

SOME REMARKS CONCERNING THE PROPOSAL FOR A COUNCIL DIRECTIVE ON THE PROTECTION OF NATURAL AND SEMI- NATURAL HABITATS AND OF WILD FAUNA AND FLORA

Having just arrived from a study trip to the Azores and Madeira to evaluate the previsible impact of the "Habitat Directive" in the Mid-Atlantic Islands (incl. the Canaries),

Besides the more structured and detailed report that will be sent to the EEC - DG XI, B.3 at a later date,

Considering that the so called Macaronesian Islands harbor the highest concentration of European endemics in the Community and show also the highest number of endangered plant species,

Taking the opportunity of this second meeting of experts concerned with certain annexes of the proposed Directive, and,

Having noticed that some of the measures foreseen in the Directive draft could force to illegality or a collapse of normal activities in parts of these islands,

I feel compelled to submit in advance some considerations regarding the present draft of the Habitat Directive and its Annexes:

Threatened habitats

The present list (May 1989) seems to cover all threatened habitats of the Mid-Atlantic Islands with one exception: "Barren lavafields", or the so called malpais (Span.) or mistérios (Port.). Those extending to the lower zones are particularly threatened by garbage dumping and land occupation for agriculture, housing and tourist development.

"Vulcanic cones" are threatened by lapilli exploitation throughout the three archipelagoes, but it seems better to include them in Annex VII as "landscape features".

"Lavatuses" are also threatened by physical destruction and biological contamination, but they could be considered under the category "Cave and cave systems".

About one third of the European Community threatened habitat types are present in the Mid-Atlantic Islands (see appendix A to this report), and at least 4 of them are exclusive:

1. Macaronesian heaths
2. Canary Islands montane scrub
3. Laurel forests
4. Macaronesian cactiform spurge communities¹

¹ It is better to name this category "Macaronesian semideserts" because the majority of Euphorbia species are dendroid and not cactiform.

The high representation of threatened habitats as well as the high number of species listed in draft Annex I imply a considerable amount of territory to be selected as special protection areas under art. 5.2. It will be almost certain that the percentage of special protection areas regarding the total regional territory (level II NUTs) will be much greater than in other regions in the Community. That may have unseen consequences.

Environmental impact assessments

Directive 85/337/EEC on environmental impacts has been conceived as a project-type approach, but not as a territorial approach, which would have implied some different technical procedures. The direct application of its provisions to special protected areas as stated by art. 11 will carry, from my point of view, serious problems in the Mid-Atlantic Islands because of:

- The relative extent that special protection areas will have, as just commented
- The complexity of EIA-studies as conceived by the Directive 85/337/EEC

If art. 11 remains as drafted it will be very hard to implement in the regions under study. Nevertheless, the principle of having previsory protective measures should be maintained, but a way should be found to allow the application of equivalent or analog measures, not just the specific EEC assessment technique. Perhaps a simple generic mandate to carry out an ecological² impact analysis in special protection areas would be preferable, and solve the problem.

The Canarian Parliament, for instance, is about to approve a Regional Law "for the prevention of ecological impact". This law is project-wise, territory-wise and budgetary-wise oriented. Ecological impact evaluations are graded in three categories, covering from full (incl. social aspects like EEC-EIAs) to more simple studies. Habitat and species protection are perfectly guaranteed by evaluations carried under lower categories, which are more in accordance with the types of projects normally occurring, and therefore are much more economic, faster and realistic.

Threatened species

In the last meeting of experts (May 1989) it was suggested that plant species of the concerned regions to be included in Annex I should be restricted to endangered³ endemic species. Vulnerable endemics should be excluded in principle to reduce numbers (about 200 taxa).

The validity of such a criterion will be discussed in the next paragraph. As for now, us let consider the draft Annex I list which were proposed by the WCMC (World Conservation Monitoring Centre):

² Target is ecology and biota, not social human affairs.

³ IUCN terminology.

- 1 for Azores, 22 for Madeira (incl. Selvagens) and 110 for the Canaries. At that time I (May 1989) presented an additional list of endangered endemics to update Canarian data.

Having now discussed with local botanists and experts from the three archipelagoes concerned about the highly threatened species in their respective regions, I have noticed several disagreements with the categories given in the WCMC document. In the case of Azorean and Madeiran plants, it is advisable to revise their IUCN conservation status. Regarding the Canarian flora, a Red Data Book is being compiled at the present by ICONA in collaboration with local institutions (National Park Service, Directorate for Environment and Nature Conservation, University of La Laguna, Botanical Garden Viera y Clavijo and the Canarian Institute for Agrarian Research). I have followed the existing draft list because its greater accuracy. A final version will be in November available.

Archipelago	WCMC	High. thr.	Total endemics ⁴
Azores	1	10	18% of 55
Madeira (+Selv.)	22	30	21% of 145
Canaries	110	110	15% of 725
Total	133	158	17% of 925

A full list is provided in appendices B to this report. As noted, these are the endemic plants which are the most threatened ones and do need protection (Annex II, for instance), but -as I believe- not **all** those to be included in Annex I.

What species must Annex I really include?

By definition "the animals and plants to be specified under this Annex are those whose habitats are threatened in the Community". It is directly related to art. 5.1 which starts by saying: «Habitats of the species specified in accordance with Annex I and the types of habitat specified in accordance with Annex IV shall ...» Thus, the concept of habitat to be applied to Annex I is that specified under art. 3.b first paragraph, which is equivalent to "site". If not, one would need to list the full species inventory of threatened habitat types of Annex IV.

If we agree on that, it means that species living in a place (habitat/site) which is threatened should be included in Annex I in order to gain protection for that place (whatever extension it may have) and by doing so, safeguard the target-species. It is a good conservation tool complementary to Annex IV (types of habitat) approach, which is the real, powerful and most interesting novelty of this Directive.

⁴ Data of exclusive endemics taken from MALATO-BELIZ, J. (1989). O factor endemismo na flora dos Arquipelagos Macaronesicos.- Angra do Heroismo, Terceira (in print).

An example: Islets and rock stacks are considered as a threatened habitat in the EEC. There are several to be selected but perhaps not the Roque de Anaga, off Tenerife, the only one where Gallotia galloti ssp. insulanagae lives. By including the target-species in Annex I, it will be covered.

About habitat protection needs.

Annex I deals with species in need of protection of habitat, but proposals already drafted list species considered endangered or vulnerable in the EEC, with especial emphasis on endemics. That is not the same.

There are several causes that may put a species under threat, being loss or degradation of habitat just one of them; it is very important and common indeed, but not universal. Rumex azoricus for instance, is endangered because of hybridization with introduced Rumex. Mammals suffer often more from persecution than from lack of suitable habitat.

It is very important to understand these differences. We will achieve very little by including latter type of species in Annex I. To protect their habitat/site does not change their conservation status. Sometimes it is even not feasible to establish special protection areas like in the case of Onopordon nogalesis, which only grows in Fuerteventura between the houses and corrals of a landowner.

Despite its title "List of threatened mammal species in need of protection of habitat in the Community" I wonder if a more concious analysis of the proposed species would not be necessary. The dilema should be clear. All species in need of habitat are threatened, but not all threatened species are in need of habitat.

The case with plants is even worst because there has been no distinction at all in this sense. Lists proposed are just list of threatened plants. Moreover, I doubt if we have enough information at hand to proceed without some deeper studies on type of threats.

The Macaronesian candidate-species for Annex I will be certainly less than those listed in the appendices of this report. In general, we could expect much shorter lists.

If the Directive-text is not changed one has to keep strictly to its definitions and avoid the tendency to list species and habitats which merit protection. That erroneous deviation has been a continuous tendency in the experts' meetings. In the present situation text and annexes do not match conceptually.

Species Recovery Plans

In the species list appended to this report I have marked with an «R» some species whose viability is not guaranteed by just protecting their habitat (even if that measure is feasible and being taken). Plants like Lotus azoricus, Sanicula azorica, Sorbus maderensis, Goodyera macrophylla or Cicer canariensis are suppressed by introduced herbivores (mainly goats,

cows, lambs and rabbits) and only few specimens survive. One may remove cattle or goats -if that is linked to habitat protection- but the reduced stock that remains is not capable to recover by itself. One needs to take seeds or other propagules, multiply, select suitable natural areas, protect them against rabbit pressure and restock⁵ natural populations. This type of active measures are very effective and would be required to save almost 1/3 of endangered Macaronesian flora.

Species Recovery Plans are important conservation tools long used in the U.S. Fish & Wildlife Services and only recently in few European countries⁶. Such a plan considers all factors that threaten a species or diminish its potential to recover. Then, it justifies, delimits and programs the measures and activities to be taken in order to restore and assure a species as a component -viable by its own- of its ecosystem. It obviously may include habitat protection or management.

Only the most critical species merit Species Recovery Plans. They are not easy to produce and implement. Nonetheless, such an approach could perhaps be integrated in the Directive. It is technically more sound (active + passive protection) than just the "habitat-protection" approach stated in Annex I. I believe that art. 5 does not contradict with the philosophy of Species Recovery Plans.

Taking into account the considerable number of existing protected areas already in the archipelagoes under study, one presumes that little will be added to conservation via Annex I or Annex IV. Almost all endangered Canarian plant species are present in existing National Parks, Natural Parks or Natural Sites. The Species Recovery Plan approach would probably bring much more progress. From a total number of 158 highly threatened endemic plants half of them are in need of such plans.

(This estimation is made only for the Mid-Atlantic Island's fauna and flora, and cannot be extrapolated to other regions in the Community).

Highly Threatened Endemics Need of S.R.P.

Azores	10	4 (40%)
Madeira	30	6 (20%)
Canaries	120	70 (58%)

⁵ This is not the same concept of "reintroductions" which is dealt with in the Directive.

⁶ Some EEC urgent measures programs already developed could be linked to the Species Recovery Plans concept, but this is misleading. There are sensible differences.

Economic stress

a. Usually protective measures (passive) do not require special economic efforts besides regular vigilance. However, in some cases one has to restrict or eliminate incompatible activities, and that indeed costs money.

b. On the other hand, active conservation such as ex-situ multiplication, in-situ defense, gene banks, etc do need a regular budget. Species Recovery Plans are not cheap to produce nor to develop.

It has been said that the Directive should provide an specific aid system. In this line, 10.000 ECUs per species were suggested.

That has little sense in the first case (a) and may derive in reiteration. In the Macaronesian islands clustering phenomena are frequent; i.e. endangered species are often grouped. Thus, by protecting the habitat for one, the rest benefit from the same effort.

Quite different is the second case (b), which by definition is a species by species approach. Some resources are needed to prepare Recovery Plans and to implement them thereafter. Thus any economic assistance given within this orientation -if adopted by the Directive- would be much more efficient.

The number of critical species in the Azores, Madeira and Canaries in relation to their respective territories and government's budgets⁷ represent -proportionally- a much greater conservation effort than that of any other region in the Community. This does not mean that the Regional Governments will elude their conservation duties, but they probably cannot follow the pace of other regions or member states.

Speaking of the Mid-Atlantic Islands, it is therefore advisable that if a species-approach is integrated in the Directive, some sort of economic supporting mechanism should be attached. Moreover and regarding the special protection areas, the original Commission's proposal said that it has considered the possible repercussions that they may have on the income of the population living in those zones. Such consideration is missing in the present draft of the Directive and at least, some clearer link to already existing Community aid systems should be stated.

Invertebrates

Whatever criteria is fixed for Annex I, the free opening of it to invertebrate species will produce either an "overflow" collapse of the Directive, or a remarkable, uneven treatment of groups with outstanding inconsistencies.

⁷ The three archipelagoes are politically autonomous regions.

The first draft list (May 1989) included 25 species vulnerable and endemic to the EEC, 20 of them being terrestrial molluscs endemic to Madeira, most living together. The number of endemic endangered invertebrates in the Mid-Atlantic Islands is too high (> 400?) to be realistically treated. The misconception for plant lists previously explained applies also to invertebrate lists.

A more effective use of Annex I for the protection of invertebrate species is to deal only with well known cases; target species whose habitat/site is under threat. Most of them will be so called spot-endemics (stenotopic species). For example: the big tenebrionid beetle *Pimelia fernandezlopezi* living in a coastal platform of some 10 hectares in the island of Gomera, where hippies like to settle down. The species needs site protection.

If not under this or another very strict selective approach, it is preferable to exclude invertebrates from Annex I for the time being. The Directive is obviously based on the Bern Convention, but it does not necessarily need to also adopt its errors. Invertebrates should not be incorporated just to show that their protection is also important. Only, if by its implementation one can really gain some real protection for them.

For the archipelagoes studied, the great majority of endemic invertebrate species will be protected via Annex IV. It seems to be the best way.

Bird Directive 79/409/EC

The recently published IRBP Technical report n.9 on Important Bird Areas in Europe include a total of 7 areas for the Azores, 13 for Madeira (& Selvagens) and 64 for the Canaries. The majority fall in already existing protected areas, some others not, but there will certainly be a great overlap with areas to be covered by the Habitat Directive.

It is obvious that the latter Directive has a broader scope and does conceptually include the former. Both will end in Natura-2000 and there are other reasons (efficiency, no duplication, etc) that justify an integration of the Bird Directive into the Habitat Directive. However, there are also valid arguments to maintain both in paralell, at least, until one can see how the new Directive works. A premature fusion would produce imbalances, indeed.

In any case, I do not see the reasons why the integration process should not be already included in the Habitat Directive. Juridic Services can easily prepare transitory provisions (= temporary law) to rule a step-wise integration (after fulfillment of some specific and sequential objectives or landmarks).

This declared link is advisable not only because of technical coherency, but also to avoid confusion at Regional and Local authorities levels, which I have already been able to detect.

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Appendix A

Threatened natural and semi-natural habitats in the European Community which are present in the Mid-Atlantic Islands.

Shallow water marine habitats	AMC
Coastal salt marshes	A C
Sand beaches	AMC
Coastal sand dunes	AMC
Seacliffs and clifftop habitats	AMC
Islets and rock stacks	AMC
Saline and brackish lagoons and lakes	A C
Oligotrophic lakes and pools	A
Near natural rivers and streams	AM
Wet heaths	A
Macaronesian heaths	AMC
Juniper heaths	A
Canary Islands montane scrub	C
Macaronesian semi-desert	MC
Humid grasslands	A
Blanquet bogs	A
Laurel forests	AMC
Springs	AM
Cliffs, rock faces (espec. inland cliffs)	AMC
Caves and cave systems (lavatubes)	AMC
Barren lavafields	A C

A = Azores M = Madeira & Selvagens C = Canary Islands

Appendix B

Highly threatened endemic plants of the Azores, Madeira and the Canary Islands. (R = in need of Species Recovery Plans)

Distrib.

Apiaceae

Bunium brevifolium Lowe	- - M -
Bupleurum handiense (Bolle) Kunkel	- - - C
Ferula latipinna Santos	- - - C
Melanoselinum decipiens (Schrader & Wendl.)	- A M -

Asclepiadaceae

Ceropegia chrysantha Svent.	R - - C
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Asteraceae

Argyranthemum lidii Humphries	- - - C
Argyranthemum sundingii Borgen	- - - C
Argyranthemum thalassophilum (Svent.) Hump.	- - M -
Argyranthemum winteri (Svent.) Hump.	R - - C
Atractylis arbuscula Svent. & Michaelis	R - - C
Atractylis preauxiana Schultz. Bip.	R - - C
Cheirolophus anagaensis Santos	R - - C
Cheirolophus c. canariensis (Brouss. ex Willd)	- - - C
Cheirolophus duranii (Burchard) Holub	R - - C
Cheirolophus falsisectus Svent.	- - - C
Cheirolophus ghomerytus (Svent.) Holub	R - - C
Cheirolophus junonianus (Svent.) Holub	R - - C
Cheirolophus massonianus (Lowe) Hansen	R - M -
Cheirolophus metlesicsii V. Montelongo	R - - C
Cheirolophus puntallanensis Santos	R - - C
Cheirolophus santos-abreui Santos	R - - C
Cheirolophus satarataensis (Svent.) Holub	R - - C
Cheirolophus sventenii sventenii (Santos) Kunk.	- - - C
Cheirolophus tagananensis (Svent.) Holub	R - - C
Helichrysum devium F.Y. Johnson	- - M -
Helichrysum gossypinum Webb	- - - C
Helichrysum monogynum B.L. Burtt & Sunding	- - - C
Hypochoeris oligocephala (Svent. & D. Bramwell)	R - - C
Lactuca watsoniana Trel.	- A - -
Onopordon nogalesii Svent.	R - - C

Onopordum carduelinum Bolle	R - - C
Pericallis hadrosomus Svent.	- - - C
Pericallis hansenii Kunkel	- - - C
Pericallis hermosae Pitard	R - - C
Sonchus gandogeri Pitard	- - - C
Stemmacantha cynaroides (Chr.Sm.in Buch) Ditt	R - - C
Sventenia bupleuroides Font Quer	- - - C
Taeckholmia oshannahanni n.sp.	R - - C
Tolpis glabrescens Kammer	R - - C

Berberidaceae

Berberis maderensis Lowe.	- - M -
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Boraginaceae

Echium auberianum Webb & Berth.	- - - C
Echium gentianoides Webb ex Coincy	- - - C
Echium handiense Svent.	R - - C

Brassicaceae

Crambe arborea Webb ex Christ	R - - C
Crambe laevigata DC. ex Christ	R - - C
Crambe scoparia Svent.	R - - C
Crambe sventenii B. Petters.ex Bramw.& Sund.	R - - C
Descurainia artemisioides Svent.	- - - C
Parolinia schizogynoides Svent.	- - - C
Sinapidendron sempervivifolium Menezes	- - M -

Campanulaceae

Azorina vidalli (Wats.) Feer	- A - -
Musschia wollastoni Lowe	- - M -

Caprifoliaceae

Sambucus palmensis Link	R - - C
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Caryophyllaceae

Silene nocteolens Webb & Berth.	R - - C
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Caryophyllaceae

Cerastium vagans Lowe	- - M -
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Cistaceae

Cistus chinamadensis Bañares & Romero	R - - C
Cistus osbaeckiaefolius Webb ex Christ	- - - C

<i>Helianthemum bystropogophyllum</i> Svent.	R - - C
<i>Helianthemum juliae</i> Wildpret	R - - C
<i>Helianthemum teneriffae</i> Coss.	- - - C
Convolvulaceae	
<i>Convolvulus caput-medusae</i> Lowe	- - - C
<i>Convolvulus lopez-socasi</i> Svent.	R - - C
<i>Convolvulus massoni</i> A. Dietr.	- - M -
Crassulaceae	
<i>Aeonium gomeraense</i> Praeger	- - - C
<i>Aeonium mascaense</i> D.Bramwell	- - - C
<i>Aichryson dumosum</i> (Lowe) Praeger	- - M -
<i>Monanthes adenoscepes</i> Svent.	- - - C
<i>Monanthes dasyphylla</i> Svent.	R - - C
<i>Monanthes wildpretii</i> Bañares & Scholz	- - - C
<i>Sedum brissemoretii</i> Raymond-Hamet	- - M -
Cyperaceae	
<i>Carex malato-belizii</i> Raymond	- - M -
<i>Carex perraudieriana</i> Gay ex Bornm.	- - - C
Empetraceae	
<i>Corema album</i> (L.) ssp. <i>azoricum</i> P. Silva	- A - -
Euphorbiaceae	
<i>Euphorbia anachoreta</i> Svent.	- - M -
<i>Euphorbia bourgeauana</i> Gay ex Boiss.	R - - C
<i>Euphorbia lambii</i> Svent.	- - - C
Fabaceae	
<i>Adenocarpus ombriosus</i> Ceball. & Ortuño	R - - C
<i>Anagyris latifolia</i> Brouss. ex Willd.	- - - C
<i>Anthyllis lemmaniana</i> Lowe	- - M -
<i>Cicer canariensis</i> Santos & Gweil.	R - - C
<i>Dorycnium broussetii</i> (Choisy) Webb	- - - C
<i>Dorycnium spectabile</i> Webb & Berth.	R - - C
<i>Genista benehoavensis</i> (Bolle ex Svent.) D. Arco	R - - C
<i>Lotus azoricus</i> P.W.Ball.	R A - -
<i>Lotus berthelotii</i> Masferrer	R - - C
<i>Lotus callis-viridis</i> D.Bramwell & D.H.Davis	- - - C
<i>Lotus eremiticus</i> Santos	R - - C
<i>Lotus kunkelii</i> (Esteve) D.Bramwell & D.H.Dav.	R - - C

Lotus maculatus Breitfeld	R -- C
Lotus pyranthus Pérez de Paz	R -- C
Ononis christii Bolle	R -- C
Teline linifolia teneriffae P.E.Gibbs & Ding.	- -- C
Teline rosmarinifolia W.& B. eurifolia Arco.	- -- C
Teline r. rosmarinifolia Webb & Berth.	- -- C
Teline salsoloides M.del Arco	R -- C
Vicia costae A. Hansen	R - M -
Vicia portosanctana Menezes	R - M -
Geraniaceae	
Geranium maderense Yeo	- - M -
Globulariaceae	
Globularia ascanii D.Bramwell & Kunkel	R -- C
Globularia sarcophylla Svent.	R -- C
Lamiaceae	
Teucrium betonicum L'Herit	- - M -
Micromeria glomerata P.Perez	R -- C
Micromeria leucantha Sventh. ex P.Perez	- -- C
Micromeria pineolens Svent.	- -- C
Micromeria rivas-martinezii Wildpret	- -- C
Salvia herbanica Santos & Fndez.	R -- C
Sideritis cystosiphon Svent.	- -- C
Sideritis discolor (Webb ex de Noe) Bolle	R -- C
Sideritis infernalis Bolle	R -- C
Sideritis marmorea Bolle	R -- C
Sideritis nervosa (Christ) Lid	- -- C
Thymus organoides Webb & Berth.	- -- C
Lauraceae	
Apollonias ceballosi Svent.	- -- C
Liliaceae	
Androcymbium hierrensis Santos	- -- C
Asparagus fallax Svent.	R -- C
Semele gayae (Webb) Svent. & Kunkel	R -- C
Marsiliaceae	
Marsilia azorica Laurent & Paiva	R A --
Myricaceae	

Myrica rivas-martinezii Santos R - - C

Orchidaceae

Barlia metlesicsiana W. Teschner R - - C

Goodyera macrophylla Lowe R - M -

Orchis scopulorum Summerh. - - M -

Pittosporaceae

Pittosporum coriaceum Dryander ex Aiton - - M -

Plantaginaceae

Plantago malato-belizii Lawalrée - - M -

Plumbaginaceae

Limonium arborescens (Brouss.) Kuntze R - - C

Limonium bourgeauii (Webb) Kuntze - - - C

Limonium dendroides Svent. R - - C

Limonium fruticans (Webb) Kuntze R - - C

Limonium ovalifolium canariense Pignatti - - - C

Limonium perezii (Stapf) Hubbard R - - C

Limonium spectabile (Svent.) Kunkel & Sunding R - - C

Limonium sventenii Santos & Fndez. R - - C

Poaceae

Deschampsia maderensis (Haeck. & Born).Busch. - - M -

Phalaris maderensis (Menezes) Menezes - - M -

Rosaceae

Bencomia brachystachya Svent. R - - C

Bencomia extipulata Svent. R - - C

Bencomia sphaerocarpa Svent. R - - C

Chamaemeles coriacea Lindl. - - M -

Dendriopoterium pulidoi Svent. R - - C

Marcetella maderensis (Born.) Svent. - - M -

Prunus lusitanicus L. ssp. *azorica* (Mouil.) R A - -

Sorbus maderensis Dode R - M -

Rutaceae

Ruta microcarpa Svent. R - - C

Ruta oreojasme Webb - - - C

Ruta pinnata L.f. - - - C

Santalaceae

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Kunkeliella subsucculenta Kammer	R - - C
Kunkeliella canariensis Stearn	R - - C
Kunkeliella psilotoclada (Svent.) Stearn	R - - C
Osyris quatripartita Selz. v. canariensis Kam.	- - - C

Sapotaceae

Sideroxylon marmulano Banks ex Lowe	- - M C
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Scrophulariaceae

Euphrasia azorica Wats.	- A - -
Euphrasia grandiflora Hockst. ex Seub.	R A - -
Veronica dabneyi Hochst.	- A - -
Isoplexis chalcantha Svent. & O'Shanahan	- - - C
Isoplexis isabelliana (Webb & Berth.) Masfer.	R - - C

Solanaceae

Solanum trisectum Dunal	R - M -
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Violaceae

Viola anagae Gilli	- - - C
Viola cheiranthifolia Humboldt & Bonpl.	- - - C
Viola palmensis Webb & Berth.	- - - C

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