

EURO+MED PLANTBASE

PREPARATION OF THE INITIAL CHECKLIST: DATA STANDARDS

**VERSION 2.8
JULY 5TH, 2002**

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Compiled for the Euro+Med PlantBase Editorial Committee by:

Euro+Med PlantBase Secretariat,
Centre for Plant Diversity and Systematics,
School of Plant Sciences,
The University of Reading,
Whiteknights,
Reading RG6 6AS
United Kingdom

Tel: +44 (0)118 9318160
Fax: +44 (0)118 975 3676
E-mail: euromed.plantbase@reading.ac.uk

Modifications made in Version 2.0 (24/11/00)

1. Section 2.4 as been corrected to note that geography should be added for hybrids as well as species and subspecies.
2. Section 3 (Standard Floras) has been modified to reflect the presently accepted list. This may be subject to further modification as the project proceeds.
3. Section 4 (Family Blocks) – genera have been listed where this clarifies the circumscription of blocks.
4. Section 5 (Accented Characters) – now included in the document with examples.
5. Section 6 (Geographical Standard) – Macedonia (Mc) is now listed as Former Yugoslav Republic of Macedonia.

Modification made in Version 2.1 (10/01/01)

Page 26: Liliaceae in Block 21 has been corrected to Lilaeaceae.

Modifications made in Version 2.2 (4/5/01)

Geographical Standards. Changes made as discussed at Palermo General meeting (Executive Committee):

Treatment of Belgium and Luxembourg as separate areas

Shetland *not* Zetland

Moldova *not* Moldavia

Czech Republic *not* Czechia

Nagorny Karabakh *not* Nagorno-Karabakh

Abkhazia *not* Abkhaziya

Adzaria *not* Adzarya, Adjaria or Adzharia

Corse *not* Corsica

Faroe Islands *not* Færøerne

Georgia *not* Gruzija

In Rf (C): Nizhniy Novgorod, *not* Nishny Novgorod

Orel [or Orlov] *not* Orlovskaya

Tver *not* Kalininskaya

Vladimir *not* Ivanov

In Rf (E): Vyatka *not* Kirov

Udmurtia *not* Udmurtiya

Bashkortostan *not* Bashiriya

Tatarstan *not* Mari Tatariya

Yekaterinberg has been added

Rf (K) is referred to as Kaliningrad Region *not* Kaliningrad Oblast

Rf (CS): Ingushetia *not* Inguhetiya

Kabardino-Balkaria *not* Karacheyevo-Balykariya
Krasnodar & Adygean Republic *not* Krasnodar
Alania (North Ossetia) *not* Severo Osetiya
Karachav-Cherkessia has been added
Rf (N): Arkhangelskaya *not* Arkangelsk or Arkhangel
Rf (NW): Leningrad (incl. city of St Petersburg) added
Rf (A): Franz Joseph Land *not* Franz Joseph Archipelago
Björnöya *not* Bear Island
European Kazakjstan has been excluded

Modifications made in Version 2.3 (5/12/01)

Yekaterinburg removed from Rf(E)

Modifications made in Version 2.4 (14/02/02)

1. Section 6: Nagorny Karabakh changed to Former autonomous oblast of Nagorny Karabakh.

Modifications made in Version 2.5 (05/04/02)

Page 37: Code for Slovakia, Sl, changed to Sk.
Page 37: Code for Slovenia, Sv, changed to Sl.
Page 37: Code for Sicilia, Sc, changed to Si (S)
Page 37: Territories included in Sicilia changed **from:** Sicilia with Pantelleria, Isole Pelagie, Isole Lipari, Ustica; excluding Malta Archipelago **to** Sicilia, Ustica, Egadi Islands, Pantelleria, Pelagie islands and Eolie Islands.
Page 36-37: Code for Malta, Me, changed to Si (M).

Modifications made in Version 2.6 (24/04/02)

Page 36: Code for Spanish North African Territories Ma (S) changed to Ma (E); Code for Western Sahara Ma (W) changed to Ma (S).
Page 36: The former Yugoslav Republic of Macedonia Mc, changed to The former Yugoslav Republic of Makedonija Mk.
Page 37: Federal Republic of Yugoslavia Yu changed to Serbia & Montenegro SM.
Subdivisions of SM changed as follows:
Yu (M) changed to SM (M) = Montenegro
Yu (S) and Yu (K) joined to form SM (S) = Serbia including Kosovo and Vojvodina.
Page 35: Greek East Aegean Islands [AE] changed to East Aegean Islands. This has been subdivided as follows:
AE (G) = Greek East Aegean Islands (excluding Gökçeada)

AE (T) = Turkish East Aegean Islands, i.e. Bozcaada.

Page 36: Description for Greece [Gr] has been amended to: Greece, excluding the islands included under Kriti and the Greek East Aegean Islands, AE (G).

Page 38: Description for Turkey [Tu] has been amended to: Turkey, excluding Turkish East Aegean Islands [AE (T)].

Page 38: Tu (A) Asiatic Turkey (Anatolia) [includes Tenedos] has been amended to: Asiatic Turkey (Anatolia), excluding Bozcaada.

Page 38: Tu (E) Turkey-in-Europe [includes Imroz] has been amended to: Turkey-in-Europe, includes Gökçeada.

Page 41: The former Yugoslavia; see Yu, BH, Ct, Mc, Sv has been changed to: The former Jugoslavia; see SM, BH, Ct, Mk, Sl.

Modifications made in Version 2.7 (16/05/02)

Page 35: The subdivision of Azerbaijan, Ab(A) has been broadened to include the former autonomous oblast of Nagorny-Karabakh. This territory was previously included as a subdivision of Armenia.

Page 35: Armenia (Ar) no longer includes a subdivision for the former autonomous oblast of Nagorny-Karabakh.

Modifications made in Version 2.8 (05/07/02)

Page 35: The following paragraph has been added:

Like TDWG, Euro+Med is an international initiative, open to people from all nations, and the geographical system presented here is intended solely for the purpose of clarity of communication. It should not be taken to imply recognition of any government, any political persuasion, or any political boundary. In disputed territories Euro+Med PlantBase follows a consistent policy of only accepting those national boundaries which are currently recognised by the United Nations.

Page 35: The description of the territory of Azerbaijan, has been amended to read@
Ab Azerbaijan. This comprises:
Ab(A) Azerbaijan
Ab(N) Nakhichevan

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1 Introduction

Euro+Med PlantBase aims to provide an on-line database and information system for the vascular plants of Europe and the Mediterranean against an up-to-date and critically evaluated taxonomic core. It will provide a rich resource of information on the plant diversity of the Euro-Mediterranean region which will be of use to a wide variety of users including professional botanists, agronomists, foresters, horticulturalists, conservationists, environmental planners and national and international organisations. In addition to an on-line database, CD-ROM and hard copy outputs will be produced which will be tailor-made to suit specific user requirements. The project has received initial backing from the European Commission for three years and the specific outputs from this phase of the project are outlined in Section 8. Further details of the project may be obtained from the website: <http://www.euromed.org.uk>.

Preparation of the initial Euro+Med PlantBase Checklist constitutes Workpackage 3 of the EU-funded project. The aim is to produce an electronic working plant list for the Euro-Mediterranean region based on major floristic works which can then be used as a tool for the rest of the project.

The project covers all vascular plants of Europe and the Mediterranean, including ferns and fern allies. The following are included: native species; naturalized aliens; frequently occurring casuals; frequent and well characterised hybrids; crop weeds; plants that are conspicuously cultivated outdoors (including crops planted on a field-scale and street and roadside trees, but not commonly grown park and garden plants.

The geographical area covered includes all of Europe¹, the Caucasus, Asiatic Turkey and the East Aegean Islands, Syria, Lebanon, Israel, Jordan, Cyprus, Egypt, Libya, Tunisia, Algeria, Morocco and Macaronesia. A full list of geographical territories covered by the project is provided in Section 6.

The initial checklist produced during Workpackage 3 will be evaluated by taxonomic and floristic experts, a process which will result in a synonymic checklist of European plants, the identification of priority taxa for revision and the production of a work plan for taxonomic revisions.

Five Centres are involved in the Workpackage: Sevilla (the Workpackage Co-ordinating Centre), Bratislava, Palermo and Sofia are responsible for data gathering and inputting; Reading is responsible for upgrading and maintaining the database using the existing ESFEDS database as a starting point. The Secretariat at Reading, in co-operation with Sevilla, will co-ordinate the expert evaluation of the checklist.

¹ The eastern boundary of Europe in Russia and Kazakhstan follows the definition of *Flora Europaea* (Tutin et al. 1968—1980; 1993): from the Arctic Ocean along the Kara River to 68°N, thence along the crest of the Ural Mts (following administrative boundaries) to 58°30'N; thence by an arbitrary straight line to a point 50km east of Sverdlovsk, and by another arbitrary straight line to the head-waters of the Ural River (south of Zlatoust); thence along the Ural River to the Caspian Sea.

This data-input stage of the project will involve the addition of the following types of data to the database:

1. Taxon name.
2. Author citation.
3. Place of publication.
4. Basionym
5. Geographical distribution.
6. Status (native/naturalised/cultivated).
7. World Distribution Completeness (is it endemic to the Euro+Med region?)
8. Bibliographic details (Flora from which the data was obtained).
9. Source (Centre/person inputting the data).

The initial input of data is timetabled for the first twelve months of the project. However, it should be possible to spread this operation over 18 months or more as the evaluation of the list that is scheduled for completion at 18 months into the Project and collation and editing will start as soon as possible and run in parallel with the extraction phase.

The aim of this document is to serve as resource for data input centres by describing the data standards used in the project.

Centre	Euro+Med Territories Covered
Bratislava	Austria, Belgium, Czech Republic, Denmark, Finland, Germany, Hungary, Iceland, Liechtenstein, Luxembourg, Netherlands, Norway, Poland, Slovak Republic, Sweden, Switzerland
Palermo	Corse, Cyprus, East Aegean Islands, Egypt, Greece, Israel, Italy, Jordan, Kriti, Lebanon, Libya, Malta, San Marino, Sardegna, Sicilia, Sinai, Syria, Turkey (Turkey-in-Europe and Asiatic Turkey), Vatican City
Sevilla	Andorra, Algeria, Azores, Baleares, Canary Is., France, Gibraltar, Great Britain, Ireland, Madeira, Monaco, Morocco, Northern Ireland, Portugal, Selvagens, Spain, Spanish North African Territories, Tunisia
Sofia	Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Estonia, Georgia, Kazakhstan, Krym, Latvia, Lithuania, Macedonia, Moldova, Romania, Russia, Serbia, Slovenia, Ukraine, Yugoslavia

Table 1 Regions covered by each of the four Data-Input Centres

2 Data Standards

The consistent application of data standards will greatly facilitate the preparation of the initial checklist. It is consequently essential that all centres adopt the same standards and protocols for data entry. The standards detailed below cover all data types to be added to the database during the data inputting process, namely: taxon names; author strings; places of publication; geographical distribution data; status of occurrence (including endemism) data; bibliographic details; sources; notes. The agreed standards are, for the most part, derived from, or consistent with, the TDWG standard where applicable.

2.1 Taxon names

Validly published taxon names of the following ranks only should be added to the database:

1. Families
2. Genera
3. Species and subspecies.

Note: Intraspecific taxa other than subspecies *should not* be included.

4. Well characterised hybrids.

Note: Hybrids should be indicated by placing a letter 'x' either before the name of a hybrid (e.g. 'x *intermedium*' for *Geum x intermedium*) or, in cases where the hybrid has not been named, between the specific epithets of the two parent species (e.g. '*dioica x latifolia*' for *Silene dioica x latifolia*). In both cases, the 'x' should be separated from the epithet by a single space. A multiplication sign (×) should not be used.

2.2 Author string

The Authority String Citation should follow the IPNI author index standard. In instances where author names are not included in this standard, the names should be given in the notes field, in full, complete with initials. The Secretariat should be informed of this action. Where author names contain characters that are not available using IBM-compatible software, the codes provided in Section 5 should be used.

The IPNI database is continually upgraded. However, all data input centres should use the copy of the IPNI database, available as an electronic database linked to PANDORA.

The following conventions for author citations should be followed :

1. Single spaces should be inserted either side of the following: brackets; 'sensu'; '&'; standard author abbreviations which include single spaces (e.g. Font Quer for Pio Font Quer). Spaces should not be used to separate initials of authors

names.

R.Br. is the abbreviation to be used for Robert Brown (1773 – 1858).

R. Br. should not be used.

2. ‘&’ should be used for ‘and’

3. Where ‘ex’ may be used in citing an authority, as in:

Draba corymbosa R.Br. ex DC.

only the validating author should be cited, i.e.:

Draba corymbosa DC.

4. Where ‘in’ may be used in citing an authority, only the author of the name should be cited. The author(s) or editor(s) of the work in which the protologue was published should not be included in the author citation:

Draba dedcana Boiss. & Reut. is the format of author citation to be used for this species.

Draba dedcana Boiss. & Reut. in Boiss should not be used

[Note: the author/editor of the Place of Publication is indicated in *Place of Publication*].

5. Where ‘non’ may be used in citing an authority, as in:

Draba tomentosa sensu Hegi non Clairv.

the ‘non’ and following author(s) should be omitted:

Draba tomentosa sensu Hegi

6. Authorities should be cited in full; ‘& al.’ should not be used unless it is absolutely necessary:

Asplenium trichomanes subsp. *coriaceifolium* Rasbach, K.Rasbach, Reichst. & Bennert is the format of author citation to be used for this species.

Asplenium trichomanes subsp. *coriaceifolium* Rasbach & al. should not be used.

2.3 Place of publication

The Place of Publication should be abbreviated according to the TDWG standard, or

where no abbreviation exists, should be given in full. For characters not available using IBM-compatible software, the codes provided in Section 5 should be used.

The TDWG standard for book titles is:

Stafleu, F. A. and R. S. Cowan (1976 – 1988). *Taxonomic Literature*, Second edition. Vols. 1– 7. Bohn, Scheltema and Holkema, Utrecht.

Stafleu, F. A. and E. A. Mennega (1992 – 1999). *Taxonomic Literature Supplements*. Vols. 1 – 6. Koeltz Scientific Books, Königstein, Germany.

TL-2 and TL-2 supplements vols. 1—4 are available as an electronic database linked to PANDORA.

For periodicals, the TDWG standard is:

Bridson, G. D. R. and E. R. Smith (1991). *Botanico-Periodicum-Huntianum/Supplementum*. Hunt Institute for Botanical Documentation, Pittsburgh.

This is similarly available as an electronic database linked to PANDORA.

2.4 Distribution and status of occurrence

Distribution and status of occurrence should be completed for species, subspecies and hybrid entries only.

An agreed list of Euro+Med PlantBase territories has been produced and the presence of a taxon in each of the territories should be recorded together with the following information where available: status (native/introduced); the introduction agency where appropriate; cultivated status, where appropriate; world distribution completeness. Data is recorded using the TDWG POSS Standard. The recording scheme is explained below.

2.4.1 Geographical territories

The list of geographical territory names and codes for use in the Euro+Med PlantBase project is listed in Section 2.4.15. The codes are, for the most part, based on those used in *Flora Europaea* and *Med-Checklist*, with alterations or additions made where necessary. Each territory is represented by a two letter code. Thus, Albania, for example, is represented by the code Al. However, in some cases, areas represented by a two letter code are further subdivided, for example, Au [Austria with Liechtenstein], comprises two subunits: Au(A) [Austria] and Au(L) [Liechtenstein].

The geographical territory scheme is compatible with the TDWG geographical

standard (Brummitt, in press). In cases of ambiguity or uncertainty in the boundaries of territories, the maps provided by Brummitt (in press) are considered definitive for the purposes of this project. The names and boundaries adopted do not imply the recognition of any government, political persuasion or political boundary and whilst the scheme is broadly based on political boundaries in 1999, the scheme is designed solely for the purpose of clarity of communication of data on the distribution of organisms.

All TDWG level 4 Basic Recording Units within the Euro+Med region are represented in the Geographical Territory Standard with the exception of those of North Caucasus. The North Caucasus Euro+Med geographical territory [Rf(CS)] corresponds with the TDWG level 3 area NCS. With this exception, all other Euro+Med Geographical Units either:

1. Correspond exactly with TDWG level 4 Basic Recording Units. For example, Ag (Algeria) corresponds exactly with the TDWG level 4 Basic Recording Unit ALG-OO.
2. Are subdivided so that the subunit in the Euro+Med Geographical Standard corresponds with a TDWG level 4 Basic Recording Unit. For example, Be (Belgium with Luxembourg) comprises two subunits, Be(B) (Belgium) and Be(L) (Luxembourg) which correspond with the TDWG Basic Recording Units BGM-BE and BGM-LU respectively.
3. Comprise a number of subunits which collectively correspond to a TDWG level 4 Basic Recording Unit. This situation occurs when the Euro+Med Geographical Territory Standard provides greater resolution of geographical areas than does the TDWG standard. For example, Bl (Balears) comprises three subunits: Bl(I) (Ibiza); Bl(M) (Mallorca); Bl(N) (Menorca). The three subunits are not represented by TDWG level 4 codes. However, Bl corresponds with the TDWG Basic Recording Unit BAL-OO.

Spellings follow the TDWG Standard (Brummitt, in press) for all territories listed in this work. Local spellings, where these differ, are only adopted for territories which are included in the Euro+Med Geographical Territory Standard but are not included in the TDWG Geographical Territory Standard (for example, the islands comprising the Azores).

In addition to those territories and codes which should be used by authors of revisions to record the distribution of taxa (Section 6), there are also a number of 'Additional Territories', listed in Section 7. These comprise geographical territories which were used in either *Flora Europaea* (and consequently in the initial Euro+Med database) or in *Med-Checklist* but are outdated or unsuitable. An example of such an 'Additional Territory' is Rs(W). This comprises Ukraine [Uk(U)]. Moldova, [Mo]; and a number of oblasts of the Russian Federation belonging to the Euro+Med PlantBase geographical territory Rf(C).

Following the Checklist Upgrading Process the distributions of taxa may be recorded

in the database using these codes. Authors of new revisions are asked to convert these data into the Euro+Med Standard Territories. For example, if an author is supplied with the information that a plant is present in Rs(W), he/she should attempt to ascertain and record in which of the Standard Territories the plant is distributed (i.e. Uk(U), Mo and Rf(C)). The relationship between ‘Additional Territories’ and ‘Standard Territories’ is illustrated in Section 7.

The territory code EM [Euro+Med PlantBase Area] is included to allow assessments of taxon endemism to be made. It is used to indicate whether or not a particular taxon is confined to the Euro+Med area (see Section 2.4.2) below).

2.4.2 Status and Endemism

Geographical data are recorded in the database using the TDWG Plant Occurrence and Status Scheme [POSS] (WCMC, 1995). The POSS standard deals with a wide range of information relating to the distribution, status (native, introduced, cultivated) and level of endemism of taxa. The scheme comprises seven Data Fields, namely: Occurrence, Native Status, Introduced Status, Introduction Agency, Cultivated Status, Area Distribution Completeness and World Distribution Completeness.

The Data Field descriptions below and the Data Value definitions provided in Tables 2—8 are entirely consistent with the TDWG standard, although the definitions are less inclusive than those of TDWG. Thus, all plants included as ‘Introduced’ in the Euro+Med PlantBase system would also be included as Introduced following the TDWG definitions. However, infrequent casuals, which are not included in Euro+Med PlantBase as ‘Introduced’, could be included in the more inclusive TDWG category ‘Introduced’.

In Tables 2—8, those values most commonly used by Data Inputters are indicated in bold.

Data Field 1. Occurrence: defines whether or not the plant in question occurs in the area concerned regardless of its status. The values that may be recorded in this Data Field are given in Table 2.

Data Field 2. Native Status: defines whether or not the plant is Native in the area concerned using the values outlined in Table 3.

Data Field 3. Introduced Status: used to record whether or not the plant is introduced in the area concerned. Cultivated species are not recorded as introduced. Only plants that are naturalised (i.e. well established and successfully reproducing either sexually or asexually) or which are frequently occurring casuals are included. The values that may be recorded in this data field are defined in Table 4.

Data Field 4. Introduction Agency: this is completed when the means of introduction of an introduced taxon (see Data Field 3, above) is known. The use of this data field must therefore be restricted to cases where there are clear records showing the recent

arrival of a species in an area in which it has never been recorded before, along with evidence about the means of arrival. The values are defined in Table 5.

Data field 5. Cultivated Status: used to record whether or not the plant is cultivated in the area concerned. Cultivated plants are defined as species that are conspicuously cultivated outdoors (including species cultivated on a field-scale and street and roadside trees). The values for use in this field are defined in Table 6.

Data Field 6. Area Distribution Completeness: concerns the completeness of POSS records for a given plant area. **It is designed for use with TDWG Geographical Territories of levels 1 – 3 and need not be considered by data inputters.** The available values are provided, for information only, in Table 7.

Data Field 7. World Distribution Completeness: allows the area of endemism for each taxon to be calculated by indicating whether or not the plant-area records in the database represent the complete world native distribution for the plant. The values for use in Data Field 7 are defined in Table 8. This field should be completed as follows:

For taxa that are endemic to an individual Euro+Med territory, Data Field 7 should be completed for that territory.

E.g. *Armeria eriophylla* Willk. is endemic to Portugal and the value ‘C’ should be entered into Data Field 7 for the territory Lu [Portugal].

For taxa which are endemic to the Euro+Med area, Data Field 7 should be completed for the territory E+M.

E.g. *Clematis cirrhosa* L. is endemic to the Euro+Med area and the value ‘C’ should be entered into Data Field 7 for the territory E+M [Euro+Med PlantBase Area].

Code	Value	Explanation
P	Present	The plant is present in the area and meets the criteria for inclusion in Euro+Med PlantBase (i.e. it is either a native species, naturalized alien, frequently occurring casual, frequent and well characterised hybrid, crop weed, or a plant that is conspicuously cultivated outdoors (either a crop planted on a fieldscale or street tree but not a commonly grown park or garden plant) Adventives, casuals etc. are not included although noxious weeds (other than those that have become naturalised which will be included for that reason) may be recorded).
S	Assumed Present	It is highly probable that the plant does occur in the area.
D	Doubt about presence	There is doubt about whether the plant presently occurs in the area. This might be because all records are very old, locality details are uncertain, etc.
E	Extinct	The plant was once in the area (P or S) or may once have been in the area (D) but is now extinct in the area.
F	Recorded as present in error	The plant has been recorded as present in the area concerned but the record has been discounted or disproved.
A	Absent	There are no records to suggest that a plant has ever occurred in the area concerned.

Table 2 Codes for recording Occurrence (Data Field 1)

Code	Value	Explanation
N	Native	The taxon is native (autochthonous) within the area concerned (as contrasted with 'Introduced' and 'Cultivated' defined in Tables 4 & 6 below)
S	Assumed to be native	Assumed to be native to the area concerned.
D	Doubtfully native	There is doubt as to whether the status of the plant in the area concerned is native or not.
E	Formerly native (extinct)	The plant is native, doubtfully native or assumed to be native in the area concerned and has become extinct as such.
A	Not native	The plant is definitely not native.
F	Recorded as native in error	The plant has been recorded as native in the area concerned but all such records have been disproved or discounted.

Table 3. Codes for recording Native Status (Data Field 2)

Code	Value	Explanation
I	Introduced	<p>The plant has been recorded growing in an area that is outside of its assumed true and normal distribution. This implies evidence that the plant did not formerly occur in the area and also that the plant is either:</p> <p>established and successfully reproducing (either sexually or asexually) or</p> <p>a frequently occurring casual.</p> <p>The plant must not be in cultivation: it does not mean (or include) "Introduced to Cultivation". The means of introduction, whether by man or any natural means is irrelevant and may be unknown.</p>
S	Assumed to be introduced	There is doubt as to whether the Status of the plant in the area concerned is Introduced, as defined above, or not. All records about the introduced status of the plant in the area are in doubt.
D	Doubtfully introduced	There is doubt as to whether the Status of the plant in the area concerned is Introduced, as defined above, or not. All records about the introduced status of the plant in the area are in doubt.
E	Formerly introduced (Extinct)	The plant is introduced, doubtfully introduced or assumed to be introduced in the area concerned and has become Extinct as such. The criterion of extinction is that the plant was not found (as an Introduction) after repeated searches of known and likely areas (i.e. sites within the area covered by the record), even though the plant may be extant elsewhere.
A	Not introduced	The plant is definitely not introduced (as defined above) in the area concerned .
F	Recorded as introduced in error	The plant has been recorded as introduced in the area concerned but all of those records have been disproved or discounted. A known fallacious introduced record must have been made, and it must be known that the plant does not occur as an introduction in the area.

Table 4. Codes for recording Introduced Status (Data Field 3)

Transfer Value	Value	Explanation
M.	Introduced by humans	The plant is introduced and the agent is known to be man, whether accidental or deliberate. This example includes, for example, taxa that have escaped from cultivation and those that occur as a result of deliberate transplantation
N	Introduced by natural means	The plant is introduced, but the agent is considered not to be man. The actual agent may be anything other than man, including wind, current and animals for example, as vectors. The evidence leads to the conclusion that the plant has arrived without man's direct influence. If the agency is unknown, then it must be known not to be man, i.e. it is sufficient that there is evidence that the means of introduction was not man, without knowing the actual means of introduction.

Table 5. Codes for recording Introduction Agency (Data Field 4)

Code	Value	Explanation
C	Cultivated	The plant is established in cultivation outdoors in the area concerned. Only plants that are conspicuously cultivated outdoors should be included (includes crops planted on a field-scale and street and roadside trees).
S	Assumed to be cultivated	Assumed to be Cultivated in the area concerned.
D	Doubtfully cultivated	There is doubt as to whether the status of the plant is cultivated or not in the area concerned. All records about the cultivated status of the plant in the area are in doubt.
E	Formerly cultivated (extinct)	The plant was at one time cultivated, doubtfully cultivated or assumed to be cultivated in the area concerned and has become extinct in cultivation in this area, even though it may be extant elsewhere.
A	Not cultivated	The plant is definitely not cultivated (as defined above) in the area concerned.
F	Recorded as cultivated in error	The plant has been recorded as Cultivated in the area concerned but all of those records have been disproved or discounted. A known fallacious record of cultivation must have been made, and it must be known that the plant is not cultivated in the area.

Table 6. Codes for recording cultivated status (Data Field 5)

Code	Value	Explanation
C	Distribution Complete	Within the area covered by the record (which must be an area containing subsidiary areas e.g. E+M), all area records for the plant have been entered.
I	Distribution Incomplete	Within the area covered by the record, it is known that not all records have been entered.
U	Not known whether distribution complete	Within the area covered by the record, it is not known if all area records have been entered.

Table 7 Codes for recording Distribution Completeness Information (Data Field 6)**N.B. FOR INFORMATION ONLY**

Code	Value	Explanation
C	Distribution Complete	The taxon is known to occur only within the territory; it is endemic to the territory.
I	Distribution Incomplete	The taxon is known not to be endemic to the territory.
U	Not known whether distribution complete	It is not known if the taxon is endemic to the territory.

Table 8 Codes for recording World Distribution Completeness

2.5 Bibliography

The bibliographic source of information should be given for all alterations made to the database, i.e. the addition of both new taxon data and new geographical data. Title, author(s)/editor(s), date of publication and volume number should be given.

2.6 Source

The version of PANDORA used in Euro+Med PlantBase is supplied with a username system. This automatically attaches the initials of the person responsible for each modification to the database.

2.7 Notes

The notes field is free text and may be used to record discrepancies in the Place of Publication, spellings etc. Any information that the inputter thinks will be relevant and useful for the subsequent evaluation of the list may also be included in this field. All notes should be clear and self explanatory.

3 List of Floras

The Standard Floras to be used by each Centre for the checklist upgrading process are listed together with the area covered by each. Supranational florals are indicated in bold.

Bratislava

Central Europe	HEGI, G. <i>Illustrierte Flora von Mittel-Europa</i> , Ed. 2. Vols. 1– . München, 1936. Ed. 3. Vols. 1– . München, 1966– .
Norden	JONSELL, B. & al. <i>Flora Nordica</i> . Vol. 1. Stockholm, 2000.
Austria	ADLER, W., OSWALD, K. & FISCHER, R. (FISCHER, M.A., ed.), <i>Exkursionsflora von Österreich</i> , Stuttgart & Wien, 1994.
Czech and Slovak Republics	DOSTÁL, J. <i>Nová Květena ČSSR / New Flora of CSSR</i> . Vols. 1–2. Praha, 1989. DOSTÁL, J. & ČERVENKA, M., <i>Velký klíč na určování vyšších rostlin / Large Identification Key to the Vascular Plants of Czechoslovakia 1-2</i> . Bratislava, 1991-1992. HEJNÝ, S. & SLAVÍK, B., eds. [SLAVÍK, B., ed.], <i>Květena ČR / Flora of the Czech Republic 1 to 5, to be continued</i> , Praha.
Denmark	HANSEN, K. (ed.). <i>Dansk Feltflora</i> . Copenhagen, 1981.
Finland	HÄMET-AHTI, L. et al. (ed.). <i>Retkeilykasvio</i> , ed. 4. Helsinki, 1998.
Germany	ROTHMALER, W. <i>Exkursionsflora für die Gebiete der DDR und der BRD</i> . 2: <i>Gefäßpflanzen</i> , ed. 12 by H. Meusel & R. Schubert. Berlin, 1984. 4: <i>Kritischer Band</i> , ed. 6 by R. Schubert & W. Vent. Berlin, 1986. 3: <i>Atlas der Gefäßpflanzen</i> , ed. 7 by R. Schubert, E. Jäger & K. Werner. Berlin, 1988. WISSKIRCHEN, R. & HAEUPLER, H., <i>Standardliste der Farn- und Blütenpflanzen Deutschlands</i> , 1998.
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Iceland	LÖVE, Á. <i>The Flora of Iceland</i> . Reykjavík, 1983.
Netherlands	WEEVERS, T. et al. (ed.). <i>Flora neerlandica</i> . Vols. 1– . Amsterdam, 1948–.[?] HEUKELS, H. <i>Flora van Nederland</i> , ed. 21 by R. van der Meijden et al. Groningen, 1990.
Norway	LID, J. <i>Norsk Flora</i> , ed. 6 by O. Gjaerevoll. Oslo, 1994.
Poland	MIREK, Z., PIEKOS-MIREK, H., ZAJAC, A. & ZAJAC, M., <i>Vascular plants of Poland, a checklist</i> , Polish Botanical Studies, Guidebook Series 15, 1995.

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Egypt	TÄCKHOLM, V. <i>Students' flora of Egypt</i> . (ed. 2). Cairo University, Beirut, 1974.
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	STRID, A. & TAN, K. <i>Flora hellenica</i> . Vol. 1. Königstein, 1997.
Italy	PIGNATTI, S. <i>Flora d'Italia</i> . Vols. 1–3. Edagricole, Bologna, 1982.
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Recommended checklists and guides with useful additional chorological information on the flora of East Europe [note: not to be considered for the initial data input process]

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4 Family Blocks

The 24 blocks of families to be allocated to centres on rotation for the checklist upgrading process. The first four blocks are shorter than the others, as they will serve as a training block for each centre. Blocks 5-8 are longer and 9, 18-22 the longest; the two last are again shorter. Each group of four blocks (except for 23-24) are equivalent in length.

The circumscription of families follows *Flora Europaea* volumes 2—4 and volume 1 (second edition) where applicable. Families included in this list but not in *Flora Europaea* are shown in italic text.

BLOCK 1

PSILOTACEAE
LYCOPODIACEAE
SELAGINELLACEAE
ISOETACEAE
EQUISETACEAE
OPHIOGLOSSACEAE
OSMUNDACEAE
PARKERIACEAE
ADIANTACEAE
PTERIDACEAE
HYMENOPHYLLACEAE
POLYPODIACEAE
GRAMMITIDACEAE
DICKSONIACEAE
HYPOLEPIDACEAE
THELYPTERIDACEAE
ASPLENIACEAE
WOODSIACEAE (*Athyriaceae*)
DRYOPTERIDACEAE
LOMARIOPSIDACEAE
DAVALLIACEAE
BLECHNACEAE
MARSILEACEAE
SALVINIACEAE
AZOLLACEAE
PINACEAE
TAXODIACEAE
CUPRESSACEAE
TAXACEAE

EPHEDRACEAE
SALICACEAE
MYRICACEAE
JUGLANDACEAE

BETULACEAE
CORYLACEAE

BLOCK 2

FAGACEAE
ULMACEAE
MORACEAE
CANNABACEAE
URTICACEAE
PROTEACEAE
SANTALACEAE
LORANTHACEAE
ARISTOLOCHIACEAE
RAFFLESIIACEAE
BALANOPHORACEAE
POLYGONACEAE
CHENOPODIACEAE
AMARANTHACEAE

BLOCK 3

NYCTAGINACEAE
PHYTOLACCACEAE
AIZOACEAE
MOLLUGINACEAE
TETRAGONIACEAE
PORTULACACEAE
BASELLACEAE
CARYOPHYLLACEAE PART. 1
SUBFAM. **ALSINOIDEAE**

Ammodenia
Arenaria
Bufonia
Cerastium
Holosteum
Honkenya
Lepyrodiclis

Merckia
Minuartia
Moehringia
Moenchia
Myosoton
Pseudostellaria
Queria
Sagina
Scleranthus
Stellaria
Thylacospermum

SUBFAM. **PARONYCHIOIDEAE**

Alsine
Chaetonychia
Corrigiola
Delia
Gymnocarpos
Herniaria
Illecebrum
Loeflingia
Ortega
Paronychia
Polycarpon
Pteranthus
Sclerocephalus
Spergula
Spergularia
Telephium
Thurya

BLOCK 4

CARYOPHYLLACEAE PART. 2

SUBFAM. **SILENOIDEAE**

Acanthophyllum
Agrostemma
Allochrysa
Ankyropetalum
Bolanthus
Coronaria
Cucubalus
Dianthus
Drypis
Gypsophila
Kohlrauschia
Lychnis
Melandrium
Petrocoma
Petrocoptis
Petrorrhagia
Phryna
Saponaria
Silene

Tunica
Vaccaria
Velezia
Viscaria

BLOCK 5

NYMPHAEACEAE
 NELUMBONACEAE
 CERATOPHYLLACEAE
 RANUNCULACEAE
 PAEONIACEAE
 BERBERIDACEAE
 MENISPERMACEAE
 MAGNOLIACEAE
 LAURACEAE
 PAPAVERACEAE
 CAPPARACEAE

BLOCK 6

Cruciferae (*Sisymbrium-Thlaspi*)

Block 7

CRUCIFERAE (*Aethionema-Raphanus*)
 RESEDACEAE
 MORINGACEAE
 SARRACENIACEAE
 DROSERACEAE
 CRASSULACEAE
 SAXIFRAGACEAE
 PARNASSIACEAE
 HYDRANGEACEAE
 ESCALLONIACEAE
 GROSSULARIACEAE
 PITTOSPORACEAE
 PLATANACEAE
 HAMMAMELIDACEAE

BLOCK 8

ROSACEAE
 NEURADACEAE

BLOCK 9

LEGUMINOSAE

BLOCK 10

PODOSTEMACEAE
 OXALIDACEAE
 GERANIACEAE
 TROPAEOLACEAE
 ZYGOPHYLLACEAE
 LINACEAE
 EUPHORBIACEAE
 RUTACEAE

CNEORACEAE
SIMAROUBACEAE
BURSERACEAE
MELIACEAE
POLYGALACEAE
CORIARIACEAE
ANACARDIACEAE
ACERACEAE
SAPINDACEAE
HIPPOCASTANACEAE
BALSAMINACEAE
AQUIFOLIACEAE
CELASTRACEAE
STAPHYLEACEAE
BUXACEAE
RHAMNACEAE
VITACEAE
TILIACEAE
MALVACEAE

BLOCK 11

THYMELAEACEAE
ELAEGNACEAE
GUTTIFERAE
VIOLACEAE
PASSIFLORACEAE
CISTACEAE
TAMARICACEAE
FRANKENIACEAE
ELATINACEAE
DATISCACEAE
CUCURBITACEAE
CACTACEAE
LYTHRACEAE
TRAPACEAE
MYRTACEAE
PUNICACEAE
ONAGRACEAE
HALORAGACEAE
THELIGONACEAE
HIPPURIDACEAE
CORNACEAE
ARALIACEAE

BLOCK 12

UMBELLIFERAE
DIAPENSIACEAE
PYROLACEAE
ERICACEAE
EMPETRACEAE
MYRSINACEAE

BLOCK 13

PRIMULACEAE
PLUMBAGINACEAE
EBENACEAE
STYRACACEAE
OLEACEAE
GENTIANACEAE
MENYANTHACEAE
APOCYNACEAE
ASCLEPIADACEAE
POLEMONIACEAE

BLOCK 14

CONVOLVULACEAE
HYDROPHYLLACEAE
BORAGINACEAE
VERBENACEAE
CALLITRICHACEAE

BLOCK 15

LABIATAE
SOLANACEAE
BUDDLEJACEAE

BLOCK 16

SCOPHULARIACEAE
GLOBULARIACEAE

BLOCK 17

BIGNONIACEAE
ACANTHACEAE
PEDALIACEAE
MARTYNIACEAE
GESNERIACEAE
OROBANCHACEAE
LENTIBULARIACEAE
MYOPORACEAE
RUBIACEAE
PLANTAGINACEAE
CAPRIFOLIACEAE
ADOXACEAE
VALERIANACEAE
DIPSACACEAE

BLOCK 18

CAMPANULACEAE
COMPOSITAE (Eupatorieae—Arctotideae)

BLOCK 19

COMPOSITAE (Cardueae)

BLOCK 20

COMPOSITAE (Cichorioideae)

BLOCK 21

ALISMATACEAE
 BUTOMACEAE
 HYDROCHARITACEAE
 SCHEUCHZERIACEAE
 APONOGETONACEAE
 JUNCAGINACEAE
 POTAMOGETONACEAE
 RUPPIACEAE
 POSIDONIACEAE
 ZOSTERACEAE
 ZANNICHELLIACEAE
 NAJADACEAE
 LILAEACEAE
 AGAVACEAE
 AMARYLLIDACEAE
 DIOSCOREACEAE
 PONTEDERIACEAE
 IRIDACEAE

BLOCK 22

LILIACEAE

BLOCK 23

1. JUNCACEAE
2. BROMELIACEAE
3. COMMELINACEAE
4. ERIOCAULACEAE
5. GRAMINEAE PART. 1

TRIBE ARUNDINARIEAE

Arthrostylidium
Arundinaria
Atractocarpa
Auloneimia
Bambusa
Cephalostachyum
Chomonobambusa
Chusquea
Dendrocalamus
Dinorchloa
Fargesia
Galiophyton
Gigantochloa
Greslenia
Guadua
Guaduella
Hickelia
Hitchcockella
Indocalamuns
Melocalamus
Melocanna
Merostachys
Nastus

Neohouzeaua
Neurolepis
Ochlandra
Oreostachys
Oreobambus
Oxytenanthera
Perrierbambus
Phyllostachys
Pleisblastus
Pseudocoix
Pseudosasa
Pseudostachyum
Sasa
Schizostachyum
Shibatea
Sinobambusa
Teinostachyum
Thamnocalamus
Thyrsostachyum

TRIBE SESLERIEAE

Ammochloa
Echinaria
Oreochloa
Sesleria

TRIBE MELICEAE

Melica
Schizachne

TRIBE GLYCERIEAE

Glyceria
Pleuropogon

TRIBE BROMEAE

Bromus

TRIBE BRACHYPODIEAE

Brachypodium

TRIBE TRITICEAE

Aegilops
Agropyrum
Crithopsis
Dasyphyrum
Elymus
Eremopyrum
Festucopsis
Hordelymus
Hordeum
Hystrix
Leymus
Psathyrostachys
Secale
Sitanion
Taeniatherum
Triticum

BLOCK 24

1. GRAMINAE PART. 2

TRIBE **POEAE**

Anthochloa
Apera
Arctagrostis
Arctophila
Beckmannia
Bellardiochloa
Boissiera
Briza
Castellia
Catabrosa
Catabrosella
Cinna
Colpodium
Ctenopsis
Cutandia
Cynosurus
Dactylis
Desmazeria
Diarrhena
Dictyochloa
Dupontia
Eremopoa
Festuca
Lamarckia
Lolium
Megalachne
Mibora
Micropyropsis
Micropyrum
Narduroides
Nardurus
Nephelochloa
Phippsia
Poa
Psilathera
Psiluru
Puccinellia
Schizachne
Sclerochloa
Scleropoa
Sphenopus
Torreyochloa
Vulpia
Vulpiella
Wangenheimia

BLOCK 25

1. GRAMINEAE PART. 3

TRIBE **AVENEAE**

Agrostis
Aira

Airopsis
Alopecurus
Ammophila
Anelytrum
Anthoxanthum
Antinoria
Arrhenatherum
Avellinia
Avena
Avenastrum
Avenula
Baldingera
Brachyelytrum
Calamagrostis
Calamovilfa
Chaetopogon
Cornucopiae
Corynephorus
Danthoniastrum
Deschampsia
Dichelachne
Gastridium
Gaudinia
Helictotrichon
Hierochloë
Holcus
Koeleria
Lagurus
Limnodea
Lophochloa
Maillea
Molineriella
Parvotrisetum
Periballia
Phleum
Piptochaetium
Polypogon
Pseudarrhenatherum
Triplachne
Trisetaria
Trisetum
Vahlodea
Ventenata

BLOCK 26

1. GRAMINEAE PART. 4

TRIBE **HAINARDIEAE**

Agropyropsis
Hainardia
Henrandia
Parapholis
Pholiurus
Scribneria

TRIBE PHALARIDEAE*Phalaris***TRIBE COLEANTHEAE***Coleanthus***TRIBE SCOLOCHLOEAE***Scolochloa***TRIBE MILIEAE***Milium**Zingeria***TRIBE STIPEAE***Achnatherum**Dichelachne**Piptatherum**Stipa***TRIBE AMPELODESMEAE***Ampelodesmos***TRIBE ARUNDINEAE***Arundo**Blepharidachne**Gynerium**Hakonechloa**Neyraudia**Phragmites***TRIBE CORTADERIEAE***Cortaderia***TRIBE DANTHONIEAE***Achneria**Anisopogon**Chaetobromus**Danthonia**Danthonidium**Lamprothyrsus**Lasiochloa**Pentaschistis**Pentameris**Plagiochloa**Schismus**Urochlaena***TRIBE ARUNDINELLAEAE***Arundinella**Danthoniopsis**Gilglochloa**Trichopteryx**Trystachya***TRIBE MOLINIEAE***Molinia***TRIBE ARISTIDEAE***Amphipogon**Aristida**Diplopogon**Stipagrostis***TRIBE NARDEAE***Nardus***TRIBE LYGEEAE***Lygeum***TRIBE PAPPOPHOREAE***Enneapogon***TRIBE AELUROPODEAE***Aeluropus***TRIBE ERAGROSTIDEAE***Blepharidachne**Blepharoneuron**Calamofilfa**Cleistogenes**Cottea**Crypsis**Dactyloctenium**Ectosperma**Eleusine**Entolpocamia**Eragrostis**Heleochoa**Jouvea**Lintonia**Lycurus**Monanthochloe**Muhlenbergia**Munroa**Pappophorum**Perieilema**Schmidtia**Scleopogon**Sphaerocaryum**Sporobolus**Tetrachne**Tricuspis**Triplasis**Vaseyochloa***TRIBE CHLORIDEAE***Astrebla**Bouteloua**Buchlae**Chloris**Coelachyrum**Craspedorhachis**Crossotropis**Ctenium**Cynodon**Dinebra**Enteropogon**Eustachys**Gouinia**Gymnopogon**Ischnurus**Leptocarydion**Leptochloa*

Lepturella
Lepturidium
Lepturus
Lophaeme
Melanocenchris
Microchloa
Monochaete
Opizia
Oropetium
Pringleochloa
Rendia
Schedonnardus
Scheonfeldia
Tetrapogon
Trichloris
Trichoneura
Tripogon
Willkommia

TRIBE SPARTINEAE

Spartina

TRIBE ZOYSIEAE

Aegopogon
Dignathia
Fourniera
Hilaria
Latipes
Leptothrium
Mosdenia
Neurachne
Perotis
Tetrachaete
Tragus
Zoysia

TRIBE ORYZEAE

Chikusichloa
Hydrochloa
Hidroriza
Leersia
Luziola
Oryza
Potamophila
Reynaudia
Zizania
Zizaniopsis

TRIBE OLYRAEAE

Buergersiochloa
Cryptochloa
Diandrolyra
Ekmanochloa
Leptaspis
Lithachne
Mniochloa
Olyra

Pharus

Raddia

TRIBE PANICEAE

Achlaena
Acroceras
Alloteropsis
Amphicarpon
Anthephora
Arthropogon
Axonopus
Beckrea
Boivinella
Brachiaria
Caelachne
Cenchrus
Chaetium
Cloachne
Commelinidium
Cyphochlaena
Cytococcum
Digitaria
Echinochloa
Echinolaena
Elytrophrus
Entolasia
Eriochloa
Hemigymnia
Heteranthoecia
Homolepis
Humbertochloa
Hymenachne
Ichnanthus
Isachane
Ixophorus
Lasiacis
Lecomtella
Leptocoryphium
Leptoloma
Leptosaccharum
Limnopoia
Melinis
Mesosetum
Microcalamus
Neurachne
Oplismenus
Panicum
Pannisetum
Paspalidium
Paspalum
Peruligera
Phaenosperma
Prionanthum
Rynchelytrum

Sacciolepis
Setaria
Seutachne
Sieglingia
Snowdenia
Spinefex
Stenotaphrum
Thrasya
Trachys
Tricholaena
Triraphis
Triscenia
Urochloa
Valota
Viguierella
Xerochloa

TRIBE ANDROPOGONEAE

Amphilophis
Andropogon
Andropterum
Apluda
Arthraxon
Capillipedium
Chasmopodium
Chinachne
Chrysopogon
Cleistachne
Coelorrhachis
Coix
Cymbopogon
Dichanthium
Dichantium
Diectomis
Digastrium
Diheteropogon
Dimeria
Elyonurus
Eremochloa
Eremopogon
Tripsacum
Urlytrum
Veliveria
Vossia
Zea

BLOCK 27

1. CYPERACEAE

Erianthus
Eriochrysis
Euchlaena
Euclasta
Eulalia
Exotheca
Germainia
Hemarthria
Heteropogon
Hypogynium
Imperata
Ischaemum
Iseilema
Jardinea
Lasiorrhachis
Lasiurus
Manisurus
Miscanthus
Monocymbium
Ohiurus
Phacelurus
Pollinia
Polytoca
Rhytachne
Rottboellia
Saccharum
Schizachyrium
Sclerachne
Sclerostachys
Sehima
Sorghastrum
Sorghum
Spalthia
Spodiopogon
Telepogon
Themeda
Thyrsia
Trachypogon

BLOCK 28

1. PALMACEAE
2. ARACEAE
3. LEMNACEAE
4. SPARGANIACEAE
5. TYPHACEAE
6. MUSACEAE
7. ZINGIBERACEAE
8. CANNACEAE
9. ORCHIDACEAE

5 Accented Characters

The following symbols should be used in author strings and Place of Publication citations for accented characters which are not included in the list of ASCII characters used in PANDORA (Control+S, then select ASCII table from the menu). The list of ASCII characters in PANDORA **must** be consulted before the symbols below are used. Note: the codes given below may be used with ANY letter.

ö	\$U
ø	\$O
ó	\$A
ô	\$G
ô	\$F
ö	\$K
ö	\$B
ö	\$M

ö	\$Z
ö	\$C
ö	\$Y
ö	\$D
ö	\$X
ö	\$H
ö	\$W
ö	\$E

EXAMPLES

1. The TDWG standard abbreviation for M. Dvořáková is 'Dvořáková'

The accented letter 'ř' is not included in the ASCII Table and therefore needs to be recorded as '**r\$K**'. The accented letter 'á', is however included in the ASCII Table, and should be inserted into the text from the Table. Thus, in PANDORA, the name abbreviation is entered as: **Dvor\$Káková**

2. The TDWG standard abbreviation for L. J. Čelakovský is 'Čelak.'. The accented letter 'Č' is not included in the ASCII Table and needs to be entered as C\$K. In PANDORA therefore, the name abbreviation is entered as **C\$Kelak.**

6 Geographical standard

Euro+Med PlantBase Codes and Geographical Units and the corresponding TDWG Geography Standard Level 4 codes and ISO Standard Two-Letter codes for each of the Euro+Med PlantBase Core Territories.

Like TDWG, Euro+Med is an international initiative, open to people from all nations, and the geographical system presented here is intended solely for the purpose of clarity of communication. It should not be taken to imply recognition of any government, any political persuasion, or any political boundary. In disputed territories Euro+Med PlantBase follows a consistent policy of only accepting those national boundaries which are currently recognised by the United Nations.

E+M code	Unit	TDWG	ISO
EM	Euro+Med PlantBase Area	-	-
Ab	Azerbaijan. This comprises:		AZ
	Ab(A) Azerbaijan	TCS-AZ	AZ
	Ab(N) Nakhichevan	TCS-NA	AZ
AE	East Aegean Islands. This comprises:	EAI-OO	GR
	AE(G) Greek East Aegean Islands (excluding Gökçeada)	-	-
	AE(T) Turkish East Aegean Islands, i.e. Bozcaada	-	-
Ag	Algeria	ALG-OO	DZ
Al	Albania	ALB-OO	AL
Ar	Armenia	TCS-AR	AM
Au	Austria with Liechtenstein. This has been subdivided as follows:		-
	Au(A) Austria	AUT-AU	AT
	Au(L) Liechtenstein	AUT-LI	LI
Az	Azores. This has been subdivided as follows:	AZO-OO	PT
	Az (C) Corvo		PT
	Az (F) Faial		PT
	Az (L) Flores		PT
	Az (G) Graciosa		PT
	Az (P) Pico		PT
	Az (S) Santa Maria		PT
	Az (J) São Jorge		PT
	Az (M) São Miguel		PT
	Az (T) Terceira		PT
Be	Belgium, with Luxembourg. This comprises:		-
	Be(B) Belgium	BGM-BE	BE
	Be(L) Luxembourg	BGM-LU	LU
Bl	Baleares. This has been subdivided as follows:	BAL-OO	ES
	Bl(I) Ibiza including Formentera		ES
	Bl(M) Mallorca		ES

	Bl(N) Menorca		ES
BH	Bosnia-Herzegovina	YUG-BH	BA
Br	Great Britain, including Orkneys, Shetland, Isle of Man; excluding Channel Is., Northern Ireland.	GRB-OO	UK
Bu	Bulgaria	BUL-OO	BG
By	Belarus	BLR-OO	BY
Ca	Canary Is. This has been subdivided as follows:	CNY-OO	ES
	Ca (F) Fuerteventura (including Lobos)		ES
	Ca (G) Gomera		ES
	Ca (C) Gran Canaria		ES
	Ca (H) Hierro		ES
	Ca (L) Lanzarote, including Graciosa and smaller islands		ES
	Ca (P) La Palma		ES
	Ca (T) Tenerife		ES
Co	Corse	COR-OO	FR
Cr	Kriti (<i>Creta</i>), with Karpathos, Kasos and Gavdhos	KRI-OO	GR
Cs	Czech Republic	CZE-CZ	CZ
Ct	Croatia	YUG-CR	HR
Cy	Cyprus	CYP-OO	CY
Da	Denmark (<i>Dania</i>), including Bornholm, excluding Faeroe Islands and Greenland	DEN-OO	DK
Eg	Egypt excluding Sinai	EGY-OO	EG
Es	Estonia	BLT-ES	EE
Fa	Faeroe Islands	FOR-OO	FO
Fe	Finland (<i>Fennia</i>), including Ahvenanmaa (Aaland Islands)	FIN-OO	FI
Ga	France (<i>Gallia</i>), with the Channel Is., Monaco; excluding Corse. This comprises the following:		-
	GA(C) Channel Is.	FRA-CI	UK
	Ga(F) France	FRA-FR	FR
	Ga(M) Monaco	FRA-MO	MC
Ge	Germany	GER-OO	DE
Gg	Georgia		GE
	Gg(A) Abkhazia	TCS-AB	GE
	Gg(D) Adzaria	TCS-AD	GE
	Gg(G) Georgia	TCS-GR	GE
Gr	Greece, excluding the islands included under Kriti and the Greek East Aegean Islands, AE (G)	GRC-OO	GR
Hb	Ireland (<i>Hibernia</i>). This comprises the following:		-
	Hb(E) Ireland	IRE-IR	IE
	Hb(N) Northern Ireland	IRE-NI	UK
He	Switzerland (<i>Helvetia</i>)	SWI-OO	CH
Hs	Spain (<i>Hispania</i>), with Gibraltar and Andorra; excluding Baleares. This comprises the following:		-
	Hs(A) Andorra	SPA-AN	AD
	Hs(G) Gibraltar	SPA-GI	GI
	Hs(S) Spain	SPA-SP	ES
Ho	Netherlands (<i>Hollandia</i>)	NET-OO	NL

Hu	Hungary	HUN-OO	HU
Ir	Israel, including the Palestinian Authorities and the occupied Territories which are not distinguished.	PAL-IS	IL
Is	Iceland (<i>Islandia</i>)	ICE-OO	IS
It	Italy, including the arcipelago Toscano, San Marino, Vatican City; excluding Sardegna and Sicilia. This comprises the following:		-
	It(I) Italy	ITA-IT	IT
	It(S) San Marino	ITA-SM	SM
	It(V) Vatican City	ITA-VC	VA
Jo	Jordan	PAL-JO	JO
La	Latvia	BLT-LA	LV
Le	Lebanon	LBS-LB	LB
Li	Libya	LBY-OO	DL
Lt	Lithuania	BLT-LI	LT
Lu	Portugal (<i>Lusitania</i>)	POR-OO	PT
Ma	Morocco. This has been sub-divided as follows:		-
	Ma (M) Morocco. Excluding the former Spanish Sahara south of the Tarfaya province.	MOR-MO	MA
	Ma (E) Spanish North African Territories	MOR-SP	ES
	Ma (S) Western Sahara.	WSA-OO	EH
Mk	The former Yugoslav Republic of Makedonija	YUG-MA	MK
Md	Madeira. This has been subdivided as follows:	MDR-OO	PT
	Md (D) Desertas		PT
	Md (M) Madeira		PT
	Md (P) Porto Santo		PT
Mo	Moldova	UKR-MO	MD
No	Norway excluding Svalbard (Sb)	NOR-OO	NO
Po	Poland	POL-OO	PL
Rf	The Russian Federation (<i>Rossia</i>). This has been sub-divided as follows:		RU
	Rf (C) Central European Russia (comprising the following oblasts and republics: Kostroma, Tver, Yaroslavl, Vladimir, Nizhniy Novgorod, Smolensk, Moscow, Ryazan, Mordovia, Chuvashia, Ulyanovsk, Kaluga, Tula, Lipetsk, Tambov, Penza, Bryansk, Orel or Orlov, Kursk, Voronezh, Belgorod)	RUC-OO	RU
	Rf (E) Eastern European Russia (comprising the following oblasts and republics: Vyatka, Perm, Udmurtia, Bashkortostan, Tatarstan, Samara, Orenburg)	RUE-OO	RU
	Rf (K) Kaliningrad Region	BLT-KA	RU
	Rf (CS) North Caucasus, including the following TDWG level 4 units: NCS-CH Chechnya; NCS-DA Dagestan; NCS-IN Ingushetia; NCS-KB Kabardino-Balkaria; NCS-KR Krasnodar & Adygean Republic; NCS-SO Alania; NCS-ST Stavropol; NCS-KC Karachav-Cherkessia.	NCS	RU

	Rf (N) Northern European Russia (comprising the following oblasts and republics: Arkhangelskaya, Karelia, Komi, Murmansk, Vologda)	RUN-OO	RU
	Rf (NW) Northwest European Russia (comprising the following oblasts and republics: Novgorod, Pskov, Leningrad (incl. City of St Petersburg)	RUW-OO	RU
	Rf (A) Novaya Zemlya and Franz-Joseph Land	WSB-OO (partim)	RU
	Rf (S) South European Russia (comprising Saratov, Volgograd, Astrakhan, Rostov, Kalmykiya)	RUS-OO	RU
Rm	Romania	ROM-OO	RO
Sa	Sardegna	SAR-OO	IT
Sb	Svalbard, comprising Spitsbergen, Björnöya (Bear Island) and Jan Mayen.	SVA-OO	SJ
Sg	Selvagens	SEL-OO	PT
Si (M)	Malta	SIC-MA	MT
Si (S)	Sicilia, Ustica, Egadi Islands, Pantelleria, Pelagie islands and Eolie Islands	SIC-SI	IT
Sk	Slovakia	CZE-SK	SK
Sn	Sinai	SIN-OO	EG
Su	Sweden (<i>Suecia</i>), including Öland and Gotland.	SWE-OO	SE
Sl	Slovenia	YUG-SL	SI
Sy	Syria	LBS-SY	SY
Tn	Tunisia	TUN-OO	TN
Tu	Turkey, excluding Turkish East Aegean Islands [AE (T)]. This has been subdivided as follows:		TR
	Tu (A) Asiatic Turkey (Anatolia), excluding Bozcaada	TUR-OO	TR
	Tu (E) Turkey-in-Europe, includes Gökçeada	TUE-OO	TR
Uk	Ukraine. This has been subdivided as follows:		UA
	Uk (K) Krym	KRY-OO	UA
	Uk (U) Ukraine	UKR-UK	UA
SM	Serbia & Montenegro. This comprises the following areas:		YU
	SM (M) Montenegro	YUG-MN	YU
	SM (S) Serbia including Kosovo and Vojvodina	YUG-SE YUG-KO	YU

7 Additional Geographical Territories

The ‘Additional Territories’ comprise geographical territories used in either *Flora Europaea* (and consequently in the initial Euro+Med database) or in *Med-Checklist*, which are, however, outdated or unsuitable. They will be used to record distributions in Euro+Med PlantBase only until such time as they are superseded by records indicating species distributions in the Core Territories with which they correspond in whole or in part.

Euro+Med PlantBase Codes and the Bibliographic Source are given for each Additional Territory.

E+M Code	Unit	Source (<i>Flora Europaea/ Med-Checklist</i>)
Cz	Former Czechoslovakia; see Cs, Sl.	<i>FE</i>
IJ	Israel-Jordan; see Ir, Jo	<i>MC</i>
Ju	The former Yugoslavia; see SM, BH, Ct, Mk, Sl	<i>FE</i>
LS	Lebanon-Syria; see Le, Sy.	<i>MC</i>
Rs	Former USSR, comprising: Rs(B) Baltic Division Rs(C) Central Division Rs(E) South-eastern Division Rs(N) Northern Division Rs(W) Western Division See: By, Es, Kz, La, Lt, Mo, Rf [comprising Rf(A), Rf(C), Rf(CS), Rf(E), Rf(K), Rf(N), Rf(NW), Rf(S)], Uk(U)	<i>FE</i>
Si	Sicily with Malta; see Si (M) and Si (S)	<i>FE</i>

8 The European Initiative for the Euro+Med PlantBase

The European Commission-funded *European Initiative for the Euro+Med PlantBase* provides financial backing for three years to cover a number of specific aspects of the Euro+Med PlantBase project. Funding commenced on September 1st 2000. The work sponsored by the European Commission comprises 9 workpackages. The Workpackage Leader is indicated in parentheses.

Workpackage 1: scientific planning; international co-operation; development of system for information flow around the network; produce editorial guidelines and establish Editorial Committee. [Dr Stephen L. Jury; Reading, U.K.]

Workpackage 2: software development; upgrade of ESFEDS database and linking the software to an Internet Editor; providing a display version of the database available through the IOPI display system. [Dr Walter Berendsohn; Berlin, Germany]

Workpackage 3: prepare an initial consolidated working plant checklist of the Euro-Mediterranean by upgrading the ESFEDS database and co-ordinating specialist evaluation of the list. [Professor Benito Valdés; Sevilla, Spain]

Workpackage 4: prepare a European Plant Synonymic Checklist for publication by enhancing the European elements of the working checklist with revised data, expanded synonymy, other forms of data etc. [Professor Franco Raimondo; Palermo, Italy]

Workpackage 5: taxonomic revision of selected groups and inclusion of the revisions in the main database. [Professor Santiago Castroviejo; Madrid, Spain]

Workpackage 6: develop user-friendly outputs and linkages to other data sets for consumer needs; establish methodologies, develop links with other databases; co-ordinate the preparation of information summaries (or 'beads') [Professor Klaus Ammann; Bern, Switzerland]

Workpackage 7: Development of conservation bead [Professor Klaus Ammann; Bern, Switzerland]

Workpackage 8: Development of mapping bead [Professor Pertti Uotila; Helsinki, Finland]

Workpackage 9: Development of karyological bead [Professor Georgia Kamari; Patras, Greece]

Institutions funded under the European Initiative for the Euro+Med PlantBase

- Centre for Plant Diversity and Systematics, School of Plant Sciences, The University of Reading, UK
- Departamento de Biología Vegetal y Ecología, Universidad de Sevilla, Spain
- Department of Botany, Università de Palermo, Sicily, Italy
- Department of Biodiversity Informatics, Botanical Garden and Botanical Museum Berlin-Dahlem, Freie Universität Berlin, Germany
- Real Jardín Botánico, CSIC, Madrid, Spain
- Botanischer Garten der Universität Bern, Switzerland

- Royal Botanic Garden, Edinburgh, UK
- Institute of Botany of the Slovak Academy of Sciences, Bratislava, Slovakia
- Institute of Botany of the Bulgarian Academy of Sciences, Sofia, Bulgaria
- Finnish Museum of Natural History, Botanical Museum, University of Helsinki, Finland
- The Botanical Institute, University of Patras, Greece