blanca, G. and Cueto, M. (1987) *Rosmarinus tomentosus* Huber-Morat & Maire (Lamiaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 496-497.
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- Martínez, J.M. (1978) *Estudio florístico y fitosociológico de las de las Sierras de Guájaras, de Cázulas y del Chaparral*. Doctoral Thesis, Univ. Granada.
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- Rosua, J.L. (1986) Contribución al estudio del género *Rosmarinus* L. en el Mediterráneo Occidental. *Lagascalia* 14(2):183.

Rouya polygama* (Desf.) Coincy*APIACEAE**

Status: V
Distribution: Corsica
Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
Area of study: * Culture techniques

Researcher: L. Olivier *et al.*
Institution: Conservatoire Botanique National de
 Porquerolles
Address: Castel Sainte-Claire
 Rue du Castel Ste. Claire
 F-83400 Hyeres, France
Phone: 33 94 653298
Fax: 33 94 658483
Area of study: * Germination, dormancy
 * Propagation methods
 * Culture techniques
 * Reintroduction

Bibliography:

- Atzei, A.D. (1980) *Rouya polygama* (Desf.) Coincy. In: Segnalazioni Floristiche Italiane: 53-55. *Inform. Bot. Ital.* 12:71.
- Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Piante d'Italia*. WWF, Rome. 637 pp.
- De Marco, G. and Mossa, L. (1973) Ricerche floristiche e vegetazionali nell'isola di S. Pietro (Sardegna): *La Flora. Ann. Bot.* (Rome) 32:115-215.
- Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Rumex azoricus* Rech. fil.*POLYGONACEAE**

Status: V**Distribution:** Azores**Researcher:** J.Y. Lesouef *et al.***Institution:** Conservatoire Botanique de Brest**Address:** 52 Allée du Bot
F-29200 Brest, France**Phone:** 33 98 418895**Area of study:** * Culture techniques**Researcher:** G.B. Maciel**Institution:** Universidade dos Açores, Dpto. de Biologia**Address:** Rua Mae de Deus 58, Apart. 1422
P-9502 Ponta Delgada Codex, Portugal**Fax:** 351 96 653 455**Area of study:** * Germination, dormancy**Bibliography:**

Furtado, D.S. (1984) Status e distribuição das plantas vasculares endémicas dos Açores. *Arquipélago*, 5:197-209.

Hansen, A. and Sundig, P. (1985) Flora of Macaronesia, Checklist of vascular plants. *Sommerfeltia*, 1.

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Maciel, G.B. and Caixinhas, M.L. (1992) Etudes sur les dormances de quelques espèces endémiques des Açores. *IVe reencontre internationale sur les semences*, Angers (France).

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Ruta pinnata* L.f.*RUTACEAE**

Status: V
Distribution: Canary Islands
Researcher: J.A. Rodríguez et al.
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
E-38400 Tenerife, Spain
Fax: 34 22 383572
Area of study: * Culture techniques

Bibliography:

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Santos, A. (1983) *Vegetación y Flora de la Isla de La Palma*. Editorial Interinsular Canaria. Santa Cruz de Tenerife.

Rutheopsis herbanica* (Bolle) Hans. & Kunk.*APIACEAE**

Status: R
Distribution: Canary Islands

Researcher: J.M. Pita
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
Phone: 34 1 3365657
Fax: 34 1 3365656

Area of study: * Germination, dormancy

Bibliography:

Kunkel, G. (1977) *Las plantas vasculares de Fuerteventura (Islas Canarias), con especial interés de las forrajeras*. Ministerio de Agricultura. ICONA Naturalia Hispanica 8. Madrid.

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Pita, J.M. (1988) Germinación en especies endémicas de las Islas Canarias. *Investigación Agraria* 3:39-43.

Salix tarraconensis* Pau*SALICACEAE**

Status: R
Distribution: Spain
Researcher: M.D. Lledó
Institution: Departament de Biologia Vegetal
 Facultat de Ciències Biològiques
 Universitat de València
Address: E-46100 Burjassot, València, Spain
Phone: 34 6 3864374
Area of study: * Micropropagation

Researcher: I. Qeral
Institution: Independent
Address: C/ Sarratella 3, 2º - 4ª
 E-12005 Castellón de la Plana, Spain
Phone: 34 64 243489
Area of study: * Demography, population dynamics
 * Ecology

Current research:

Threatened endemic plant species from Els Ports de Tortosa-Beseit.

Bibliography:

Blanco Fernández de Caleyá, P. (1988) Taxonomical characteristics of the genus *Salix* L. I. *Salix purpurea* L. *sensu lato*. *Lagascalía* 15(Suppl.):237-242.

Bolós, O. de (1957) Comunidades vegetales de las comarcas próximas al litoral, situadas entre los ríos Llobregat y Segura. *Mem. Real Acad. Cienc. Art. Barcelona* 38:1-269.

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Molero, J. (1977) Notas corológicas I. *Acta Phytotax. Barcinon* 20:1-12.

Molero, J. *et al.* (1987) *Salix tarraconensis* Pau (Salicaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 500-501.

Salvia blancoana Webb & Heldr.

LAMIACEAE

Status: R
Distribution: Spain

Researcher: F. Civera, M.D. Lledo y J.B. del Amo-Marco
Institution: Dpto. de Biología Vegetal
Facultat de Ciències Biològiques
Universitat de Valencia

Address: C/Dr. Moliner 50
46100 Burjassot, Valencia, Spain

Area of study: * Micropropagation

Bibliography:
None

Sambucus palmensis* Link in Buch.*CAPRIFOLIACEAE**

Status: E
Distribution: Canary Islands
Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
Area of study: * Culture techniques

Researcher: J. Real and A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
 La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898
Area of study: * Germination, dormancy
 * Flowering, fruit development, pollination
 * Reproduction
 * Propagation methods
 * Culture techniques
 * Phenology
 * Demography, population dynamics
 * Ecology
 * Reintroduction

Current research:

Genetic recovery of the threatened flora of the Garajonay National Park.

Researcher: J.A. Rodríguez
Institution: Jardín de Aclimatación de la Orotava
Address: CITA, Tenerife, Spain
Area of study: * Culture techniques

Bibliography:

Bañares, A. (1990) La flora amenazada de los Parques Nacionales Canarios con especial referencia al P. N. de Garajonay. In: *Conservation Techniques in Botanic Gardens*. pp. 87-90. Ed. Koeltz Sc. Books.

Bañares, A. (1990) Programa de recuperación de la flora amenazada del P. N. de Garajonay. In: Pérez de Paz (Ed.), *Garajonay, Patrimonio de la Humanidad*. ICONA, Madrid.

Bañares, A. (1992) Contribución al conocimiento de la propagación vegetativa y sexual de las especies vegetales de la Laurisilva Canaria. *Bot. Mac.* 19-20:53-64.

Bañares, A. and Beltrán, E. (1985) Nuevas aportaciones a la flora vascular de La Gomera (Islas canarias). Notas corológico-ecológicas. *Vieraea* 15 (1-2): 31-55.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Marrero, A. (1986) Sobre plantas relícticas de Gran Canaria: comentarios corológico-ecológicos. *Bot. Macar.* 12-13: 51-62.

Santolina ligustica ArrigoniASTERACEAE

Status: R
Distribution: Italy
Researcher: Mariotti Mauro Giorgio
Institution: Dip. Biologia Ambientale Sez. Botanica
Address: Via P.A. Mattioli 4
I-53100 Siena, Italy
Phone: 05 77 298869 / 298874
Fax: 05 77 298860
Area of study: * Ecology

Bibliography:

- Arrigoni, P.V. (1977) Santoline italiane nuove. *Webbia* 32: 129-134.
- Arrigoni, P.V. (1979) Le genre *Santolina* L. en Italie. *Webbia* 34:257-264.
- Arrigoni, P.V. (1980) Numeri Cromosomici per la Flora Italiana:722-727. *Inform. Bot. Ital.* 12:148.
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Santolina neapolitana* Jordan et Fourr.*ASTERACEAE**

Status: R
Distribution: Italy

Researcher: V. La Valva, M. Ricciardi, G. Caputo and R. Nazzaro
Institution: Dip. Biol. Vegetale
Address: Via Foria 223
I-80139 Napoli, Italy
Phone: 39 81 440681
Fax: 39 81 450165

Area of study: * Floristic distribution

Bibliography:

Arrigoni, P.V. (1979) Le genere *Santolina* L. en Italie. *Webbia* 34: 257-264.

Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Piante d'Italia*. WWF, Rome. 637 pp.

Gruppo Lavoro Conservazione Natura S.B.I. (1979) *Censimento dei Biotopi di Rilevante Interesse Vegetazionale Meritevoli di Conservazione in Italia*. Vol. 2. Tip. Savini-Mercuri, Camerino (scheda 15-12 Vallone Matrunolo e Alta Valle del Sabato).

Lacaita, C. (1925) Piante italiane critiche o rare. *Nuovo Giorn. Bot. Ital.* 32:206-222.

La Valva, V. Ricciardi, M. and Caputo, G. (1985) La tutela dell'ambiente in Campania: situazione attuale e proposte. *Inform. Bot. Ital.* 17: 144-154.

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Moraldo, B. La Valva, V. Ricciardi, M. and Caputo, G. (1985-1986) La flora dei Monti Picentini (Campania). Pars altera: *Pyrolaceae - Orchidaceae*. *Delpinoa* n.s., 27-28:94.

Ricciardi, M. Aprile, G.G. and Sifola, M.I. (1987) Cartografia floristica della Campania (Primo contributo). *Ann. Bot. (Rome)* 45(5):65-78.

Satureja innota (Pau) G. LópezLAMIACEAE

- Status:** R
Distribution: Spain
- Researcher:** I. Qeral
Institution: Independent
Address: C/ Sarratella 3, 2º - 4ª
 E-12005 Castellón de la Plana, Spain
Phone: 34 64 243489
- Area of study:** * Growth, development
 * Demography, population dynamics
 * Ecology

Current research:

Threatened endemic plant species from Els Ports of Tortosa-Beseit.

Bibliography:

Bolós, O. de (1967) Comunidades vegetales de las comarcas próximas al litoral, situadas entre los ríos Llobregat y Segura. *Mem. Real Acad. Cienc. Art. Barcelona* 38:111-113.

Qeral, I. (1987) *Satureja innota* (Pau) G. López (Lamiaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 512-513.

López González, G. (1981) *Conspectus Saturejarum Ibericarum*. *Anal. Jard. Bot. Madrid* 38:361-415.

Pau, C. (1918) Una exploració botànica als Ports de Beceit. *Bulletí del Institut Català d'Historia Natural* 18:76-77.

Scabiosa nitens* Roemer & Schultes*DIPSACACEAE**

- Status:** V
Distribution: Azores
- Researcher:** G.B. Maciel
Institution: Universidade dos Açores, Dpto. de Biologia
Address: Rua Mae de Deus 58, Apart. 1422
P-9502 Ponta Delgada Codex, Portugal
- Fax:** 351 96 653 455
- Area of study:** * Germination, dormancy

Bibliography:

- Furtado, D.S. (1984) Status e distribuição das plantas vasculares endémicas dos Açores. *Arquipélago*, 5:197-209.
- Hansen, A. and Sundig, P. (1985) Flora of Macaronesia, Checklist of vascular plants. *Sommerfeltia*, 1.
- Maciel, G.B. and Caixinhas, M.L. (1992) Etudes sur les dormances de quelques espèces endémiques des Açores. *IVe reencontre internationale sur les semences*, Angers (France).
- Maciel, G.B. and Caixinhas, M.L. (1993) Etude sur la germination de deux années d'essais de quelques espèces endémiques des Açores. *Primeiro Simposio Fauna e Flora das Ilhas Atlânticas*, Madeira.

Scilla hughii TineoLILIACEAE

- Status:** V
Distribution: Sicily
- Researcher:** F.M. Raimondo
Institution: Dipartimento di Scienze Botaniche
Address: Via Archirafi 38
I-90123 Palermo, Italy
Phone: 39 91 6161493
- Area of study:** * Distribution
* Propagation
* *Ex situ* and *in situ* conservation

Bibliography:

- Brullo, S., De Santis, C. and Pavone, P. (1980) Osservazioni citotassonomiche su *Scilla barba-caprae*, endemismo cirenaico, e sue affinità con *Scilla villosa*. *Caryologia*, 33:101-109.
- Conti, F., Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Piante d'Italia*. WWF, Rome. 637 pp.
- Francini, E. and Messeri, A. (1956) L'isola di Marettimo nell'Arcipelago delle Egadi e la sua vegetazione. *Webbia* 11: 607-846.
- Ferrarella, A.M. (1988) Osservazioni cariologiche sulle entità sicule appartenenti al gruppo *Scilla peruviana* L. *Giorn. Bot. Ital.* 122, suppl. 1: 51.
- Maugini, E. (1953) Ricerche citosistematiche su *Scilla hughii* Tin. *Caryologia*, 5: 167-177.

Sedum multiceps* Coss. & Durien*CRASSULACEAE**

- Status:** R
Distribution: Corsica, Algeria
- Researcher:** C. Fawer
Institution: Conservatoire et Jardin Bot.
Address: Geneva, Switzerland
- Area of study:** * Propagation methods
* Culture techniques

Bibliography:

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Sedum pruina Link ex Brot.CRASSULACEAE

- Status:** R
Distribution: Portugal
- Researcher:** I. Hagemann and R. Vogt
Institution: Botanischer Garten und Botanisches Museum
Berlin-Dahlem
Address: Königin-Luise-Str. 6-8
D-14191 Berlin, Germany
- Area of study:**
- * Anatomy
 - * Germination, dormancy
 - * Growth, development
 - * Reproduction
 - * Propagation methods
- Bibliography:**
- None

Senecio hermosae* Pitard*ASTERACEAE**

- Status:** E
Distribution: Canary Islands
- Researcher:** C. Ortega
Institution: Jardín Botánico "Viera y Clavijo"
Address: Apto. Correos 14 de Tafira Alta
E-35017 Las Palmas de Gran Canaria, Spain
- Area of study:** * Micropropagation

Bibliography:

Bramwell, D. (1990) The role of *in vitro* cultivation in the conservation of endangered species. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 3-15.

Ortega, C. and González, C. (1985) Contribución a la conservación *ex situ* de especies canarias en peligro: Propagación *in vitro* de *Senecio hermosae* Pitard. *Botanica Macaronesica* 14:59-72.

Senecio malvifolius (L'Herit.) DC.ASTERACEAE

Status: V
Distribution: Azores
Researcher: M.L. Caixinhas
Institution: Universidade Técnica de Lisboa
 Dpto. de Botânica e Engenharia Biológica
 Instituto Superior de Agronomia
Address: Tapada da Ajuda
 P-1399 Lisboa Codex, Portugal

Area of Study: * Germination, dormancy

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: G.B. Maciel
Institution: Universidade dos Açores, Dpto. de Biologia
Address: Rua Mae de Deus 58, Apart. 1422
 P-9502 Ponta Delgada Codex, Portugal

Fax: 351 96 653 455

Area of study: * Germination, dormancy

Bibliography:

Furtado, D.S. (1984) Status e distribuição das plantas vasculares endémicas dos Açores. *Arquipélago*, 5:197-209.

Hansen, A. and Sundig, P. (1985) Flora of Macaronesia, Checklist of vascular plants. *Sommerfeltia*, 1.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Maciel, G.B. and Caixinhas, M.L. (1992) Etudes sur les dormances de quelques

espèces endémiques des Açores. *IVe rencontre internationale sur les semences*, Angers (France).

Maciel, G.B. and Caixinhas, M.L. (1993) Etude sur la germination de deux années d'essais de quelques espèces endémiques des Açores. *Primeiro Simposio Fauna e Flora das Ilhás Atlânticas*, Madeira.

Senecio palmensis (Chr. Sm. ex Ness) Link apud Buch.

ASTERACEAE

Status: R
Distribution: Canary Islands
Researcher: J. Real and A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898
Area of study: * Propagation methods
* Culture techniques

Current research:

Study of the germinative behaviour of some endemisms of the Supracanary Floor.

Bibliography:

Santos, A. (1983) *Vegetación y Flora de La Palma*. Editorial Interinsular Canaria, Santa Cruz de Tenerife. 348 pp.

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Seseli farrenyi* Molero & Pujadas*APIACEAE**

Status: V**Distribution:** Spain**Researcher:** J.Y. Lesouef *et al.***Institution:** Conservatoire Botanique de Brest**Address:** 52 Allée du Bot
F-29200 Brest, France**Phone:** 33 98 418895**Area of study:** * Culture techniques**Researcher:** J.P. Reduron**Institution:** Parc Zoologique et Botanic de Mulhouse**Address:** Mulhouse, France**Area of study:** * Propagation methods
* Culture techniques**Bibliography:**

Bou, J. *et al.* (1987) *Seseli farrenyi* Molero & Pujadas (Apiaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 550-551.

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Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Molero, J. and Pujadas, J. (1979) Aportaciones a la flora catalana. *Lagasalia* 9(1):31-34.

Sideritis argosphacela (Webb & Berthel.) Clos.

LAMIACEAE

Status: R

Distribution: Canary Islands

Researcher: M.F. Fay *et al.*

Institution: Micropropagation Unit, Royal Botanic Gardens

Address: Kew, Richmond, Surrey TW9 3AB, Great Britain

Phone: 44 81 3325517

Fax: 44 81 3325524

Area of study: * Micropropagation

Bibliography:

None

Sideritis marmorea Bolle**LAMIACEAE**

Status:	E
Distribution:	Canary Islands
Researcher:	J.A. Rodríguez et al.
Institution:	Jardín de Aclimatación de la Orotava, CITA
Address:	Puerto de la Cruz E-38400 Tenerife, Spain
Fax:	34 22 383572
Area of study:	* Germination, dormancy

Bibliography:

Bolle, C. (1860) *Addenda ad floram Atlantidis, praecipue insularum Canariensium Gorgadumque. III-IV. Bonplandia* 8:285.

Fernández, M. and Santos, A. (1988) Sobre la taxonomía y corología de *Sideritis marmorea* Bolle. *Bot. Mac.* 16:53-59.

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Sideritis sventenii (Kunk.) Mend.Heuer**LAMIACEAE**

- Status:** V
Distribution: Canary Islands
- Researcher:** M.A. Cabrera
Institution: Jardín Botánico "Viera y Clavijo"
Address: Aptdo. Correos 14 de Tafira Alta
E-35017 Las Palmas de Gran Canaria, Spain
- Area of study:** * Genetics
* Micropropagation

Bibliography:

- Bramwell, D. and Rodrigo, J. (1984) Prioridades para la conservación de la diversidad genética en la flora de las islas Canarias. *Bot. Macar.* 10:13-17.
- Fernández, C. Fraga, B.M. Hernández, M.G. and Arteaga, J.M. (1988) Flavonoid aglycones from some Canary Island Spain species of *Sideritis*. *J. Nat. Prod. (Lloydia)*. 51:591-593.
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- Kunkel, G. (1973) Notes on the genus *Leucophae* Webb & Berth. (Lamiaceae) in the Canary Islands *Cuad. Bot. Canar.* 18/19:65-74.
- Marrero, A. and Suárez, C. (1990) Notas corológicas de especies en peligro. *Bot. Macar.* 18:86-88.

Sideroxylon marmulano Banks ex LoweSAPOTACEAE

Status: E
Distribution: Canary Islands
Researcher: A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Area of study: * Propagation methods
* Culture techniques

Researcher: F. González Artilles
Institution: Jardín Botánico "Viera y Clavijo"
Address: Apto. Correos 14 de Tafira Alta
E-35017 Las Palmas de Gran Canaria, Spain

Area of study: * Culture techniques
* Ecology

Bibliography:

Bañares, A. (1992) Contribución al conocimiento de la propagación vegetativa y sexual de las especies vegetales de la Laurisilva Canaria. *Bot. Mac.* 19-20:53-64.

Silene adscendens Lag.**CARYOPHYLLACEAE**

- Status:** R
Distribution: Spain
- Researcher:** M.V. Ibañez
Institution: Facultat de Ciències Biològiques. Botànica
 Dpto. de Biologia Vegetal
 Universitat de Valencia
- Address:** E-46100 Burjassot, Valencia, Spain
Phone: 34 6 3864300 Ext. 3238
Fax: 34 6 3864372
- Area of study:**
- * Anatomy
 - * Genetics
 - * Metabolism, enzymes
 - * Flowering, fruit development, pollination
 - * Reproduction
 - * Experimental hybridization
 - * Evolution

Bibliography:

- Alcaraz, F. Garre, M. Martínez-Parras, J.M. and Peinado, M. (1987) In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 568-569.
- Candau, P. and Talavera, S. (1979) Polen y semillas de las especies de *Silene* Sect. erectofractae Chowdhuri. *Lagascalia* 8(2):127-133.
- Lagasca, M. (1816) *Genera et species plantarum, quae aut novae sunt, aut nondum recte cognoscuntur*. Typ. Regia. Madrid 33 pp.
- Losa-España, T.M. and Rivas-Goday, S. (1974) Estudio florístico y geobotánico de la provincia de Almería II. *Arch. Inst. Aclimatación* 13(2):119-237.
- Willkomm, M. (1852) *Icones Plantarum I*; 41-42, tab. 34.

Silene cambessedesii* Boiss. & Reuter*CARYOPHYLLACEAE**

Status: V
Distribution: Spain, Balearic Islands

Researcher: M.V. Ibañez
Institution: Facultat de Ciències Biològiques. Botànica
 Dpto. de Biología Vegetal
 Universitat de Valencia
Address: E-46100 Burjassot, Valencia, Spain
Phone: 34 6 3864300 Ext. 3238
Fax: 34 6 3864372

Area of study:

- * Anatomy
- * Genetics
- * Metabolism, enzymes
- * Flowering, fruit development, pollination
- * Reproduction
- * Experimental hybridization
- * Evolution

Bibliography:

Cambéssedes, J. (1827) *Enumeratio plantarum quas in insulis Balearibus collegit*. *Mem. Mus. Hist. Nat.* (Paris) 14(9):173 and 335.

Candau, P. and Talavera, S. (1979) Polen y semillas de las especies de *Silene*, Sect. *Erecto refractae* Chowdhuri. *Lagascalia* 8(2):127-133.

Cardona, M.A. and Torres, N. (1987) *Silene cambessedesii* Boiss. & Reuter (Caryophyllaceae) In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 570-571.

Marés, P. and Vigineix, P. (1880) *Catalogue raisonné des Plantes Vasculaires des îles Bâleares*. Masson. Paris. 418 pp.

Talavera, S. (1979) Revisión de la Sect. *Erecto refractae* Chowdhuri del género *Silene* L. *Lagascalia* 8(2):135-164.

Silene diclinis* (Lag.) Lainz*CARYOPHYLLACEAE**

Status: V
Distribution: Spain
Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
Area of study: * Culture techniques

Researcher: I. Mateu Andrés and J.R. Nebot
Institution: Departament de Biologia Vegetal
 Facultat de Ciències Biològiques
 Universitat de Valencia
Address: E-46100 Burjassot, València, Spain
Phone: 34 6 3864374

Area of study: * Germination, dormancy
 * Flowering, fruit development, pollination
 * Reproduction
 * Dispersal
 * Phenology
 * Demography, population dynamics

Current research:

In vitro germination of pollen and growth of the pollination tube in *S. diclinis*.

Dispersal and predation of *S. diclinis* seeds.

Researcher: H. Prentice
Institution: Institute of Ecological Botany
 Uppsala University
Address: Box 559
 S-75122 Uppsala, Sweden
Phone: 46 18 182862
Fax: 46 18 553419
Area of study: * Genetics

Current research:

Genetic variation (allozymes and morphology) in *S. diclinis* from all its known localities.

Bibliography:

Brederode, J. Van. and Mastenbroek, O. (1983) Are allozymes differing in substrate specificity involved in the evolution of *Silene* species (*Silene diclinis*, *S. marizii*, *S. heuffelii*)? *Theor. Appl. Genet.* 64:151-153.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Mansanet, J. and Mateo-Sanz, G. (1979) Dos endemismos valencianos: *Antirrhinum valentinum* F. Quer y *Silene diclinis* (Lag.) Laínz. *Anal. Jard. Bot. Madrid* 36:129-134.

Nebot, J.R. and Mateu, I. Morfología y biología polínica en *S. diclinis* (Lag.) Lainz (Caryophyllaceae). *Actas Congr. Palinol. APLE*. (in press).

Nigtevecht, G. van and Prentice, H.C. (1985) A note on the sex chromosomes of the Valencian endemic, *Silene diclinis* (Caryophyllaceae). *An. Jardín Bot. Madrid* 41: 267-270.

Peris, J.B. Figuerola, R. Costa, M. and Esteso, F. (1990) Some endangered endemic or rare species of interior Valencia Spain. In: J.E. Hernández Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 171-174.

Prentice, H.C. (1976) A study in endemism: *Silene diclinis*. *Biological Conservation* 10:15-30.

Prentice, H.C. (1978) Experimental taxonomy of *Silene* section *Elisanthe* (Caryophyllaceae): crossing experiments. *Bot. J. Linn. Soc.* 77:203-216.

Prentice, H.C. (1984) Enzyme polymorphism, morphometric variation and population structure in a restricted endemic, *Silene diclinis* (Caryophyllaceae). *Biol. J. Linn. Soc.* 22: 125-143.

Prentice, H.C. (1984) The sex ratio in a dioecious endemic plant, *Silene diclinis*. *Genetica* 64:129-133.

Prentice, H.C. (1988) Notes and comments on *Silene* section *Elisanthe* in the Iberian Peninsula. In: L. Villar (ed.) *Homenaje a Pedro Montserrat*. Monografías del Instituto Pirenaico de Ecología. CSIC.

Prentice, H.C. Costa, M. Figuerola, R. Mateo, G. and Peris, J.G. (1987) *Silene diclinis* (Lag.) Laínz (Caryophyllaceae) In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 572-573.

Silene elegans Link ex Brot.

CARYOPHYLLACEAE

Status: R
Distribution: Portugal
Researcher: M.L. Caixinhas, T. Vasconcelos & A.D. Barao
Institution: Dpto. de Botânica e Engenharia Biológica
Instituto Superior de Agronomia
Address: Tapada da Ajuda
1399 Lisboa Codex, Portugal

Area of study: * Germination, dormancy

Bibliography:

Caixinhas, M.L., Vasconcelos, T. and Barao, A.D. (1992) Germination de semences d'espèces endémiques après plusieurs années deconservation. *IV Reencontre Internationale sur les semences*, Angers (France).

Silene goulimyi Turril**CARYOPHYLLACEAE**

Status: R**Distribution:** Greece**Researcher:** I. Hagemann and R. Vogt**Institution:** Botanischer Garten und Botanisches Museum
Berlin-Dahlem**Address:** Königin-Luise-Str. 6-8
D-14191 Berlin, Germany**Phone:** 030 83006129 / 030 83006123**Area of study:**

- * Genetics
- * Germination, dormancy
- * Growth, development
- * Reproduction
- * Propagation methods

Bibliography:

None

Silene hifacensis Rouy ex Willk.**CARYOPHYLLACEAE**

Status: V
Distribution: Spain
Researcher: J. Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: L. Navarro *et al.*
Institution: Dpto. de Cultivo de Tejidos Vegetales, Instituto Valenciano de Investigaciones Agrarias.
Address: Moncada, Valencia, Spain

Area of study: * Micropropagation

Bibliography:

Cardona, M.A. Torres, N. and Gómez-Campo, C. (1987) *Silene hifacensis* Rouy ex Willk. (Caryophyllaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 576-577.

Carretero, J.L. and Boira, H. (1987) Fragmenta chorologica occidentalia 989-993. *An. Jard. Bot. Madr.* 44:161.

Guerau-d'Arellano, C. and Torres, N. (1981) *Nova aportació al coneixement des plantes d'Eivissa i Formentera*. Inst. Est. Eivissencs. 132 pp.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Sainz-Ollero, H. and Hernández-Bermejo, J.E. (1979) Experimental reintroductions of endangered plant species in their natural habitats in Spain. *Biol. Conserv.* 16(3):195-206.

Silene macrorhiza Gay & Durieu ex Lacaita**CARYOPHYLLACEAE**

Status: R
Distribution: Spain, Portugal
Researcher: M.L. Caixinhas, T. Vasconcelos & A.D. Barao
Institution: Dpto. de Botânica e Engenharia Biológica
Instituto Superior de Agronomia
Address: Tapada da Ajuda
1399 Lisboa Codex, Portugal

Area of study: * Germination, dormancy

Bibliography:

Caixinhas, M.L., Vasconcelos, T. and Barao, A.D. (1992) Germination de semences d'espèces endémiques après plusieurs années deconservation. *IV Reencontre Internationale sur les semences*, Angers (France).

Silene nocteolens* Webb & Berthel.*CARYOPHYLLACEAE**

Status: R
Distribution: Canary Islands
Researcher: J.A. Rodríguez et al.
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
E-38400 Tenerife, Spain
Fax: 34 22 383572
Area of study: * Culture techniques

Bibliography:

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Silene pindicola Hausskn.

CARYOPHYLLACEAE

- Status:** R
Distribution: Greece
- Researcher:** I. Hagemann and R. Vogt
Institution: Botanischer Garten und Botanisches Museum
Berlin-Dahlem
Address: Königin-Luise-Str. 6-8
D-14191 Berlin, Germany
Phone: 030 83006129 / 030 83006123
- Area of study:**
- * Genetics
 - * Germination, dormancy
 - * Growth, development
 - * Reproduction
 - * Propagation methods
- Bibliography:**
- None

Silene schwarzenbergeri Halacsy**CARYOPHYLLACEAE**

- Status:** R
Distribution: Albania and Greece
- Researcher:** I. Hagemann and R. Vogt
Institution: Botanischer Garten und Botanisches Museum
Berlin-Dahlem
Address: Königin-Luise-Str. 6-8
D-14191 Berlin, Germany
Phone: 030 83006129 / 030 83006123
- Area of study:**
- * Genetics
 - * Germination, dormancy
 - * Growth, development
 - * Reproduction
 - * Propagation methods

Bibliography:

None

Silene senneni* Pau*CARYOPHYLLACEAE**

Status: R**Distribution:** Spain**Researcher:** J. Pedrola *et al.***Institution:** Est. Inter. Biol. Mediterránea**Address:** Jardín Botánico "Marimurtra"
E-17300 Blanes, Girona, Spain**Phone:** 34 72 330826**Area of study:** * Genetic conservation**Current research:**

Genetic structure of a restricted endemism: *Silene senneni*.

Bibliography:

Cadevall, J. (1915) *Silene* L. In: J. Cadevall and A. Sallent *Flora de Catalunya*. 1:248-263.

Jeanmonod, D. (1984) Révision de la section Siphonomorpha Otth. du genre *Silene* L. (Caryophyllaceae) en Méditerranée occidentale, II. *Candollea* 39(1):195-259.

Malagarriga, H.T. (1976) Catálogo de las plantas superiores del Alt Empordá. *Acta Phytotax. Barcin.* 18:1-146.

Molero, J. (1987) *Silene senneni* Pau (Caryophyllaceae). In: C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp. 582-583.

Silene stockenii Chater

CARYOPHYLLACEAE

- Status:** E
Distribution: Spain
- Researcher:** S. Talavera, M. Arista and J. Herrera
Institution: Departamento de Biología Vegetal y Ecología
 Facultad de Biología, Universidad de Sevilla.
Address: Avda. Reina Mercedes s/n
 41080 Sevilla, Spain
- Area of study:**
- * Genetics
 - * Germination, dormancy
 - * Growth, development
 - * Flowering, fruit development, pollination
 - * Reproduction
 - * Dispersal
 - * Propagation methods
 - * Culture techniques
 - * Pathology
 - * Phenology
 - * Demography, population dynamics
 - * Ecology

Current research:

Natural history of *Silene stockenii*

Bibliography:

- Chater, A.O. (1973) A new species of *Silene* from South Spain. *Lagascalía* 3:219-222.
- Candau, P. and Talavera, S. (1979) Polen y semillas de las especies de *Silene* sect. *Erectorefractae*. *Lagascalía* 8:127-133.
- Talavera, S. (1979) Revisión de la sect. *Erectorefractae* del género *Silene* L. *Lagascalía* 8:135-164.
- Talavera, S. (1987) *Silene stockenii* Chater. In: C. Gómez-Campo (Ed.) *Libro Rojo de las Especies Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid, pp.584-585.
- Talavera, S. and Bocquet, G. (1976) Notas sobre el género *Silene* L. en España II. Números cromosómicos de las especies españolas (excepto Sect. Scorpioideae (Rohrb.) Chowdh. y *S. vulgaris* (Moench) Garke). *Lagascalía* 6(1):101-116.

Silene velutina* Pourret ex Loisel.*CARYOPHYLLACEAE**

Status: V
Distribution: Corsica and Sardinia

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: L. Olivier *et al.*
Institution: Conservatoire Botanique National de
 Porquerolles
Address: Castel Sainte-Claire
 Rue du Castel Ste. Claire
 F-83400 Hyeres, France
Phone: 33 94 653298
Fax: 33 94 658483

Area of study: * Germination, dormancy
 * Propagation methods
 * Culture techniques

Bibliography:

Cesaraccio, G. Lanza, B. and Ricceri, C. (1984) *Silene velutina* reconfirmed for the Italian flora and floristic contributions to the archipelago of Maddalena Northeast Sardinia Italy. *Inf. Bot. Ital.* 16:197-199.

Conti, F. Manzi, A. and Pedrotti, F. (1992) *Libro Rosso delle Plante d'Italia*. WWF, Rome. 637 pp.

Corrias, B. (1985) Endemic Plants of Sardinia Italy 177-178. *Boll. Soc. Sarda. Sci. Nat.* 24:321-332.

Jemmonod, D. Bocquet, G. and Burdet, H.M. (1986) Notes et contributions à la flore de Corse. *Candollea* 41:32.

Kiefer, H. and Bocquet, G. (1979) *Silene velutina* Pourret ex Loiseleur (Caryophyllaceae) example of a Messinian destiny. *Candollea* 34:459-472.

Lanza, B. Borri, M. Poggesi, M. and Ricceri, C. (1983) Sulla corologia della *Silene velutina* Pourret ex Loiseleur (Caryophyllaceae). *Natura* (Milano) 74:74-78.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Solanum lidii SundingSOLANACEAE

Status: E
Distribution: Canary Islands
Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
Area of study: * Culture techniques

Researcher: J.A. Rodríguez *et al.*
Institution: Jardín de Aclimatación de la Orotava, CITA
Address: Puerto de la Cruz
 E-38400 Tenerife, Spain
Fax: 34 22 383572
Area of study: * Culture techniques

Bibliography:

Bramwell, D. and Rodrigo, J. (1984) Prioridades para la conservación de la diversidad genética en la flora de las Islas Canarias. *Bot. Macar.* 10:13-17.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Marrero, A. and Suárez, C. (1990) Notas corológicas de especies en peligro. *Bot. Macar.* 18:86-88.

Rodríguez, J.A. (1990) Conservación de plantas amenazadas en el Jardín de Aclimatación de la Orotava. In: J.E. Hernández-Bermejo, M. Clemente and V. Heywood (Eds.) *Conservation Techniques in Botanic Gardens*. Koeltz Scientific Books, Koenigstein, Germany. pp. 185-186.

Sunding, P. (1966) *Solanum lidii*, a species of the section *Nyctericum* from the Canary Islands. *Blyttia* 4:368-373.

Spergularia azorica (Kindb.) Lebel**CARYOPHYLLACEAE**

Status: V
Distribution: Azores
Researcher: M.L. Caixinhas
Institution: Universidade Técnica de Lisboa
 Dpto. de Botânica e Engenharia Biológica
 Instituto Superior de Agronomia
Address: Tapada da Ajuda
 P-1399 Lisboa Codex, Portugal

Area of Study: * Germination, dormancy

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Researcher: G.B. Maciel
Institution: Universidade dos Açores, Dpto. de Biologia
Address: Rua Mae de Deus 58, Apart. 1422
 P-9502 Ponta Delgada Codex, Portugal

Fax: 351 96 653 455

Area of study: * Germination, dormancy

Bibliography:

Furtado, D.S. (1984) Status e distribuição das plantas vasculares endémicas dos Açores. *Arquipélago*, 5:197-209.

Hansen, A. and Sundig, P. (1985) Flora of Macaronesia, Checklist of vascular plants. *Sommerfeltia*, 1.

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Maciel, G.B. and Caixinhas, M.L. (1992) Etudes sur les dormances de quelques

espèces endémiques des Açores. *IVe reencontre internationale sur les semences*, Angers (France).

Maciel, G.B. and Caixinhas, M.L. (1993) Etude sur la germination de deux années d'essais de quelques espèces endémiques des Açores. *Primeiro Simposio Fauna e Flora das Ilhás Atlânticas*, Madeira.

Stemmacantha cynaroides* (Chr. Sm.) Dittrich.*ASTERACEAE**

- Status:** E
Distribution: Canary Islands
- Researcher:** A. Bañares and J. Real
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898
- Area of study:**
- * Germination, dormancy
 - * Growth, development
 - * Flowering, fruit development, pollination
 - * Propagation methods
 - * Culture techniques
 - * Phenology
 - * Demography, population dynamics
 - * Ecology
 - * Biotic interactions
 - * Reintroduction

Current research:

Genetic recovery of the threatened flora of the Teide National Park.

Bibliography:

Bañares, A. Romero, P. and Rodriguez, C. (1992) Adiciones corológicas de algunos endemismos vegetales canarios en peligro de extinción. *Bot. Macar.* 19-20:141-144.

***Sternbergia candida* B. Mathew & Baytop**

AMARYLLIDACEAE

Status: E

Distribution: Turkey

Researcher: W. Lobin and M. Koenen

Institution: Botanischer Garten der Universität Bonn

Address: Bonn, Germany

Area of study: * Propagation methods

* Culture techniques

Bibliography:

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Sventenia bupleuroides* Font Quer*ASTERACEAE**

Status: V
Distribution: Canary Islands

Researcher: M.F. Fay *et al.*
Institution: Micropropagation Unit
Royal Botanic Gardens
Address: Kew, Richmond, Surrey
TW 9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Area of study: * Micropropagation

Bibliography:

Font Quer, P. (1984) *Plantae novae. Collectanea Botanica*, Vol. II. Fasc. II, 12:201-203.

Pérez de Paz, J. (1976) Observaciones sobre la biología y relaciones de *Sventenia bupleuroides* F.Q. *Bot. Macar.* 1:51-65.

Tanacetum ferulaceum* (Webb) Sch. Bip.*ASTERACEAE**

Status: R
Distribution: Canary Islands
Researcher: R. Febles
Institution: Jardín Botánico "Viera y Clavijo"
Address: Apto. Correos 14 de Tafira Alta
E-35017 Las Palmas de Gran Canaria, Spain
Area of study: * Genetics

Bibliography:

Bramwell, D. and Rodrigo, J. (1984) Prioridades para la conservación de la diversidad genética en la flora de las islas Canarias. *Bot. Macar.* 10:13-17.

Febles, R. (1990) *Análisis citogenético y evolutivo en las especies endémicas de los géneros Gonospermum Less., Lugoa D.C. y Tanacetum L. (Compositae: Anthemideae) de las Islas Canarias.* Doctoral Thesis, Madrid.

González, A.G. Bermejo, J. Triana, J. López, M. and Eiroa, J.L. (1990) Sesquiterpene lactones from *Tanacetum ferulaceum*. *Phytochemistry* 29:2339-2341.

González, A.G. Bermejo, J. Triana, J. López, M. and Eiroa, J.L. (1992) Sesquiterpene lactones and other constituents of *Tanacetum* species. *Phytochemistry* 31:1821-1822.

Tanacetum oshanahanii* Marrero, Febles & Suárez*ASTERACEAE**

Status: E
Distribution: Canary Islands

Researcher: M.A. Cabrera
Institution: Jardín Botánico "Viera y Clavijo"
Address: Apto. Correos 14 de Tafira Alta
E-35017 Las Palmas de Gran Canaria, Spain

Area of study: * Genetics
* Micropropagation

Researcher: R. Febles
Institution: Jardín Botánico "Viera y Clavijo"
Address: Apto. Correos 14 de Tafira Alta
E-35017 Las Palmas de Gran Canaria, Spain

Area of study: * Genetics

Bibliography:

Febles, R. (1990) *Análisis citogenético y evolutivo en las especies endémicas de los géneros Gonospermum Less., Lugoa D.C. y Tanacetum L. (Compositae: Anthemideae) de las Islas Canarias*. Doctoral Thesis, Madrid.

Marrero, A. Febles, R. and Suárez, C. (1989) *Tanacetum oshanahanii* (Compositae-Anthemideae), nueva especie para las islas Canarias. *Bot. Macar.* 17:3-14.

Tanacetum ptarmiciflorum* (Webb) Sch. Bip.*ASTERACEAE**

Status: E
Distribution: Canary Islands
Researcher: R. Febles
Institution: Jardín Botánico "Viera y Clavijo"
Address: Apto. Correos 14 de Tafira Alta
E-35017 Las Palmas de Gran Canaria, Spain
Area of study: * Genetics

Bibliography:

Bramwell, D. y Rodrigo, J. (1984) Prioridades para la conservación de la diversidad genética en la flora de las islas Canarias. *Bot. Mac.* 10:3-18.

Febles, R. (1990) *Análisis citogenético y evolutivo en las especies endémicas de los géneros Gonospermum Less., Lugoa D.C. y Tanacetum L. (Compositae: Anthemideae) de las Islas Canarias.* Doctoral Thesis, Madrid.

González, A.G. Bermejo Barrera, J. Triana Méndez, J. López Sánchez, M. and Eiroa Martínez, J.L. (1992) Sesquiterpene lactones and other constituents of *Tanacetum* species. *Phytochemistry* 31:1821-1822.

Kunkel, G. (1977) *Endemismos canarios. Inventario de las plantas vasculares endémicas en la provincia de Las Palmas.* ICONA. Ministerio de Agricultura. Monografía núm. 15. Madrid.

Thymus richardii Pers.**LAMIACEAE**

- Status:** R
Distribution: Balearic Islands, Sicily, Yugoslavia
- Researcher:** J. Estades and H. Medrano
Institution: Laboratori de Fisiología Vegetal
 Dep. de Biología I.C.S.
Address: Universitat de les Illes Balears
 Palma de Mallorca, Spain
- Area of study:** * Micropropagation
- Researcher:** J. Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
- Area of study:** * Culture techniques

Bibliography:

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- Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.
- Llorens, L. and Gómez-Campo, C. (1987) *Thymus richardii* Pers. (Lamiaceae) In:

C. Gómez-Campo (Ed.) *Libro Rojo de Especies Vegetales Amenazadas de España Peninsular e Islas Baleares*. ICONA, Madrid. pp. 624-625.

Persoon, C.H. (1807) *Syn. Pl.*, 2. 130 pp.

Tinguarra cervariaefolia* Parl.*APIACEAE**

Status: R
Distribution: Canary Islands

Researcher: J.M. Pita
Institution: Dpto. Biología Vegetal, E.T.S.I. Agrónomos
Universidad Politécnica de Madrid
Address: E-28040 Madrid, Spain
Phone: 34 1 3365657
Fax: 34 1 3365656

Area of study: * Germination, dormancy

Bibliography:

Domínguez, M.D. La Serna, I. and Pérez, P.L. (1991) A palynological study of the genera *Tinguarra* Parl. and *Todaroa* Parl. Apiaceae from the Macaronesian region. In: A. Ballouche and J. Maley (Eds.) *Palaeoecology of Africa* Vol 22. A. Balkema, Rotterdam. pp. 27-34.

Pita, J.M. (1988) Germinación en especies endémicas de las Islas Canarias. *Investigación Agraria* 3:39-43.

Tolpis azorica (Nutt.) Pinto da SilvaASTERACEAE

- Status:** R
Distribution: Azores
- Researcher:** M.L. Caixinhas
Institution: Universidade Técnica de Lisboa
 Dpto. de Botânica e Engenharia Biológica
 Instituto Superior de Agronomia
Address: Tapada da Ajuda
 P-1399 Lisboa Codex, Portugal
- Area of Study:** * Germination, dormancy
- Researcher:** J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
- Area of study:** * Culture techniques
- Researcher:** G.B. Maciel
Institution: Universidade dos Açores, Dpto. de Biologia
Address: Rua Mae de Deus 58, Apart. 1422
 P-9502 Ponta Delgada Codex, Portugal
- Area of study:** * Germination, dormancy

Bibliography:

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Maciel, G.B. and Caixinhas, H.L. (1992) Etudes sur les dormances de quelques espèces endémiques des Açores. *IVe rencontre internationale sur les semences*, Angers (France).

Trachelium asperuloides* Boiss. & Orph.*CAMPANULACEAE**

Status: V**Distribution:** Greece**Researcher:** -**Institution:** Royal Botanic Gardens Edinburgh**Address:** Edinburgh, EH3 5LR, Scotland, Great Britain**Area of study:** * Propagation methods

* Culture techniques

Bibliography:

Cultivation and Propagation Methods for Plants in Botanic Gardens. A Sample Database. (1992) Botanic Gardens Conservation International.

Tulipa goulimyi Sealy & TurrillLILIACEAE

Status: V
Distribution: Greece, Crete

Researcher: K. Athanasiou
Institution: Botanical Institute, University of Patras
Address: GR-26010 Patras, Greece

Area of study: * Culture techniques
* Karyology
* Distribution

Bibliography:

Athanasiou, K. (1988) Some cytogeographical notes on the genus *Tulipa* L. (Liliaceae) in Greece. *Bot. Chron.* 8(1-2):51-59.

Briggs, M. (1990) First record of *Tulipa goulimyi* new record Liliaceae on Crete Greece. *Ann. Mus. Goulandris.* 8:41-44.

Yannitsaros, A. (1978) *Tulipa goulimyi* Sealy et Turril and the dangers which threaten it. *Physis* 14:36-37 (in Greek with an extended English translation).

Verbascum litigiosum* G. Samp.*SCROPHULARIACEAE**

Status: V
Distribution: Portugal
Researcher: M.L. Caixinhas, T. Vasconcelos & A.D. Barao
Institution: Dpto. de Botânica e Engenharia Biológica
Instituto Superior de Agronomia
Address: Tapada da Ajuda
1399 Lisboa Codex, Portugal

Area of study: * Germination, dormancy

Researcher: J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
F-29200 Brest, France
Phone: 33 98 418895

Area of study: * Culture techniques

Bibliography:

Caixinhas, M.L., Vasconcelos, T. and Barao, A.D. (1992) Germination de semences d'espèces endémiques après plusieurs années de conservation. *IV Reencontre Internationale sur les semences*, Angers (France).

Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Viola cheiranthifolia H. B. & K.**VIOLACEAE**

Status: V
Distribution: Canary Islands
Researcher: J. Real and A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Area of study: * Propagation methods
* Culture techniques

Current research:

Study of the germinative behaviour of some endemisms of the Supracanary altitudinal stage.

Bibliography:

None

Visnea mocanera L. f.

TERNSTROEMIACEAE

- Status:** V
Distribution: Canary Islands
- Researcher:** A. Bañares
Institution: Centro Ecológico de La Laguna, ICONA
Address: Carretera de La Esperanza Km. 2
 La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898
- Area of study:** * Propagation methods
 * Culture techniques
- Researcher:** J.Y. Lesouef *et al.*
Institution: Conservatoire Botanique de Brest
Address: 52 Allée du Bot
 F-29200 Brest, France
Phone: 33 98 418895
- Area of study:** * Culture techniques

Bibliography:

- Bañares, A. (1992) Contribución al conocimiento de la propagación vegetativa y sexual de las especies vegetales de la Laurisilva Canaria. *Bot. Mac.* 19-20:53-64.
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- Le Hir, F. (1989) *List of the Threatened Plants in Cultivation at the Conservatoire Botanique of Brest*. Brest. 32 pp.

Zelkova sicula* Di Pasquale, Garfi & Quézel*ULMACEAE**

- Status:** E
Distribution: Sicily
- Researcher:** G. Garfi and G. Di Pasquale
Institution: Dipartimento di Scienze Botaniche
Address: Via Archirafi 38
I-90123 Palermo, Italy
Phone: 39 91 6161493
- Area of study:**
- * Autecology
 - * Demography
 - * Genetics
 - * Pedoantracology
 - * Conservation

Bibliography:

- Di Pasquale, G. Garfi, G. and Quézel, P. (1992) Sur la presence d'un *Zelkova* nouveau en Sicile sud-orientale (*Ulmaceae*). *Biocosme Méditerranéen*, 8(4)-9(1):401-409.
- Di Pasquale, G. and Garfi, G. (1993) *Zelkova sicula* Di Pasquale, Garfi et Quézel, unica rappresentante del genere nell'attuale flora italiana. *Giorn. Bot. Ital.* 127(3):649.

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Abies pinsapo Boiss.
Acanthorrhinum rivas-martinezii (Schez.-Mata) Fdez.-Casas & Schez.-Mata
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Adonis cyllenea Boiss., Heldr. & Orph in Boiss.
Aeonium gomeraense (Praeger) Praeger
Aichryson pachycaulon Bolle
Aichryson palmense Webb ex Bolle
Aichryson porphyrogennetos Bolle
Allium pyrenaicum Costa y Vayreda
Ammi huntii H.C. Watson
Anagyris latifolia Brouss. ex Willd.
Anchusa crispa Viv.
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Androcymbium rechingeri Greuter
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Antirrhinum pertegasii Rothm.
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Aquilegia cazorlensis Heywood
Aquilegia champagnatii Moraldo, Nardi et La Valva
Aquilegia litardierei Briq.
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Armeria soleirolii (Duby) Godron
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Artemisia pancicii (Janka) Ronn.
Asphodelus bento-rainhae P. Silva
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Convolvulus caput-medusae Lowe
Convolvulus lopez-socasii Svent.
Coronopus navasii Pau
Crambe arborea Webb ex Christ.
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Euphorbia stygiana H.C. Watson
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Genista benehoavensis (Bolles ex Svent.) M. del Arco
Genista cilentina Valsecchi
Geranium cazortense Heywood
Geranium dolomiticum Roth.
Geranium rubescens Yeo
Gesnouinia arborea (L.f.) Gaudich
Globularia ascanii Bramwell & Kunkel
Globularia neapolitana O. Schwarz
Globularia sarcophylla Svent.
Gonospermum gomerae Bolles
Gypsophila papillosa Porta
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Heberdenia excelsa (Aiton) Banks ex DC.
Helianthemum juliae Wildpret
Helianthemum polygonoides Pein., Mtez.-Parras, Alc. & Esp.
Helichrysum monogynum Burt & Sunding
Hieracium valentinum Arv.-Touvet et Rev.
Hippocrepis valentina Boiss.
Hypericum athoum Boiss. & Orph.
Hypericum delphicum Boiss. & Heldr.
Hypericum kelleri Baldacci
Hypochoeris oligocephala (Svent. & Bramw.) Lack
Iberis fontqueri Pau
Iberis grosii Pau
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Iris pamphylica Hedge
Isatis amani Davis
Isatis arenaria Azn.
Isatis aucheri Boiss.
Isatis bitlisica Davis
Isatis callifera Boiss. et Bal.
Isatis candolleana Boiss.
Isatis cappadocica Desv.
Isatis constricta Davis
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Isatis frigida Boiss. et Kotschy
Isatis huber-morathii Davis
Isatis kozlowskyi Grossh
Isatis lockmanniana Kotschy et Boiss.
Isatis pinnatiloba Davis
Isatis spatella Davis
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Isoetes malinverniana Ces. et De Not.

Isoplexis chalcantha Svent. & O'Shan.
Isoplexis sceptrum (L.f.) Loudon
Jankaea heldreichii (Boiss.) Boiss.
Lactuca watsoniana Trelease
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Lavatera oblongifolia Boiss.
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Leucanthemum arundanum (Boiss.) Cuatrec.
Leucanthemum gracilicaule (Dufour) Alavi & Heywood
Leucojum nicaeense Ard.
Ligusticum corsicum Gay
Limonium arborescens (Brouss.) O. Kuntze
Limonium carthaginense (Rouy) C.E. Hubb. & Sandw.
Limonium castellonense Erben
Limonium cavanillesii Erben
Limonium dendroides Svent.
Limonium duforei (Girard) O. Kuntze
Limonium estevei Fdez. Casas
Limonium fruticans (Webb) O. Kuntze
Limonium gibertii (Sennen) Sennen
Limonium imbricatum (Webb & Berthel.) Hubbard
Limonium malacitanum B. Díez Garretas
Limonium optimae Raimondo
Limonium parvibracteatum Pignatti
Limonium preauxii (Webb & Berth.) O. Kuntze
Limonium redivivum (Svent) Kunkel & Sund.
Limonium rumicifolium (Svent) Kunkel & Sund.
Limonium spectabile (Svent.) Kunkel & Sund.
Limonium todaroanum Raimondo & Pign.
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Lithodora rosmarinifolia (Ten.) Johnston
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Lotus campylocladus Webb & Berth.
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Lysimachia minoricensis Rodr.
Maytenus canariensis (Loes.) Kunkel & Sunding
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Myrica rivasmartinezii A. Santos
Nananthea perpusilla (Loisel.) DC.
Narcissus bugei (Fdez. Casas) Fdez. Casas
Narcissus longispathus Pugsley
Narcissus nevadensis Pugsley
Narcissus tortifolius Fdez. Casas
Naufraga balearica Const. & Cannon
Nepeta teydea Webb & Berth.

- Ocotea foetens* (Aiton) Benth. & Hook. f.
Papaver rupifragum Boiss. & Reuter
Pericallis hadrosoma (Svent.) B. Nord.
Pericallis hansenii (Kunkel) Sund.
Petagnaea gussonei (Spreng.) Rauschert
Petrocoptis crassifolia Rouy
Petrocoptis grandiflora Rothm.
Petrocoptis guarensis Fernández Casas
Petrocoptis hispanica (Willk.) Pau
Petrocoptis montserratii Fernández Casas
Petrocoptis montsicciana O. Bolós & Rivas-Martínez
Petrocoptis pardoi Pau
Petrocoptis pseudoviscosa Fernández Casas
Petrocoptis viscosa Rothm.
Picconia azorica (Tutin) Knobl.
Pimpinella anagodendron Bolle
Pimpinella bicknellii Briq.
Pinguicula nevadensis (Lindb.) Casper
Pinguicula vallisneriifolia Webb
Primula allionii Loisel.
Primula palinuri Petagna
Pulicaria canariensis Bolle
Ramonda nathaliae Panc. & Petrov
Ramonda serbica Panc.
Rhamnus glandulosa Aiton
Rhamnus lojaconoi Raimondo
Rosmarinus tomentosus Huber-Morat & Maire
Rouya polygama (Desf.) Coincy
Rumex azoricus Rech. fil.
Ruta pinnata L.f.
Rutheopsis herbanica (Bolle) Hans. & Kunk.
Salix tarraconensis Pau
Salvia blancoana Webb & Heldr.
Sambucus palmensis Link in Buch.
Santolina ligustica Arrigoni
Santolina neapolitana Jordan et Fourr.
Satureja innota (Pau) G. López
Scabiosa nitens Roemer & Schultes
Scilla hughii Tineo
Sedum multiceps Coss. & Durien
Sedum pruinaum Link ex Brot.
Senecio hermosae Pitard
Senecio malvifolius (L'Herit.) DC.
Senecio palmensis (Chr. Sm. ex Ness) Link. apud Buch.
Seseli farrenyi Molero & Pujadas
Sideritis argosphacela (Webb & Berthel.) Clos.
Sideritis marmorea Bolle
Sideritis sventenii (Kunk.) Mend.Heuer
Sideroxylon marmulano Banks ex Lowe
Silene adscendens Lag.
Silene cambessedesii Boiss. & Reuter

Silene diclinis (Lag.) Laínz
Silene elegans Link ex Brot.
Silene goulimyi Turrill
Silene hifacensis Rouy ex Willk.
Silene macrorhiza Gay & Durieu ex Lacaita
Silene nocteolens Webb & Berthel.
Silene pindicola Hausskn.
Silene schwarzenbergeri Halacsy
Silene senneni Pau
Silene stockenii Chater
Silene velutina Pourret ex Loisel.
Solanum lidii Sunding
Spergularia azorica (Kindb.) Lebel
Stemmacantha cynaroides (Chr. Sm.) Dittrich.
Sternbergia candida B. Mathew & Baytop
Sventenia bupleuroides Font Quer
Tanacetum ferulaceum (Webb) Sch. Bip.
Tanacetum oshanahanii Marrero, Febles & Suárez
Tanacetum ptarmiciflorum (Webb) Sch. Bip.
Thymus richardii Pers.
Tinguarra cervariaefolia Parl.
Tolpis azorica (Nutt.) Pinto da Silva
Trachelium asperuloides Boiss. & Orph.
Tulipa goulimyi Sealy & Turrill
Verbascum litigiosum G. Samp.
Viola cheiranthifolia H. B. & K.
Visnea mocanera L. f.
Zelkova sicula Di Pasquale, Garfi & Quézel

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AMARYLLIDACEAE

- Leucojum nicaense* Ard.
Narcissus bugei (Fdez. Casas) Fdez. Casas
Narcissus longispathus Pugsley
Narcissus nevadensis Pugsley
Narcissus tortifolius Fdez. Casas
Sternbergia candida B. Mathew & Baytop

APIACEAE

- Ammi huntii* H.C. Watson
Apium bermejoi Llorens
Bupleurum elatum Guss.
Chaerophyllum azoricum Trelease
Ligusticum corsicum Gay
Melanoselinum decipiens (Schrader & Wendl.) Hoffmann
Naufraga balearica Const. & Cannon
Petagnaea gussonei (Spreng.) Rauschert
Pimpinella anagodendron Bolle
Pimpinella bicknellii Briq.
Rouya polygama (Desf.) Coincy
Rutheopsis herbanica (Bolle) Hans. & Kunk.
Seseli farrenyi Moleró & Pujadas
Tinguarra cervariaefolia Parl.

AQUIFOLIACEAE

- Ilex perado* Aiton

ARACEAE

- Dracunculus canariensis* Kunth.

ASTERACEAE

- Achillea taygetea* Boiss. & Heldr.
Argyranthemum hierrense Humphries
Artemisia granatensis Boiss.
Artemisia pancicii (Janka) Ronn.
Atractylis arbuscula Svent. & Mich.
Atractylis preauxiana Schultz Bip.
Bellis azorica Hochst. ex Seub.
Carduncellus dianius Webb
Carduus thracicus (Velen.) Hayek
Centaurea balearica Rodr.
Centaurea carratracensis Lange
Centaurea hermannii F. Hermann
Centaurea lainzii Fdez. Casas

Centaurea rothmalerana (Arènes) Dostal
Crepis canariensis (Sch. Bip.) Babc.
Gonospermum gomerae Bolle
Helichrysum monogynum Burt & Sunding
Hieracium valentinum Arv.-Touvet et Rev.
Hypochoeris oligocephala (Svent. & Bramw.) Lack
Lactuca watsoniana Trelease
Leucanthemum arundanum (Boiss.) Cuatrec.
Leucanthemum gracilicaule (Dufour) Alavi & Heywood
Lugoa revoluta DC.
Nananthea perpusilla (Loisel.) DC.
Pericallis hadrosoma (Svent.) B. Nord.
Pericallis hansenii (Kunkel) Sund.
Pulicaria canariensis Bolle
Santolina ligustica Arrigoni
Santolina neapolitana Jordan et Fourr.
Senecio hermosae Pitard
Senecio malvifolius (L'Herit.) DC.
Senecio palmensis (Chr. Sm. ex Ness) Link. apud Buch.
Stemmacantha cynaroides (Chr. Sm.) Dittrich.
Sventenia bupleuroides Font Quer
Tanacetum ferulaceum (Webb) Sch. Bip.
Tanacetum oshanahanii Marrero, Febles & Suárez
Tanacetum ptarmiciflorum (Webb) Sch. Bip.
Tolpis azorica (Nutt.) Pinto da Silva

BORAGINACEAE

Anchusa crispa Viv.
Echium acanthocarpum Svent.
Echium auberianum Webb & Berth.
Echium handiense Svent.
Echium hierrense Webb ex Bolle
Echium leucophaeum Webb ex Spr. & Hutch.
Echium pininana Webb & Berth.
Lithodora nitida (Ern.) R. Fernandes
Lithodora oleifolia (Lapeyr.) Griseb.
Lithodora rosmarinifolia (Ten.) Johnston

BRASSICACEAE

Barbarea sicula Presl
Biscutella fontqueri Guinea & Heywood
Biscutella rotgesii Foucaud
Brassica insularis Moris
Capsella thracica Velen.
Coincya rupestris Rouy
Coronopus navasii Pau
Crambe arborea Webb ex Christ.
Crambe scaberrima Webb ex Bramwell
Descurainia gilva Svent.

Diploaxis siettiana Maire
Erucastrum palustre (Pirona) Vis.
Euzomodendron bourgaeum Cosson
Iberis fontqueri Pau
Iberis grosii Pau
Isatis amani Davis
Isatis arenaria Azn.
Isatis aucheri Boiss.
Isatis bitlisica Davis
Isatis callifera Boiss. et Bal.
Isatis candolleana Boiss.
Isatis cappadocica Desv.
Isatis constricta Davis
Isatis ermenekensis Yildirimli
Isatis frigida Boiss. et Kotschy
Isatis huber-morathii Davis
Isatis kozlowskyi Grossh
Isatis lockmanniana Kotschy et Boiss.
Isatis pinnatiloba Davis
Isatis spatella Davis
Isatis undulata Aucher ex Boiss.

CAMPANULACEAE

Azorina vidalii (H.C. Watson) Feer
Campanula poscharskyana Degen
Trachelium asperuloides Boiss. & Orph.

CAPRIFOLIACEAE

Sambucus palmensis Link in Buch.

CARYOPHYLLACEAE

Arenaria rigida Bieb.
Dianthus diutinus Kit.
Dianthus nardiformis Janka
Gypsophila papillosa Porta
Petrocoptis crassifolia Rouy
Petrocoptis grandiflora Rothm.
Petrocoptis guarensis Fernández Casas
Petrocoptis hispanica (Willk.) Pau
Petrocoptis montserratii Fernández Casas
Petrocoptis montsicciana O. Bolós & Rivas-Martínez
Petrocoptis pardoi Pau
Petrocoptis pseudoviscosa Fernández Casas
Petrocoptis viscosa Rothm.
Silene adscendens Lag.
Silene cambessedesii Boiss. & Reuter
Silene diclinis (Lag.) Laínz
Silene elegans Link ex Brot.

Silene goulimy Turril
Silene hifacensis Rouy ex Willk.
Silene macrorhiza Gay & Durieu ex Lacaita
Silene nocteolens Webb & Berthel.
Silene pindicola Hausskn.
Silene schwarzenbergeri Halacsy
Silene senneni Pau
Silene stockenii Chater
Silene velutina Pourret ex Loisel.
Spergularia azorica (Kindb.) Lebel

CELASTRACEAE

Euonymus latifolius Miller
Maytenus canariensis (Loes.) Kunkel & Sunding

CHENOPODIACEAE

Bassia saxicola (Guss.) A.J. Schott

CISTACEAE

Cistus osbeckiifolius Webb ex Christ.
Cistus palhinhae Ingram
Helianthemum juliae Wildpret
Helianthemum polygonoides Pein., Mtez.-Parras, Alc. & Esp.

CONVOLVULACEAE

Convolvulus canariensis L.
Convolvulus caput-medusae Lowe
Convolvulus lopez-socasii Svent.
Ipomoea imperati (Vahl) Griseb.

CRASSULACEAE

Aeonium gomeraense (Praeger) Praeger
Aichryson pachycaulon Bolle
Aichryson palmense Webb ex Bolle
Aichryson porphyrogennetos Bolle
Sedum multiceps Coss. & Durien
Sedum pruinatum Link ex Brot.

CUPRESSACEAE

Cupressus dupreziana A. Camus

CYPERACEAE

Carex calderae A. Hansen

DIPSACACEAE

Scabiosa nitens Roemer & Schultes

ERICACEAE

Arbutus canariensis Veillard ex Duhamel

Daboecia azorica Tutin & E.F. Warb.

EUPHORBIACEAE

Euphorbia azorica Seub.

Euphorbia gaditana Cosson

Euphorbia handiensis Burchd.

Euphorbia lambii Svent.

Euphorbia maresii Knoch

Euphorbia mellifera Aiton

Euphorbia stygiana H.C. Watson

FABACEAE

Anagyris latifolia Brouss. ex Willd.

Astragalus centralpinus Braun Blanquet

Astragalus dasyanthus Pall.

Astragalus wilmottianus Stoj.

Cytisus aeolicus Guss.

Cytisus moleroi Fdez. Casas

Dorycnium broussonetii (Choisy.) Webb & Berth.

Genista benehoavensis (Bolle ex Svent.) M. del Arco

Genista cilentina Valsecchi

Hippocrepis valentina Boiss.

Lotus azoricus P.W. Ball

Lotus berthelotii Masferrer

Lotus campylocladus Webb & Berth.

Lotus kunkelii (Esteve) Bramwell & Davis

Lotus maculatus Breitf.

Medicago strasserii Greuter, Matthäs & Risse

GENTIANACEAE

Centaurium rigualii Esteve

GERANIACEAE

Erodium cazorlanum Heywood

Erodium paularense Fdez. Glez. & Izco

Erodium rupicola Boiss.

Geranium cazorlense Heywood

Geranium dolomiticum Roth.

Geranium rubescens Yeo

GESNERIACEAE

Jankaia heldreichii (Boiss.) Boiss.
Ramonda nathaliae Panc. & Petrov
Ramonda serbica Panc.

GLOBULARIACEAE

Globularia ascanii Bramwell & Kunkel
Globularia neapolitana O. Schwarz
Globularia sarcophylla Svent.

GUTTIFERAE

Hypericum athoum Boiss. & Orph.
Hypericum delphicum Boiss. & Heldr.
Hypericum kelleri Baldacci

IRIDACEAE

Crocus etruscus Parl.
Iris pamphylica Hedge

ISOETACEAE

Isoetes malinverniana Ces. et De Not.

LAMIACEAE

Nepeta teydea Webb & Berth.
Rosmarinus tomentosus Huber-Morat & Maire
Salvia blancoana Webb & Heldr.
Satureja innota (Pau) G. López
Sideritis argosphacela (Webb & Berthel.) Clos.
Sideritis marmorea Bolle
Sideritis sventenii (Kunk.) Mend.Heuer
Thymus richardii Pers.

LAURACEAE

Ocotea foetens (Aiton) Benth. & Hook. f.

LENTIBULARIACEAE

Pinguicula nevadensis (Lindb.) Casper
Pinguicula vallisneriifolia Webb

LILIACEAE

Allium pyrenaicum Costa y Vayreda
Androcymbium europaeum (Lange) K. Richter

Androcymbium rechingeri Greuter
Asphodelus bento-rainhae P. Silva
Asphodelus gracilis Br.-Bl. & Maire
Asphodelus roseus Humbert & Maire
Colchicum chalcedonicum Azn.
Colchicum corsicum Baker
Colchicum turcicum Janka
Fritillaria conica Boiss.
Scilla hughii Tineo
Tulipa goulimyi Sealy & Turrill

MALVACEAE

Lavatera acerifolia Cav.
Lavatera oblongifolia Boiss.
Lavatera phoenicea Vent.

MYRICACEAE

Myrica rivasmartinezii A. Santos

MYRSINACEAE

Heberdenia excelsa (Aiton) Banks ex DC.

OLEACEAE

Picconia azorica (Tutin) Knobl.

PAPAVERACEAE

Papaver rupifragum Boiss. & Reuter

PINACEAE

Abies nebrodensis (Lojac.) Mattei
Abies pinsapo Boiss.

PLUMBAGINACEAE

Armeria soleirolii (Duby) Godron
Limonium arborescens (Brouss.) O. Kuntze
Limonium carthaginense (Rouy) C.E. Hubb. & Sandw.
Limonium castellanense Erben
Limonium cavanillesii Erben
Limonium dendroides Svent.
Limonium duforei (Girard) O. Kuntze
Limonium esteveii Fdez. Casas
Limonium fruticans (Webb) O. Kuntze
Limonium gibertii (Sennen) Sennen
Limonium imbricatum (Webb & Berthel.) Hubbard

Limonium malacitanum B. Díez Garretas
Limonium optimae Raimondo
Limonium parvibracteatum Pignatti
Limonium preauxii (Webb & Berth.) O. Kuntze
Limonium redivivum (Svent.) Kunkel & Sund.
Limonium rumicifolium (Svent) Kunkel & Sund.
Limonium spectabile (Svent.) Kunkel & Sund.
Limonium todaroanum Raimondo & Pign.

POACEAE

Festuca arenicola (Prod.) Soó

POLYGONACEAE

Rumex azoricus Rech. fil.

PRIMULACEAE

Lysimachia minoricensis Rodr.
Primula allionii Loisel.
Primula palinuri Petagna

RANUNCULACEAE

Adonis cyllenea Boiss., Heldr. & Orph in Boiss.
Aquilegia bertolonii Schott
Aquilegia cazorlensis Heywood
Aquilegia champagnatii Moraldo, Nardi et La Valva
Aquilegia litardierei Briq.
Delphinium pictum Willd.

RHAMNACEAE

Rhamnus glandulosa Aiton
Rhamnus lojaconoi Raimondo

ROSACEAE

Bencomia exstipulata Svent.

RUTACEAE

Haplophyllum patavinum (L.) G. Don fil.
Ruta pinnata L.f.

SALICACEAE

Salix tarraconensis Pau

SAPOTACEAE

Sideroxylon marmulano Banks ex Lowe

SCROPHULARIACEAE

Acanthorrhinum rivas-martinezii (Schez.-Mata) Fdez.-Casas & Schez.-Mata

Antirrhinum charidemi Lange

Antirrhinum microphyllum Roth.

Antirrhinum pertegasii Rothm.

Isoplexis chalcantha Svent. & O'Shan.

Isoplexis sceptrum (L.f.) Loudon

Linaria tursica Valdés & Cabezudo

Verbascum litigiosum G. Samp.

SOLANACEAE

Atropa baetica Willk.

Solanum lidii Sunding

TERNSTROEMIAACEAE

Visnea mocanera L. f.

THYMELACEACEAE

Daphne rodriguezii Teixidor

ULMACEAE

Zelkova sicula Di Pasquale, Garfi & Quézel

URTICACEAE

Gesnouinia arborea (L.f.) Gaudich

VALERIANACEAE

Centranthus trinervis (Viv.) Béguinot

VIOLACEAE

Viola cheiranthifolia H. B. & K.

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Diplotaxis siettiana Maire
Ipomoea imperati (Vahl) Griseb.
Lysimachia minoricensis Rodr.

(E) ENDANGERED

Abies nebrodensis (Lojac.) Mattei
Adonis cyllenea Boiss., Heldr. & Orph in Boiss.
Apium bermejoi Llorens
Aquilegia cazorlensis Heywood
Armeria soleirolii (Duby) Godron
Artemisia granatensis Boiss.
Atractylis arbuscula Svent. & Mich.
Atractylis preauxiana Schultz Bip.
Atropa baetica Willk.
Bassia saxicola (Guss.) A.J. Schott
Bellis azorica Hochst. ex Seub.
Bencomia exstipulata Svent.
Centaurea balearica Rodr.
Centaurium rigualii Esteve
Centranthus trinervis (Viv.) Béguinot
Chaerophyllum azoricum Trelease
Cistus osbeckiifolius Webb ex Christ.
Coincya rupestris Rouy
Colchicum chalconicum Azn.
Convolvulus lopez-socasii Svent.
Coronopus navasii Pau
Crambe arborea Webb ex Christ.
Cupressus dupreziana A. Camus
Cytisus aeolicus Guss.
Daphne rodriguezii Teixidor
Echium acanthocarpum Svent.
Echium auberianum Webb & Berth.
Echium handiense Svent.
Echium pininana Webb & Berth.
Erodium cazorlanum Heywood
Erodium rupicola Boiss.
Erucastrum palustre (Pirona) Vis.
Euonymus latifolius Miller
Euphorbia gaditana Cosson
Euphorbia handiensis Burchd.
Euphorbia lambii Svent.
Euphorbia mellifera Aiton
Genista benehoavensis (Bolle ex Svent.) M. del Arco
Geranium cazorlense Heywood
Globularia ascanii Bramwell & Kunkel
Globularia sarcophylla Svent.

Haplophyllum patavinum (L.) G. Don fil.
Helianthemum juliae Wildpret
Helichrysum monogynum Burt & Sunding
Hypochoeris oligocephala (Svent. & Bramw.) Lack
Isatis arenaria Azn.
Isatis frigida Boiss. et Kotschy
Isatis pinnatiloba Davis
Isoplexis chalcantha Svent. & O'Shan.
Lactuca watsoniana Trelease
Lavatera phoenicea Vent.
Limonium arborescens (Brouss.) O. Kuntze
Limonium dendroides Svent.
Limonium fruticans (Webb) O. Kuntze
Limonium imbricatum (Webb & Berthel.) Hubbard
Limonium malacitanum B. Díez Garretas
Limonium optima Raimondo
Limonium preauxii (Webb & Berth.) O. Kuntze
Limonium spectabile (Svent.) Kunkel & Sund.
Lithodora nitida (Ern.) R. Fernandes
Lotus azoricus P.W. Ball
Lotus berthelotii Masferrer
Lotus kunkelii (Esteve) Bramwell & Davis
Lotus maculatus Breif.
Lugoa revoluta DC.
Myrica rivasmartinezii A. Santos
Narcissus nevadensis Pugsley
Naufraga balearica Const. & Cannon
Pericallis hadrosoma (Svent.) B. Nord.
Pericallis hansenii (Kunkel) Sund.
Pinguicula vallisneriifolia Webb
Pulicaria canariensis Bolle
Rosmarinus tomentosus Huber-Morat & Maire
Sambucus palmensis Link in Buch.
Senecio hermosae Pitard
Sideritis marmorea Bolle
Sideroxylon marmulano Banks ex Lowe
Silene stockenii Chater
Solanum lidii Sunding
Stemmacantha cynaroides (Chr. Sm.) Dittrich.
Sternbergia candida B. Mathew & Baytop
Tanacetum oshanahanii Marrero, Febles & Suárez
Tanacetum ptarmiciflorum (Webb) Sch. Bip.
Zelkova sicula Di Pasquale, Garfi & Quézel

(V) VULNERABLE

Abies pinsapo Boiss.
Acanthorrhinum rivasmartinezii (Schez.-Mata) Fdez.-Casas & Schez.-Mata
Aeonium gomeraense (Praeger) Praeger
Anagyris latifolia Brouss. ex Willd.
Anchusa crispa Viv.

Androcymbium europaeum (Lange) K. Richter
Antirrhinum charidemi Lange
Antirrhinum microphyllum Roth.
Antirrhinum pertegasii Rothm.
Aquilegia bertolonii Schott
Aquilegia litardierei Briq.
Arbutus canariensis Veillard ex Duhamel
Argyranthemum hierrense Humphries
Artemisia pancicii (Janka) Ronn.
Astragalus centralpinus Braun Blanquet
Astragalus dasyanthus Pall.
Azorina vidalii (H.C. Watson) Feer
Barbarea sicula Presl
Biscutella rotgesii Foucaud
Bupleurum elatum Guss.
Capsella thracica Velen.
Carduus thracicus (Velen.) Hayek
Carex calderae A. Hansen
Centaurea hermannii F. Hermann
Colchicum corsicum Baker
Colchicum turcicum Janka
Convolvulus canariensis L.
Crepis canariensis (Sch. Bip.) Babc.
Cytisus moleroi Fdez. Casas
Delphinium pictum Willd.
Dianthus nardiformis Janka
Dracunculus canariensis Kunth.
Erodium paularense Fdez. Glez. & Izco
Euphorbia azorica Seub.
Euphorbia stygiana H.C. Watson
Fritillaria conica Boiss.
Genista cilentina Valsecchi
Gesnouinia arborea (L.f.) Gaudich
Globularia neapolitana O. Schwarz
Gonospermum gomeræ Bolle
Heberdenia excelsa (Aiton) Banks ex DC.
Isatis undulata Aucher ex Boiss.
Isoetes malinverniana Ces. et De Not.
Jankaea heldreichii (Boiss.) Boiss.
Leucojum nicaense Ard.
Limonium carthaginense (Rouy) C.E. Hubb. & Sandw.
Limonium cavanillesii Erben
Limonium duforei (Girard) O. Kuntze
Limonium estevei Fdez. Casas
Limonium redivivum (Svent.) Kunkel & Sund.
Limonium todaroanum Raimondo & Pign.
Linaria tursica Valdés & Cabezudo
Nananthea perpusilla (Loisel.) DC.
Narcissus bugei (Fdez. Casas) Fdez. Casas
Ocotea foetens (Aiton) Benth. & Hook. f.
Petagnaea gussonei (Spreng.) Rauschert

Petrocoptis grandiflora Rothm.
Petrocoptis montserratii Fernández Casas
Petrocoptis montsicciana O. Bolós & Rivas-Martínez
Petrocoptis pardoii Pau
Petrocoptis pseudoviscosa Fernández Casas
Petrocoptis viscosa Rothm.
Pimpinella anagodendron Bolle
Pimpinella bicknellii Briq.
Pinguicula nevadensis (Lindb.) Casper
Primula allionii Loisel.
Rhamnus glandulosa Aiton
Rhamnus lojaconoi Raimondo
Rouya polygama (Desf.) Coincy
Rumex azoricus Rech. fil.
Ruta pinnata L.f.
Scabiosa nitens Roemer & Schultes
Scilla hughii Tineo
Senecio malvifolius (L'Herit.) DC.
Seseli farrenyi Molero & Pujadas
Sideritis sventenii (Kunk.) Mend.Heuer
Silene cambessedesii Boiss. & Reuter
Silene diclinis (Lag.) Lainz
Silene hifacensis Rouy ex Willk.
Silene velutina Pourret ex Loisel.
Spergularia azorica (Kunth.) Lebel
Sventenia bupleuroides Font Quer
Trachelium asperuloides Boiss. & Orph.
Tulipa goulimyi Sealy & Turrill
Verbascum litigiosum G. Samp.
Viola cheiranthifolia H. B. & K.
Visnea mocanera L. f.

(R) RARE

Achillea taygetea Boiss. & Heldr.
Aichryson pachycaulon Bolle
Aichryson palmense Webb ex Bolle
Aichryson porphyrogennetos Bolle
Allium pyrenaicum Costa y Vayreda
Ammi huntii H.C. Watson
Aquilegia champagnatii Moraldo, Nardi et La Valva
Arenaria rigida Bieb.
Asphodelus bento-rainhae P. Silva
Asphodelus gracilis Br.-Bl. & Maire
Asphodelus roseus Humbert & Maire
Astragalus wilmottianus Stoj.
Biscutella fontqueri Guinea & Heywood
Brassica insularis Moris
Campanula poscharskyana Degen
Carduncellus dianius Webb
Centaurea carratracensis Lange

Centaurea lainzii Fdez. Casas
Centaurea rothmalerana (Arènes) Dostal
Cistus palhinhae Ingram
Convolvulus caput-medusae Lowe
Crambe scaberrima Webb ex Bramwell
Crocus etruscus Parl.
Daboecia azorica Tutin & E.F. Warb.
Descurainia gilva Svent.
Dianthus diutinus Kit.
Dorycnium broussonetii (Choisy.) Webb & Berth.
Echium hierrense Webb ex Bolle
Echium leucophaeum Webb ex Spr. & Hutch.
Euphorbia maresii Knoche
Euzomodendron bourgaeum Cosson
Geranium dolomiticum Roth.
Geranium rubescens Yeo
Gypsophila papillosa Porta
Helianthemum polygonoides Pein., Mtez.-Parras, Alc. & Esp.
Hieracium valentinum Arv.-Touvet et Rev.
Hippocrepis valentina Boiss.
Hypericum athoum Boiss. & Orph.
Hypericum delphicum Boiss. & Heldr.
Hypericum kelleri Baldacci
Iberis fontqueri Pau
Iberis grosii Pau
Ilex perado Aiton
Iris pamphylica Hedge
Isatis aucheri Boiss.
Isatis bitlisica Davis
Isatis callifera Boiss. et Bal.
Isatis candolleana Boiss.
Isatis cappadocica Desv.
Isatis constricta Davis
Isatis ermenekensis Yildirimli
Isatis huber-morathii Davis
Isatis kozlowskyi Grossh
Isatis lockmanniana Kotschy et Boiss.
Isatis spatella Davis
Isoplexis sceptrum (L.f.) Loudon
Lavatera acerifolia Cav.
Lavatera oblongifolia Boiss.
Leucanthemum arundanum (Boiss.) Cuatrec.
Leucanthemum gracilicaule (Dufour) Alavi & Heywood
Ligusticum corsicum Gay
Limonium gibertii (Sennen) Sennen
Limonium parvibracteatum Pignatti
Limonium rumicifolium (Svent) Kunkel & Sund.
Lithodora oleifolia (Lapeyr.) Griseb.
Lithodora rosmarinifolia (Ten.) Johnston
Lotus campylocladus Webb & Berth.
Maytenus canariensis (Loes.) Kunkel & Sunding

Medicago strasseri Greuter, Matthäs & Risse
Melanoselinum decipiens (Schrader & Wendl.) Hoffmann
Narcissus longispathus Pugsley
Narcissus tortifolius Fdez. Casas
Nepeta teydea Webb & Berth.
Papaver rupifragum Boiss. & Reuter
Petrocoptis crassifolia Rouy
Petrocoptis guarensis Fernández Casas
Petrocoptis hispanica (Willk.) Pau
Picconia azorica (Tutin) Knobl.
Primula palinuri Petagna
Ramonda nathaliae Panc. & Petrov
Ramonda serbica Panc.
Rutheopsis herbanica (Bolle) Hans. & Kunk.
Salix tarraconensis Pau
Salvia blancoana Webb & Helder.
Santolina ligustica Arrigoni
Santolina neapolitana Jordan et Fourr.
Satureja innota (Pau) G. López
Sedum multiceps Coss. & Durien
Sedum pruinatum Link ex Brot.
Senecio palmensis (Chr. Sm. ex Ness) Link. apud Buch.
Sideritis argosphacela (Webb & Berthel.) Clos.
Silene adscendens Lag.
Silene elegans Link ex Brot.
Silene goulimyi Turril
Silene macrorhiza Gay & Durieu ex Lacaita
Silene nocteolens Webb & Berthel.
Silene pindicola Hausskn.
Silene schwarzenbergeri Halacsy
Silene senneni Pau
Tanacetum ferulaceum (Webb) Sch. Bip.
Thymus richardii Pers.
Tinguarra cervariaefolia Parl.
Tolpis azorica (Nutt.) Pinto da Silva

(I) INDETERMINATE

Androcymbium rechingeri Greuter
Limonium castellonense Erben

(K) INSUFFICIENTLY KNOWN

Festuca arenicola (Prod.) Soó
Isatis amani Davis

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* Also found in other areas (not endemic)

ALBANIA

Ramonda serbica Panc.*
Silene schwarzenbergeri Halacsy*

ALGERIA

Cupressus dupreziana A. Camus
Sedum multiceps Coss. & Durien*

AUSTRIA

Artemisia pancicii (Janka) Ronn.*

AZORES

Ammi huntii H.C. Watson
Azorina vidalii (H.C. Watson) Feer
Bellis azorica Hochst. ex Seub.
Chaerophyllum azoricum Trelease
Daboecia azorica Tutin & E.F. Warb.
Euphorbia azorica Seub.
Euphorbia stygiana H.C. Watson
Ilex perado Aiton*
Lactuca watsoniana Trelease
Lotus azoricus P.W. Ball
Melanoselinum decipiens (Schrader & Wendl.) Hoffmann*
Picconia azorica (Tutin) Knobl.
Rumex azoricus Rech. fil.
Scabiosa nitens Roemer & Schultes
Senecio malvifolius (L'Herit.) DC.
Spergularia azorica (Kindb.) Lebel
Tolpis azorica (Nutt.) Pinto da Silva

BALEARIC ISLANDS

Apium bermejoi Llorens
Centaurea balearica Rodr.
Daphne rodriguezii Teixidor
Euphorbia maresii Knoche
Lysimachia minoricensis Rodr.
Naufraga balearica Const. & Cannon*
Pimpinella bicknellii Briq.
Silene cambessedesii Boiss. & Reuter*
Thymus richardii Pers.*

BULGARIA

Arenaria rigida Bieb.*
Astragalus centralpinus Braun Blanquet*
Astragalus dasyanthus Pall.*
Astragalus wilmottianus Stoj.
Capsella thracica Velen.
Carduus thracicus (Velen.) Hayek
Dianthus nardiformis Janka*
Festuca arenicola (Prod.) Soó*
Ramonda serbica Panc.*

CANARY ISLANDS

Aeonium gomeraense (Praeger) Praeger
Aichryson pachycaulon Bolle
Aichryson palmense Webb ex Bolle
Aichryson porphyrogennetos Bolle
Anagyris latifolia Brouss. ex Willd.
Arbutus canariensis Veillard ex Duhamel
Argyranthemum hierrense Humphries
Atractylis arbuscula Svent. & Mich.
Atractylis preauxiana Schultz Bip.
Bencomia exstipulata Svent.
Carex calderae A. Hansen
Cistus osbeckiifolius Webb ex Christ.
Convolvulus canariensis L.
Convolvulus caput-medusae Lowe
Convolvulus lopez-socasii Svent.
Crambe arborea Webb ex Christ.
Crambe scaberrima Webb ex Bramwell
Crepis canariensis (Sch. Bip.) Babç.
Descurainia gilva Svent.
Dorycnium broussonetii (Choisy.) Webb & Berth.
Dracunculus canariensis Kunth.
Echium acanthocarpum Svent.
Echium auberianum Webb & Berth.
Echium handiense Svent.
Echium hierrense Webb ex Bolle
Echium leucophaeum Webb ex Spr. & Hutch.
Echium pininana Webb & Berth.
Euphorbia handiensis Burchd.
Euphorbia lambii Svent.
Euphorbia mellifera Aiton
Genista benehoavensis (Bolle ex Svent.) M. del Arco
Gesnouinia arborea (L.f.) Gaudich
Globularia ascanii Bramwell & Kunkel
Globularia sarcophylla Svent.
Gonospermum gomerae Bolle
Heberdenia excelsa (Aiton) Banks ex DC.
Helianthemum juliae Wildpret

Helichrysum monogynum Burt & Sunding
Hypochoeris oligocephala (Svent. & Bramw.) Lack
Ilex perado Aiton*
Isoplexis chalcantha Svent. & O'Shan.
Lavatera acerifolia Cav.
Lavatera phoenicea Vent.
Limonium arborescens (Brouss.) O. Kuntze
Limonium dendroides Svent.
Limonium fruticans (Webb) O. Kuntze
Limonium imbricatum (Webb & Berthel.) Hubbard
Limonium preauxii (Webb & Berth.) O. Kuntze
Limonium redivivum (Svent.) Kunkel & Sund.
Limonium rumicifolium (Svent) Kunkel & Sund.
Limonium spectabile (Svent.) Kunkel & Sund.
Lotus berthelotii Masferrer
Lotus campylocladus Webb & Berth.
Lotus kunkelii (Esteve) Bramwell & Davis
Lotus maculatus Breitf.
Lugoa revoluta DC.
Maytenus canariensis (Loes.) Kunkel & Sunding
Myrica rivasmartinezii A. Santos
Nepeta teydea Webb & Berth.
Ocotea foetens (Aiton) Benth. & Hook. f.*
Pericallis hadrosoma (Svent.) B. Nord.
Pericallis hansenii (Kunkel) Sund.
Pimpinella anagodendron Bolle
Pulicaria canariensis Bolle
Rhamnus glandulosa Aiton
Ruta pinnata L.f.
Rutheopsis herbanica (Bolle) Hans. & Kunk.
Sambucus palmensis Link in Buch.
Senecio hermosae Pitard
Senecio palmensis (Chr. Sm. ex Ness) Link. apud Buch.
Sideritis argosphacela (Webb & Berthel.) Clos.
Sideritis marmorea Bolle
Sideritis sventenii (Kunk.) Mend.Heuer
Sideroxylon marmulano Banks ex Lowe
Silene nocteolens Webb & Berthel.
Solanum lidii Sunding
Stemmacantha cynaroides (Chr. Sm.) Dittrich.
Sventenia bupleuroides Font Quer
Tanacetum ferulaceum (Webb) Sch. Bip.
Tanacetum oshanahanii Marrero, Febles & Suárez
Tanacetum ptarmiciflorum (Webb) Sch. Bip.
Tinguarra cervariaefolia Parl.
Viola cheiranthifolia H. B. & K.
Visnea mocanera L. f.

CAUCASIA

Isatis cappadocica Desv.*

Isatis kozlowskyi Grossh*

CORSICA

Anchusa crispa Viv.*
Aquilegia litardierei Briq.
Armeria soleirolii (Duby) Godron
Biscutella rotgesii Foucaud
Brassica insularis Moris*
Centranthus trinervis (Viv.) Béguinot*
Colchicum corsicum Baker*
Delphinium pictum Willd.
Ligusticum corsicum Gay
Nananthea perpusilla (Loisel.) DC.*
Naufraga balearica Const. & Cannon*
Rouya polygama (Desf.) Coincy
Sedum multiceps Coss. & Durien*
Silene velutina Pourret ex Loisel.*

CRETE

Androcymbium rechingeri Greuter
Hypericum kelleri Baldacci
Medicago strasseri Greuter, Matthäs & Risse
Tulipa goulimyi Sealy & Turrill*

CZECHOSLOVAKIA

Artemisia pancicii (Janka) Ronn.*

FRANCE

Aquilegia bertolonii Schott*
Astragalus centralpinus Braun Blanquet*
Leucosium nicaeense Ard.
Primula allionii Loisel.*

GREECE

Achillea taygetea Boiss. & Heldr.
Adonis cyllenea Boiss., Heldr. & Orph in Boiss.
Fritillaria conica Boiss.
Hypericum athoum Boiss. & Orph.
Hypericum delphicum Boiss. & Heldr.
Jankaea heldreichii (Boiss.) Boiss.
Ramonda serbica Panc.*
Silene goulimyi Turrill
Silene pindicola Hausskn.
Silene schwarzenbergeri Halacsy*
Trachelium asperuloides Boiss. & Orph.
Tulipa goulimyi Sealy & Turrill*

HUNGARY

Astragalus dasyanthus Pall.*

Dianthus diutinus Kit.*

IRAK

Isatis cappadocica Desv.*

IRAN

Isatis cappadocica Desv.*

ITALY

Aquilegia bertolonii Schott*

Aquilegia champagnatii Moraldo, Nardi et La Valva

Astragalus centralpinus Braun Blanquet*

Barbarea sicula Presl*

Bassia saxicola (Guss.) A.J. Schott*

Crocus etruscus Parl.

Erucastrum palustre (Pirona) Vis.

Haplophyllum patavinum (L.) G. Don fil.

Genista cilentina Valsecchi*

Globularia neapolitana O. Schwarz

Gypsophila papillosa Porta

Ipomoea imperati (Vahl) Griseb.

Isoetes malinverniana Ces. et De Not.

Lithodora rosmarinifolia (Ten.) Johnston*

Primula allionii Loisel.*

Primula palinuri Petagna

Santolina ligustica Arrigoni

Santolina neapolitana Jordan et Fourr.

MADEIRA

Geranium rubescens Yeo

Ilex perado Aiton*

Isoplexis sceptrum (L.f.) Loudon

Melanoselinum decipiens (Schrader & Wendl.) Hoffmann*

Ocotea foetens (Aiton) Benth. & Hook. f.*

MOROCCO

Asphodelus gracilis Br.-Bl. & Maire

Papaver rupifragum Boiss. & Reuter*

PORTUGAL

Asphodelus bento-rainhae P. Silva

Centaurea rothmalerana (Arènes) Dostal

Cistus palhinhae Ingram
Sedum pruinaum Link ex Brot.
Silene elegans Link ex Brot.
Silene macrorhiza Gay & Durieu ex Lacaita*
Verbascum litigiosum G. Samp.

ROMANIA

Arenaria rigida Bieb.*
Astragalus dasyanthus Pall.*
Dianthus nardiformis Janka*
Festuca arenicola (Prod.) Soó*

SARDINIA

Anchusa crispa Viv.*
Brassica insularis Moris*
Centranthus trinervis (Viv.) Béguinot*
Colchicum corsicum Baker*
Nananthea perpusilla (Loisel.) DC.*
Silene velutina Pourret ex Loisel.*

SICILY

Abies nebrodensis (Lojac.) Mattei
Barbarea sicula Presl*
Bassia saxicola (Guss.) A.J. Schott*
Bupleurum elatum Guss.
Cytisus aeolicus Guss.
Genista cilentina Valsecchi*
Limonium optimae Raimondo
Limonium todaroanum Raimondo & Pign.
Lithodora rosmarinifolia (Ten.) Johnston*
Petagnaea gussonei (Spreng.) Rauschert
Rhamnus lojaconoi Raimondo
Scilla hughii Tineo
Thymus richardii Pers.*
Zelkova sicula Di Pasquale, Garfi & Quézel

SPAIN

Abies pinsapo Boiss.
Acanthorrhinum rivas-martinezii (Schez.-Mata) Fdez.-Casas & Schez.-Mata
Allium pyrenaicum Costa y Vayreda
Androcymbium europaeum (Lange) K. Richter
Antirrhinum charidemi Lange
Antirrhinum microphyllum Roth.
Antirrhinum pertegasii Rothm.
Aquilegia cazorlensis Heywood
Artemisia granatensis Boiss.
Asphodelus roseus Humbert & Maire

Atropa baetica Willk.
Biscutella fontqueri Guinea & Heywood
Carduncellus dianius Webb
Centaurea carratracensis Lange
Centaurea lainzii Fdez. Casas
Centaureum rigualii Esteve
Coincya rupestris Rouy
Coronopus navasii Pau
Cytisus moleroi Fdez. Casas
Diplotaxis siettiana Maire
Erodium cazorlanum Heywood
Erodium paularense Fdez. Glez. & Izco
Erodium rupicola Boiss.
Euonymus latifolius Miller
Euphorbia gaditana Cosson
Euzomodendron bourgaeum Cosson
Geranium cazorlense Heywood
Geranium dolomiticum Roth.
Helianthemum polygonoides Pein., Mtez.-Parras, Alc. & Esp.
Hieracium valentinum Arv.-Touvet et Rev.
Hippocrepis valentina Boiss.
Iberis fontqueri Pau
Iberis grosii Pau
Lavatera oblongifolia Boiss.
Leucanthemum arundanum (Boiss.) Cuatrec.
Leucanthemum gracilicaule (Dufour) Alavi & Heywood
Limonium carthaginense (Rouy) C.E. Hubb. & Sandw.
Limonium castellonense Erben
Limonium cavanillesii Erben
Limonium duforei (Girard) O. Kuntze
Limonium estevei Fdez. Casas
Limonium gibertii (Sennen) Sennen
Limonium malacitanum B. Díez Garretas
Limonium parvibracteatum Pignatti
Linaria tursica Valdés & Cabezudo
Lithodora nitida (Ern.) R. Fernandes
Lithodora oleifolia (Lapeyr.) Griseb.
Narcissus bugei (Fdez. Casas) Fdez. Casas
Narcissus longispathus Pugsley
Narcissus nevadensis Pugsley
Narcissus tortifolius Fdez. Casas
Papaver rupifragum Boiss. & Reuter*
Petrocoptis crassifolia Rouy
Petrocoptis grandiflora Rothm.
Petrocoptis guarensis Fernández Casas
Petrocoptis hispanica (Willk.) Pau
Petrocoptis montserratii Fernández Casas
Petrocoptis montsicciana O. Bolós & Rivas-Martínez
Petrocoptis pardoii Pau
Petrocoptis pseudoviscosa Fernández Casas
Petrocoptis viscosa Rothm.

Pinguicula nevadensis (Lindb.) Casper
Pinguicula vallisneriifolia Webb
Rosmarinus tomentosus Huber-Morat & Maire
Salix tarraconensis Pau
Salvia blancoana Webb & Heldr.
Satureja innota (Pau) G. López
Seseli farrenyi Molero & Pujadas
Silene adscendens Lag.
Silene cambessedesii Boiss. & Reuter*
Silene diclinis (Lag.) Lainz
Silene hifacensis Rouy ex Willk.
Silene macrorhiza Gay & Durieu ex Lacaita *
Silene senneni Pau
Silene stockenii Chater

TUNISIA

Brassica insularis Moris*

TURKEY

Centaurea hermannii F. Hermann
Colchicum chalcedonicum Azn.
Colchicum turcicum Janka
Iris pamphylica Hedge
Isatis amani Davis
Isatis arenaria Azn.
Isatis aucheri Boiss.
Isatis bitlisica Davis
Isatis callifera Boiss. et Bal.
Isatis candolleana Boiss.
Isatis cappadocica Desv.*
Isatis constricta Davis
Isatis ermenekensis Yildirimli
Isatis frigida Boiss. et Kotschy
Isatis huber-morathii Davis
Isatis kozlowskyi Grossh*
Isatis lockmanniana Kotschy et Boiss.
Isatis pinnatiloba Davis
Isatis spatella Davis
Isatis undulata Aucher ex Boiss.
Sternbergia candida B. Mathew & Baytop

YUGOSLAVIA

Artemisia pancicii (Janka) Ronn.*
Astragalus dasyanthus Pall.*
Campanula poscharskyana Degen
Dianthus diutinus Kit.*
Dianthus nardiformis Janka*
Ramonda nathaliae Panc. & Petrov
Ramonda serbica Panc.*
Thymus richardii Pers.*

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Aeonium gomeraense (Praeger) Praeger
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Genista benehoavensis (Bolle ex Svent.)
Helianthemum juliae Wildpret
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Trachelium asperuloides Boiss. & Orph.
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Petrocoptis crassifolia Rouy
Petrocoptis grandiflora Rothm.
Silene diclinis (Lag.) Laínz
Silene stockenii Chater

DISTRIBUTION

Adonis cyllenea Boiss., Heldr. & Orph in Boiss.
Antirrhinum charidemi Lange
Aquilegia champagnatii Moraldo, Nardi et La Valva
Arenaria rigida Bieb.
Artemisia pancicii (Janka) Ronn.
Astragalus centralpinus Braun Blanquet
Barbarea sicula Presl
Bassia saxicola (Guss.) A.J. Schott
Dianthus diutinus Kit.
Dianthus nardiformis Janka
Erucastrum palustre (Pirona) Vis.
Festuca arenicola (Prod.) Soó
Fritillaria conica Boiss.
Globularia neapolitana O. Schwarz
Isatis amani Davis
Isatis arenaria Azn.
Isatis aucheri Boiss.
Isatis bitlisica Davis
Isatis callifera Boiss. et Bal.
Isatis candolleana Boiss.
Isatis cappadocica Desv.
Isatis constricta Davis
Isatis ermenekensis Yildirimli
Isatis frigida Boiss. et Kotschy
Isatis huber-morathii Davis
Isatis kozlowskyi Grossh
Isatis lockmanniana Kotschy et Boiss.
Isatis pinnatiloba Davis
Isatis spatella Davis
Isatis undulata Aucher ex Boiss.
Isoetes malinverniana Ces. et De Not.
Limonium optimae Raimondo
Limonium todaroanum Raimondo & Pign.
Lithodora rosmarinifolia (Ten.) Johnston
Petagnaea gussonei (Spreng.) Rauschert
Primula palinuri Petagna
Santolina neapolitana Jordan et Fourr.
Scilla hughii Tineo
Tulipa goulimyi Sealy & Turrill

ECOLOGY

Abies pinsapo Boiss.
Acanthorrhinum rivas-martinezii (Schez.-Mata) Fdez.-Casas & Schez.-Mata
Aeonium gomeraense (Praeger) Praeger
Androcymbium europaeum (Lange) K. Richter
Antirrhinum pertegasii Rothm.
Aquilegia champagnatii Moraldo, Nardi et La Valva
Astragalus centralpinus Braun Blanquet

Barbarea sicula Presl
Bassia saxicola (Guss.) A.J. Schott
Bencomia exstipulata Svent.
Biscutella fontqueri Guinea & Heywood
Bupleurum elatum Guss.
Cistus osbeckiifolius Webb ex Christ.
Crocus etruscus Parl.
Echium acanthocarpum Svent.
Echium auberianum Webb & Berth.
Erodium paularense Fdez. Glez. & Izco
Erucastrum palustre (Pirona) Vis.
Euphorbia lambii Svent.
Genista benehoavensis (Bolle ex Svent.)
Gonospermum gomeræ Bolle
Gypsophila papillosa Porta
Helianthemum juliae Wildpret
Hieracium valentinum Arv.-Touvet et Rev.
Ilex perado Aiton
Isoetes malinverniana Ces. et De Not.
Jankaea heldreichii (Boiss.) Boiss.
Limonium castellonense Erben
Limonium cavanillesii Erben
Limonium dendroides Svent.
Limonium duforei (Girard) O. Kuntze
Limonium optimæ Raimondo
Limonium todaroanum Raimondo & Pign.
Linaria tursica Valdés & Cabezudo
Medicago strasseri Greuter, Matthäs & Risse
Pericallis hansenii (Kunkel) Sund.
Petagnaëa gussonei (Spreng.) Rauschert
Petrocoptis crassifolia Rouy
Petrocoptis pardoii Pau
Pinguicula nevadensis (Lindb.) Casper
Pinguicula vallisneriifolia Webb
Primula palinuri Petagna
Ramonda nathaliae Panc. & Petrov
Ramonda serbica Panc.
Rosmarinus tomentosus Huber-Morat & Maire
Salix tarraconensis Pau
Sambucus palmensis Link in Buch.
Santolina ligustica Arrigoni
Satureja innota (Pau) G. López
Sideroxylon marmulano Banks ex Lowe
Silene stockenii Chater
Stemmacantha cynaroides (Chr. Sm.) Dittrich.
Zelkova sicula Di Pasquale, Garfi & Quézel

EVOLUTION

Petrocoptis crassifolia Rouy
Petrocoptis grandiflora Rothm.

Petrocoptis guarensis Fernández Casas
Petrocoptis hispanica (Willk.) Pau
Petrocoptis montserratii Fernández Casas
Petrocoptis montsicciana O. Bolós & Rivas-Martínez
Petrocoptis pardoi Pau
Petrocoptis pseudoviscosa Fernández Casas
Petrocoptis viscosa Rothm.
Silene adscendens Lag.
Silene cambessedesii Boiss. & Reuter

EXPERIMENTAL HYBRIDIZATION

Petrocoptis crassifolia Rouy
Petrocoptis grandiflora Rothm.
Petrocoptis guarensis Fernández Casas
Petrocoptis hispanica (Willk.) Pau
Petrocoptis montserratii Fernández Casas
Petrocoptis montsicciana O. Bolós & Rivas-Martínez
Petrocoptis pardoi Pau
Petrocoptis pseudoviscosa Fernández Casas
Petrocoptis viscosa Rothm.
Silene adscendens Lag.
Silene cambessedesii Boiss. & Reuter

FLOWERING, FRUIT DEVELOPMENT, POLLINATION

Abies pinsapo Boiss.
Acanthorrhinum rivas-martinezii (Schez.-Mata) Fdez.-Casas & Schez.-Mata
Aeonium gomeraense (Praeger) Praeger
Androcymbium europaeum (Lange) K. Richter
Asphodelus bento-rainhae P. Silva
Asphodelus gracilis Br.-Bl. & Maire
Asphodelus roseus Humbert & Maire
Bencomia exstipulata Svent.
Centaurea hermannii F. Hermann
Cistus osbeckiiifolius Webb ex Christ.
Colchicum chalcedonicum Azn.
Colchicum turcicum Janka
Echium acanthocarpum Svent.
Erodium paularense Fdez. Glez. & Izco
Euphorbia gaditana Cosson
Euphorbia maresii Knoche
Genista benehoavensis (Bolle ex Svent.)
Gonospermum gomerae Bolle
Helianthemum juliae Wildpret
Ilex perado Aiton
Linaria tursica Valdés & Cabezudo
Lithodora nitida (Ern.) R. Fernandes
Medicago strasseri Greuter, Matthäs & Risse
Papaver rupifragum Boiss. & Reuter
Pericallis hansenii (Kunkel) Sund.

Petrocoptis crassifolia Rouy
Petrocoptis grandiflora Rothm.
Petrocoptis guarensis Fernández Casas
Petrocoptis hispanica (Willk.) Pau
Petrocoptis montserratii Fernández Casas
Petrocoptis montsiciana O. Bolós & Rivas-Martínez
Petrocoptis pardoii Pau
Petrocoptis pseudoviscosa Fernández Casas
Petrocoptis viscosa Rothm.
Sambucus palmensis Link in Buch.
Silene adscendens Lag.
Silene cambessedesii Boiss. & Reuter
Silene diclinis (Lag.) Láinz
Silene stockenii Chater
Stemmacantha cynaroides (Chr. Sm.) Dittrich.

GENETICS

Acanthorrhinum rivas-martinezii (Schez.-Mata) Fdez.-Casas & Schez.-Mata
Allium pyrenaicum Costa y Vayreda
Androcymbium europaeum (Lange) K. Richter
Androcymbium rechingeri Greuter
Astragalus dasyanthus Pall.
Astragalus wilmottianus Stoj.
Convolvulus canariensis L.
Convolvulus caput-medusae Lowe
Convolvulus lopez-socasii Svent.
Cytisus aeolicus Guss.
Geranium dolomiticum Roth.
Globularia ascanii Bramwell & Kunkel
Gonospermum gomerae Bolle
Hippocrepis valentina Boiss.
Iberis fontqueri Pau
Iberis grosii Pau
Leucanthemum arundanum (Boiss.) Cuatrec.
Leucanthemum gracilicaule (Dufour) Alavi & Heywood
Lithodora nitida (Ern.) R. Fernandes
Lithodora oleifolia (Lapeyr.) Griseb.
Lugoa revoluta DC.
Lysimachia minoricensis Rodr.
Medicago strasseri Greuter, Matthäs & Risse
Petrocoptis crassifolia Rouy
Petrocoptis grandiflora Rothm.
Petrocoptis guarensis Fernández Casas
Petrocoptis hispanica (Willk.) Pau
Petrocoptis montserratii Fernández Casas
Petrocoptis montsiciana O. Bolós & Rivas-Martínez
Petrocoptis pardoii Pau
Petrocoptis pseudoviscosa Fernández Casas
Petrocoptis viscosa Rothm.
Sideritis sventenii (Kunk.) Mend.Heuer

Silene adscendens Lag.
Silene cambessedesii Boiss. & Reuter
Silene diclinis (Lag.) Lainz
Silene goulimyi Turrit
Silene pindicola Hausskn.
Silene schwarzenbergeri Halacsy
Silene senneni Pau
Silene stockenii Chater
Tanacetum ferulaceum (Webb) Sch. Bip.
Tanacetum oshanahanii Marrero, Febles & Suárez
Tanacetum ptarmiciflorum (Webb) Sch. Bip.
Zelkova sicula Di Pasquale, Garfi & Quézel

GERMINATION, DORMANCY

Abies pinsapo Boiss.
Ammi huntii H.C. Watson
Anagyris latifolia Brouss. ex Willd.
Anchusa crispa Viv.
Androcymbium europaeum (Lange) K. Richter
Androcymbium rechingeri Greuter
Antirrhinum microphyllum Roth.
Aquilegia litardierei Briq.
Armeria soleirolii (Duby) Godron
Asphodelus bento-rainhae P. Silva
Asphodelus roseus Humbert & Maire
Atractylis preauxiana Schultz Bip.
Azorina vidalii (H.C. Watson) Feer
Bellis azorica Hochst. ex Seub.
Biscutella rotgesii Foucaud
Brassica insularis Moris
Carex calderae A. Hansen
Centaurea rothmalerana (Arènes) Dostal
Centranthus trinervis (Viv.) Béguinot
Chaerophyllum azoricum Trelease
Cistus osbeckiiifolius Webb ex Christ.
Cistus palhinhae Ingram
Colchicum corsicum Baker
Convolvulus canariensis L.
Convolvulus caput-medusae Lowe
Convolvulus lopez-socasii Svent.
Crambe arborea Webb ex Christ.
Crambe scaberrima Webb ex Bramwell
Daboecia azorica Tutin & E.F. Warb.
Delphinium pictum Willd.
Descurainia gilva Svent.
Echium acanthocarpum Svent.
Echium handiense Svent.
Erodium paularense Fdez. Glez. & Izco
Euphorbia azorica Seub.
Euphorbia gaditana Cosson

Euphorbia maresii Knoche
Euphorbia stygiana H.C. Watson
Euzomodendron bourgaeum Cosson
Genista benehoavensis (Bolle ex Svent.)
Geranium dolomiticum Roth.
Gonospermum gomerae Bolle
Helianthemum polygonoides Pein., Mtez.-Parras, Alc. & Esp.
Helichrysum monogynum Burt & Sunding
Hypericum athoum Boiss. & Orph.
Hypericum delphicum Boiss. & Heldr.
Hypericum kelleri Baldacci
Hypochoeris oligocephala (Svent. & Bramw.) Lack
Iberis fontqueri Pau
Iberis grosii Pau
Lactuca watsoniana Trelease
Lavatera phoenicea Vent.
Leucanthemum arundanum (Boiss.) Cuatrec.
Leucanthemum gracilicaule (Dufour) Alavi & Heywood
Ligusticum corsicum Gay
Limonium dendroides Svent.
Limonium preauxii (Webb & Berth.) O. Kuntze
Linaria tursica Valdés & Cabezudo
Lithodora nitida (Ern.) R. Fernandes
Lotus azoricus P.W. Ball
Lotus berthelotii Masferrer
Lotus maculatus Breitf.
Medicago strasseri Greuter, Matthäs & Risse
Myrica rivasmartinezii A. Santos
Nananthea perpusilla (Loisel.) DC.
Papaver rupifragum Boiss. & Reuter
Pericallis hansenii (Kunkel) Sund.
Petrocoptis grandiflora Rothm.
Picconia azorica (Tutin) Knobl.
Pulicaria canariensis Bolle
Rouya polygama (Desf.) Coincy
Rumex azoricus Rech. fil.
Rutheopsis herbanica (Bolle) Hans. & Kunk.
Sambucus palmensis Link in Buch.
Scabiosa nitens Roemer & Schultes
Sedum pruinaum Link ex Brot.
Senecio malvifolius (L'Herit.) DC.
Sideritis marmorea Bolle
Silene diclinis (Lag.) Láinz
Silene elegans Link ex Brot.
Silene goulimyi Turril
Silene macrorhiza Gay & Durieu ex Lacaita
Silene pindicola Hausskn.
Silene schwarzenbergeri Halacsy
Silene stockenii Chater
Silene velutina Pourret ex Loisel.
Spergularia azorica (Kindb.) Lebel

Stemmacantha cynaroides (Chr. Sm.) Dittrich.
Tinguarra cervariaefolia Parl.
Tolpis azorica (Nutt.) Pinto da Silva
Verbascum litigiosum G. Samp.

GROWTH, DEVELOPMENT

Androcymbium rechingeri Greuter
Antirrhinum pertegasii Rothm.
Asphodelus bento-rainhae P. Silva
Asphodelus gracilis Br.-Bl. & Maire
Asphodelus roseus Humbert & Maire
Biscutella fontqueri Guinea & Heywood
Capsella thracica Velen.
Carduus thracicus (Velen.) Hayek
Cistus osbeckiifolius Webb ex Christ.
Euphorbia gaditana Cosson
Euphorbia maresii Knoche
Genista benehoavensis (Bolle ex Svent.)
Globularia sarcophylla Svent.
Helianthemum juliae Wildpret
Hieracium valentinum Arv.-Touvet et Rev.
Hypericum athoum Boiss. & Orph.
Hypericum delphicum Boiss. & Heldr.
Hypericum kelleri Baldacci
Leucanthemum arundanum (Boiss.) Cuatrec.
Leucanthemum gracilicaule (Dufour) Alavi & Heywood
Linaria tursica Valdés & Cabezudo
Lithodora nitida (Ern.) R. Fernandes
Medicago strasseri Greuter, Matthäs & Risse
Papaver rupifragum Boiss. & Reuter
Satureja innota (Pau) G. López
Sedum pruinaum Link ex Brot.
Silene goulimyi Turrill
Silene pindicola Hausskn.
Silene schwarzenbergeri Halacsy
Silene stockenii Chater
Stemmacantha cynaroides (Chr. Sm.) Dittrich.

KARYOLOGY

Asphodelus bento-rainhae P. Silva
Asphodelus gracilis Br.-Bl. & Maire
Asphodelus roseus Humbert & Maire
Fritillaria conica Boiss.
Tulipa goulimyi Sealy & Turrill

METABOLISM, ENZYMES

Androcymbium europaeum (Lange) K. Richter
Petrocoptis crassifolia Rouy

Petrocoptis grandiflora Rothm.
Petrocoptis guarensis Fernández Casas
Petrocoptis hispanica (Willk.) Pau
Petrocoptis montserratii Fernández Casas
Petrocoptis montsicciana O. Bolós & Rivas-Martínez
Petrocoptis pardoii Pau
Petrocoptis pseudoviscosa Fernández Casas
Petrocoptis viscosa Rothm.
Silene adscendens Lag.
Silene cambessedesii Boiss. & Reuter

MICROPROPAGATION

Aichryson pachycaulon Bolle
Aichryson palmense Webb ex Bolle
Aichryson porphyrogennetos Bolle
Androcymbium europaeum (Lange) K. Richter
Antirrhinum microphyllum Roth.
Antirrhinum pertegasii Rothm.
Aquilegia cazorensis Heywood
Arbutus canariensis Veillard ex Duhamel
Artemisia granatensis Boiss.
Atractylis arbuscula Svent. & Mich.
Carduncellus danius Webb
Centaurea balearica Rodr.
Centaurea carratracensis Lange
Centaurea lainzii Fdez. Casas
Centaureum rigualii Esteve
Coincya rupestris Rouy
Coronopus navasii Pau
Daphne rodriguezii Teixidor
Dorycnium broussonetii (Choisy.) Webb & Berth.
Echium hierrense Webb ex Bolle
Echium leucophaeum Webb ex Spr. & Hutch.
Echium pininana Webb & Berth.
Erodium paularense Fdez. Glez. & Izco
Euphorbia handiensis Burchd.
Globularia ascanii Bramwell & Kunkel
Globularia sarcophylla Svent.
Haplophyllum patavinum (L.) G. Don fil.
Helianthemum polygonoides Pein., Mtez.-Parras, Alc. & Esp.
Hippocrepis valentina Boiss.
Isoplexis chalcantha Svent. & O'Shan.
Isoplexis sceptrum (L.f.) Loudon
Lavatera acerifolia Cav.
Lavatera oblongifolia Boiss.
Limonium arborescens (Brouss.) O. Kuntze
Limonium carthaginense (Rouy) C.E. Hubb. & Sandw.
Limonium dendroides Svent.
Limonium duforei (Girard) O. Kuntze
Limonium estevei Fdez. Casas

Limonium fruticans (Webb) O. Kuntze
Limonium gibertii (Sennen) Sennen
Limonium imbricatum (Webb & Berthel.) Hubbard
Limonium parvibracteatum Pignatti
Limonium redivivum (Svent.) Kunkel & Sund.
Limonium rumicifolium (Svent) Kunkel & Sund.
Limonium spectabile (Svent.) Kunkel & Sund.
Lotus berthelotii Masferrer
Lotus kunkelii (Esteve) Bramwell & Davis
Medicago strasseri Greuter, Matthäs & Risse
Narcissus longispathus Pugsley
Narcissus nevadensis Pugsley
Narcissus tortifolius Fdez. Casas
Pericallis hadrosoma (Svent.) B. Nord.
Petrocoptis pardoii Pau
Pimpinella anagodendron Bolle
Salix tarraconensis Pau
Salvia blancoana Webb & Heldr.
Senecio hermosae Pitard
Sideritis argosphacela (Webb & Berthel.) Clos.
Sideritis sventenii (Kunk.) Mend.Heuer
Silene hifacensis Rouy ex Willk.
Sventenia bupleuroides Font Quer
Tanacetum oshanahanii Marrero, Febles & Suárez
Thymus richardii Pers.

MORPHOLOGY

Asphodelus bento-rainhae P. Silva
Asphodelus gracilis Br.- Bl. & Maire
Asphodelus roseus Humbert & Maire
Colchicum chalcedonicum Azn.
Colchicum turcicum Janka
Rhamnus lojaconoi Raimondo

PALINOLOGY

Asphodelus bento-rainhae P. Silva
Asphodelus gracilis Br.- Bl. & Maire
Asphodelus roseus Humbert & Maire
Astragalus dasyanthus Pall.
Astragalus wilmottianus Stoj.

PATHOLOGY

Silene stockenii Chater

PHENOLOGY

Abies pinsapo Boiss.
Acanthorrhinum rivas-martinezii (Schez.-Mata) Fdez.-Casas & Schez.-Mata

Aeonium gomeraense (Praeger) Praeger
Androcymbium europaeum (Lange) K. Richter
Bencomia exstipulata Svent.
Cistus osbeckiifolius Webb ex Christ.
Colchicum chalcedonicum Azn.
Colchicum turcicum Janka
Echium acanthocarpum Svent.
Echium auberianum Webb & Berth.
Erodium paularense Fdez. Glez. & Izco
Euphorbia gaditana Cosson
Euphorbia lambii Svent.
Genista benehoavensis (Bolle ex Svent.)
Geranium dolomiticum Roth.
Gonospermum gomerae Bolle
Helianthemum juliae Wildpret
Iberis fontqueri Pau
Iberis grosii Pau
Ilex perado Aiton
Isatis amani Davis
Isatis arenaria Azn.
Isatis aucheri Boiss.
Isatis bitlisica Davis
Isatis callifera Boiss. et Bal.
Isatis candolleana Boiss.
Isatis cappadocica Desv.
Isatis constricta Davis
Isatis ermenekensis Yildirimli
Isatis frigida Boiss. et Kotschy
Isatis huber-morathii Davis
Isatis kozłowskyi Grossh
Isatis lockmanniana Kotschy et Boiss.
Isatis pinnatiloba Davis
Isatis spatella Davis
Isatis undulata Aucher ex Boiss.
Linaria tursica Valdés & Cabezudo
Lithodora nitida (Ern.) R. Fernandes
Medicago strasseri Greuter, Matthäs & Risse
Nepeta teydea Webb & Berth.
Papaver rupifragum Boiss. & Reuter
Pericallis hansenii (Kunkel) Sund.
Petrocoptis crassifolia Rouy
Petrocoptis grandiflora Rothm.
Sambucus palmensis Link in Buch.
Silene diclinis (Lag.) Laínz
Silene stockenii Chater
Stemmacantha cynaroides (Chr. Sm.) Dittrich.

PROPAGATION METHODS

Abies nebrodensis (Lojac.) Mattei
Achillea taygetea Boiss. & Heldr.

Aeonium gomeraense (Praeger) Praeger
Anchusa crispa Viv.
Androcymbium europaeum (Lange) K. Richter
Androcymbium rechingeri Greuter
Antirrhinum charidemi Lange
Apium bermejoi Llorens
Aquilegia bertolonii Schott
Aquilegia litardierei Briq.
Arbutus canariensis Veillard ex Duhamel
Armeria soleirolii (Duby) Godron
Artemisia granatensis Boiss.
Atropa baetica Willk.
Bassia saxicola (Guss.) A.J. Schott
Bencomia exstipulata Svent.
Biscutella rotgesii Foucaud
Brassica insularis Moris
Bupleurum elatum Guss.
Campanula poscharskyana Degen
Centranthus trinervis (Viv.) Béguinot
Colchicum corsicum Baker
Cupressus dupreziana A. Camus
Echium acanthocarpum Svent.
Erodium paularense Fdez. Glez. & Izco
Euphorbia lambii Svent.
Euphorbia mellifera Aiton
Genista benehoavensis (Bolle ex Svent.)
Geranium rubescens Yeo
Gesnouinia arborea (L.f.) Gaudich
Gonospermum gomerae Bolle
Helianthemum juliae Wildpret
Heberdenia excelsa (Aiton) Banks ex DC.
Hypericum athoum Boiss. & Orph.
Hypericum delphicum Boiss. & Heldr.
Hypericum kelleri Baldacci
Ilex perado Aiton
Iris pamphylica Hedge
Jankaea heldreichii (Boiss.) Boiss.
Leucanthemum arundanum (Boiss.) Cuatrec.
Leucojum nicaense Ard.
Limonium dendroides Svent.
Limonium optimae Raimondo
Limonium todaroanum Raimondo & Pign.
Linaria tursica Valdés & Cabezudo
Lithodora nitida (Ern.) R. Fernandes
Lotus berthelotii Masferrer
Lotus campylocladus Webb & Berth.
Maytenus canariensis (Loes.) Kunkel & Sunding
Medicago strasserii Greuter, Matthäs & Risse
Melanoselinum decipiens (Schrader & Wendl.) Hoffmann
Myrica rivasmartinezii A. Santos
Nananthea perpusilla (Loisel.) DC.

Naufraga balearica Const. & Cannon
Nepeta teydea Webb & Berth.
Ocotea foetens (Aiton) Benth. & Hook. f.
Pericallis hadrosoma (Svent.) B. Nord.
Pericallis hansenii (Kunkel) Sund.
Primula allionii Loisel.
Rhamnus glandulosa Aiton
Rhamnus lojaconoi Raimondo
Rouya polygama (Desf.) Coincy
Sambucus palmensis Link in Buch.
Scilla hughii Tineo
Sedum multiceps Coss. & Durien
Sedum pruinaum Link ex Brot.
Senecio palmensis (Chr. Sm. ex Ness) Link. apud Buch.
Seseli farrenyi Molero & Pujadas
Sideroxylon marmulano Banks ex Lowe
Silene goulimyi Turril
Silene pindicola Hausskn.
Silene schwarzenbergeri Halacsy
Silene stockenii Chater
Silene velutina Pourret ex Loisel.
Stemmacantha cynaroides (Chr. Sm.) Dittrich.
Sternbergia candida B. Mathew & Baytop
Trachelium asperuloides Boiss. & Orph.
Viola cheiranthifolia H. B. & K.
Visnea mocanera L. f.

REINTRODUCTION

Aeonium gomeraense (Praeger) Praeger
Anchusa crispa Viv.
Bencomia extipulata Svent.
Cistus osbeckiifolius Webb ex Christ.
Diplotaxis siettiana Maire
Echium acanthocarpum Svent.
Genista benehoavensis (Bolle ex Svent.)
Gonospermum gomerae Bolle
Helianthemum juliae Wildpret
Ilex perado Aiton
Naufraga balearica Const. & Cannon
Pericallis hansenii (Kunkel) Sund.
Rouya polygama (Desf.) Coincy
Sambucus palmensis Link in Buch.
Stemmacantha cynaroides (Chr. Sm.) Dittrich.

REPRODUCTION

Abies pinsapo Boiss.
Androcymbium rechingeri Greuter
Asphodelus bento-rainhae P. Silva
Asphodelus gracilis Br.-Bl. & Maire

Asphodelus roseus Humbert & Maire
Diplotaxis siettiana Maire
Erodium paularense Fdez. Glez. & Izco
Euphorbia gaditana Cosson
Geranium dolomiticum Roth.
Hypericum athoum Boiss. & Orph.
Hypericum delphicum Boiss. & Heldr.
Hypericum kelleri Baldacci
Ilex perado Aiton
Leucanthemum arundanum (Boiss.) Cuatrec.
Leucanthemum gracilicaule (Dufour) Alavi & Heywood
Linaria tursica Valdés & Cabezudo
Lithodora nitida (Ern.) R. Fernandes
Lithodora oleifolia (Lapeyr.) Griseb.
Medicago strasseri Greuter, Matthäs & Risse
Papaver rupifragum Boiss. & Reuter
Pericallis hansenii (Kunkel) Sund.
Petrocoptis crassifolia Rouy
Petrocoptis grandiflora Rothm.
Petrocoptis guarensis Fernández Casas
Petrocoptis hispanica (Willk.) Pau
Petrocoptis montserratii Fernández Casas
Petrocoptis montsicciana O. Bolós & Rivas-Martínez
Petrocoptis pardoii Pau
Petrocoptis pseudoviscosa Fernández Casas
Petrocoptis viscosa Rothm.
Sambucus palmensis Link in Buch.
Sedum pruinatum Link ex Brot.
Silene adscendens Lag.
Silene cambessedesii Boiss. & Reuter
Silene diclinis (Lag.) Láinz
Silene goulimyi Turril
Silene pindicola Hausskn.
Silene schwarzenbergeri Halacsy
Silene stockenii Chater

TAXONOMY

Crocus etruscus Parl.
Cytisus aeolicus Guss.
Genista cilentina Valsecchi
Ipomoea imperati (Vahl) Griseb.
Lithodora rosmarinifolia (Ten.) Johnston

INSTITUTIONS

Botanischer Garten der Universität Bonn
Bonn, Germany

Botanischer Garten und Botanisches Museum
Berlin-Dahlem
Königin-Luise-Str. 6-8
D-14191 Berlin, Germany

Bulgarian Academy of Sciences
Botanical Garden
P.O. Box 664
1000 Sofia, Bulgaria

Bulgarian Academy of Sciences
Institute of Botany
1113 Sofia, Bulgaria

Centro Ecológico de La Laguna, ICONA
Carretera de La Esperanza Km. 2
La Laguna, Tenerife, Spain
Phone: 34 22 259903 / 263898

Chicago Botanic Garden
Glencoe, USA

City of Liverpool Botanic Gardens
Liverpool, Great Britain

Conservatoire Botanique de Brest
52 Allée du Bot
F-29200 Brest, France
Phone: 33 98 418895

Conservatoire Botanique National de
Porquerolles
Castel Sainte-Claire
Rue du Castel Ste. Claire
F-83400 Hyeres, France
Phone: 33 94 653298
Fax: 33 94 658483

Conservatoire et Jardin Bot.
Geneva, Switzerland

Dip. Biologia
Via Trieste 75
I-35121 Padova, Italy

Dip. Biología Ambiental Sec. Botánica
Via P.A. Mattioli 4
I-53100 Siena, Italy

Dip. Biología Vegetal
Via Foria 223
I-80139 Napoli, Italy
Phone: 39 81 440681
Fax: 39 81 450165

Dip. Scienze Botaniche
Via Archirafi 38
I-90123 Palermo, Italy
Phone: 39 91 6161493

E.U. Politécnica
Dpto. Biología Vegetal
Campus Universitario de Almería
Almería, Spain

Est. Inter. Biol. Mediterránea
Jardín Botánico "Marimurtra"
E-17300 Blanes, Girona, Spain
Phone: 34 72 330826

Hacettepe Üniversitesi
Fen Fakültesi Biyoloji Bölümü
Beytepe 06532, Ankara, Turkey
Phone: 90 4 2352500 / 1321

I.Ü. Fen Fakültesi, Botanik Anabilim Dalı
Süleymaniye - Istanbul, Turkey

Institut National de la Recherche Agronomique
Antibes, France

Instituto Botanico "Hanbury"
Università-Corso Dogali, 1/C
Genova, Italy

Instituto Pirenaico de Ecología (C.S.I.C.)
Apdo. 64
E-22700 Jaca, Huesca Spain
Phone: 34 74 361441
Fax: 34 74 363222

Instituto Valenciano de Investigaciones Agrarias
Dpto. Cultivo de Tejidos Vegetales
Moncada, Valencia, Spain

Istituto ed Orto Botanico della Università
Pisa, Italy

Istituto di Botanica
Via Muroli 25
I-07100 Sassari, Italy
Phone: 39 79 237087

Jardín Botánico de Córdoba
Dpto. Ciencias y Recursos Agrícolas y
Forestales
Avda. de Linneo s/n
E-14004 Córdoba, Spain
Phone: 34 57 200077 / 200018
Fax: 34 57 295333

Jardín Botánico "Viera y Clavijo"
Apto. Correos 14 de Tafira Alta
E-35017 Las Palmas de Gran Canaria, Spain

Jardín de Aclimatación de la Orotava, CITA
Puerto de la Cruz
E-38400 Tenerife, Spain
Fax: 34 22 383572

Parc Zoologique et Botanic de Mulhouse
Mulhouse, France

Royal Botanic Gardens Edinburgh
Edinburgh, EH3 5LR, Scotland, Great Britain

Royal Botanic Gardens Kew
Micropropagation Unit
Kew, Richmond, Surrey TW9 3AB, Great Britain
Phone: 44 81 3325517
Fax: 44 81 3325524

Universidad Complutense
Dpto. Biología Vegetal I
Facultad de Biología
E-28040 Madrid, Spain
Phone: 34 1 5490029 / 5492382

Universidad Complutense
Dpto. Biología Vegetal II (Botánica)
Facultad de Farmacia
E-28040 Madrid, Spain
Phone: 34 1 5821769 / 5821770

Universidad de Murcia
Dpto. Biología Vegetal (Botánica)

Facultad de Biología
30071 Murcia, Spain
Phone: 34 68 833000 Ext. 2378
Fax: 34 68 835418

Universidad de Santiago
Laboratorio de Botánica
Facultad de Farmacia
E-15706 Santiago de Compostela, Spain
Phone: 34 81 595280

Universidad de Sevilla.
Dpto. Biología Vegetal y Ecología
Facultad de Biología
Avda. Reina Mercedes s/n
E-41080 Sevilla, Spain

Universidad de Sevilla
Dpto. Biología Vegetal y Ecología
Facultad de Farmacia
Prof. García González, s/n.
E-41012 Sevilla, Spain.
Phone: 34 5 4556787
Fax: 34 5 4233765

Universidad Politécnica de Madrid
Dpto. Biología Vegetal
E.T.S.I. Agrónomos
E-28040 Madrid, Spain
Phone: 34 1 3365657
Fax: 34 1 3365656

Universidade dos Açores
Dpto. de Biologia
Rua Mac de Deus 58, Apart. 1422
P-9502 Ponta Delgada Codex, Portugal

Universidade Técnica de Lisboa
Dpto. de Botânica e Engenharia Biológica
Instituto Superior de Agronomia
Tapada da Ajuda
P-1399 Lisboa Codex, Portugal

Universitat de les Illes Balears
Dpto. Biología y Ciencias, Salut. Botánica,
Fac. Ciencias
E-07071 Palma de Mallorca, Spain
Phone: 34 71 207111
Fax: 34 71 200741

Universitat de les Illes Balears
Laboratori de Fisiología Vegetal
Dep. de Biología I.C.S.
E-07071 Palma de Mallorca, Spain

Universitat de València
Dpto. Biología Vegetal
Facultat de Ciències Biològiques
C/Dr. Moliner 50
E-46100 Burjassot, Valencia, Spain
Phone: 96 3864300
Fax: 96 3864372

Universitat de València
Dpto. Biología Vegetal
Facultad de Farmacia
Avda. Vicente Andrés Estellés s/n
E-46100 Burjassot, Valencia, Spain

Universitat de València
Dpto. Genética
c/ Dr. Moliner, 50
E-46100 Bujassot, Valencia, Spain

University of Belgrade
Institute of Botany and Botanical Garden
Faculty of Biology
Yugoslavia

University of Copenhagen
Botanical Laboratory
140 Gothersgade
DK-1123 Copenhagen, Denmark

University of Istanbul
Dept. Biology
T-34460 Süleymaniye, Istanbul, Turkey

University of Patras
Botanical Institute
Department of Biology,
G-26010 Patras, Greece

University of Sofia
Biological Faculty, Dept. of Botany
buld. Dr. Tzankov 8
1421 Sofia, Bulgaria

Uppsala University
Institute of Ecological Botany
Box 559

S-75122 Uppsala, Sweden

Phone: 46 18 182862

Fax: 46 18 553419