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The Galician-Portuguese biogeographic sector. An initial advance

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Abstract

Borders for the ten bigeograpic districts belonging to the Galician-Portuguese sector are destribed as well as its bioclimatic and vegetational features. Bioclimatic diagnoses (isobioclimates) of some weather stations based on their bioclimatic parameters and indices are shown. Finally, climatophilous, climato-temporihigrophilous and edaphoxerophilous series; edaphohigrophilous fluvial and lacustrine geoseries as well as coastal geopermaseries; permaseries and minoriseries, secondary forests are described for each district.

Keywords: Biogeography. Galician-Portuguese sector. Spain. Portugal

Biogeographic typology

I. EUROSIBERIAN Region (*Región EUROSIBERIANA*)
IB. ATLANTIC-CENTRAL EUROPEAN Subregion (*Subregión ATLÁNTICA-CENTROEUROPEA*)
Ib. EUROPEAN ATLANTIC Province (*Provincia ATLÁNTICA EUROPEA*)
Iba. CANTABRIAN ATLANTIC Subprovince (*Subprovincia CANTABROATLÁNTICA*)
6. GALICIAN-PORTUGUESE Sector (*Sector GALAICO-PORTUGUÉS*)
6a. Luguese District (Distrito *Lucense*)
6b. Brigantian District (Distrito *Brigantino*)
6c. Compostelan District (Distrito *Compostelano*)
6d. Cies Islands District (Distrito *Insular de Cíes*)
6e. North Miniese District (Distrito *Miñense Septentrional*)
6j. Bracarese District [P] (■)(Distrito *Bracarense*)
6k. Coastal Dourese District [P] (■) (Distrito *Duriense Costero*)
6n. Valdeorrese District (Distrito *Valdeorrense*)
6o. Orensan-Lemosan District (Distrito *Orensano-Lemosano*)
6p. Navian District (Distrito *Naviano*)

Geographic description

Bracarese: District 6j. Low and inner Lima river basins to Cávado and from Esposende to Caminha, besides low Miño banks from La Guardia and Tui toVal de Salvaterra, and up to Valença do Miño and Monção in Portugal. (distrito *Bracarense*).

Brigantian: District 6b. Coastal regions of Brigantium (La Coruña): Bergantiños and las Mariñas, from Finisterre to the north of Corcubión Ría - Costa de la Muerte, Sisargas islands, Coruña, Betanzos Ferrol Rías, besides the low basin of Eume river up to Prioriño cape and Doniños. Finisterre, Vilán cape, Traba beach, Sisargas islands, coastal lagoon of Baldaio, Eume low valley and coastal lagoon of Doniños are remarkable as protected or valuable natural areas (distrito *Brigantino*).

Central-West Galician: Biogeographic territory that comprises the Luguese (6a), Brigantian (6b) y Compostelan (6c) districts. (territorio *Galaico Centroccidental*).

Cies Islands: District 6d. Islas Cíes: with San Martino islands (southern island), Monteagudo (northern island), Onza, Ons, Sálvora y Vionta, which close the exits of Vigo, Pontevedra and Arosa Rias. In 2002, all these coastal islands became part of the National Park of

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the Atlantic Islands, which joined Cortegada island, located opposite to Villagarcía de Arosa, which biogeographically, Arosa island, belongs to Compostelan district (6c). (distrito *Insular de Cíes*).

Coastal Dourese: District 6k. Sandy coasts and coastal mountains of the Duero, Vizela and Este rivers from Espinho and Oporto to Vila Nova de Famaliçao and Póvoa de Varzim. (Distrito *Duriense Costero*).

Coastal Galician: Biogeographic area of Galicia coast belonging to North Galician (5d), Compostelan, Brigantian, North Minian and Cíes Islands dictrict (5d+6c+6b+6e+6d, lit.). (area *Galaica Costera*).

Coastal West Galician: Biogeographic area of Galicia coast belonging to Brigantian, Compostelan, Cíes Islands and North Minian (6b+6c+6d+6e, lit.). (area *Galaica Occidental Costera*).

Compostelan: District 6c. Compostela: from Jallas and Ulla to Umia rivers basins, and along the coast from Corcubión Ria to Arosa Ria, with Cortegada and Arosa islands. From south to north the beach and tombolo de Lanzada, Grove inlet, Toja island, Corrubedo, Louro and Carnota beaches and Pindo Mountain are remarkable as protected or valuable natural areas (distrito *Compostelano*).

Galician Portuguese: Sector 6. It comprises the Luguese (6a), Brigantian (6b), Compostelan (6c), Cies Islands (6d) North Miniese (6e), Bracarese (6j), Coastal Douriese (6k), Valdeorrese (6n) y Orensan-Lemosan (6o) and Navian (6p) districts. Central, southern and western Galicia and nortwestern Portugal. (sector *Galaico-Portugués*).

Inner Galician: Biogeographic territory that comprises the Valdeorrese (6n), Orensano-Lemosan (6o) y Navian (6p) districts. Inner Navia river basin, Ibias, Cabe, Bibei and Sil, up to Sobradelo de Valdeorras and Vega de Cascallá. (territorio *Galaico Interno*).

Luguese: District 6a. Lugo. Terra Chá, high Miño river basin to Portomarín and Monte Acebedo (820 m), Sarria vega and Val de Neira; Fonsagrada country and Los Oscos. (distrito *Lucense*).

Navian: District 6p. High and middle Navia river basin, Vall de Neira de Rei and low Íbias. (distrito *Naviano*).

North Galician-Portuguese: Biogeographic territory that comprises the Luguese (6a), Brigantian (6b), Compostelan (6c), Cíes Islands (6d) and North Minian (6e). Previous *North Galician-Portuguese* subsector. Western Galicia. (territorio *Galaico-Portugués Septentrional*).

North Minian: Distrito 6e. To the north of Miño river. From northern of La Guardia and Ponteareas; it follows along Ribeiro to Barbantiño basin. Along the coast: from Punta Bazar close to San Xian to Faxilda Punta, to the south of Lanzada beach opposite to Ons island to the north of Pontevedra Ria. Inland areas: Lérez, Verdugo, Tea and Aria rivers basins, with Faro de Avión and Castelada ranges, besides Seixo and Testeiro mountains. Valuable natural areas: Galiñeiro, Suido and Aloia mountains, besides Silleiro, Home and Udra capes opposite to Cíes island, in Vigo and Pontevedra Rias. (distrito *Miñense Septentrional*).

Orensan-Lemosan: District 6o. Orense country and Lemos valley, Sil and Miño banks o the west of Lor river. (distrito *Orenseano-Lemosano*).

South Galician-Portuguese territory: Biogeographic territory that comprises the districts: Bracarese (6j), Coastal Douriese (6k). Previous *South Galician-Portuguese* subsector. South of western Galicia and northwestern Portugal. (territorio *Galaico-Portugués Meridional*).

South-West Galician: Biogeographic territory that comprises the North Minian (6e) and Cíes Islands (6d). (territorio *Galaico Suroccidental*).

Valdeorrese: District 6n. Valdeorras country from Quiroga to Sobradelo, Bibei and Xares low basins. (distrito *Valdeorrense*).

Bioclimatology

The bioclimatic parameters and indices used in this classification RIVAS-MARTÍNEZ , RIVAS SÁENZ & PENAS, 2011, are detailed below, showing the abbreviations used. The list starts with precipitation parameters (expressed in mm), temperature (with the average in degrees centigrade and the positive temperature or indices in tenths of degrees centigrade) and seasonality, ending with the bioclimatic indices, which are simple arithmetic formulas that include parameters. Tables with bioclimatic parameters and indices of locations studied as well as their bioclimatic diagnosis are also shown

P	average annual precipitation in millimetres or litres per square metre.
Pp	positive annual precipitation (of the months with a Ti higher than 0ºC).
Ps	precipitation in summer quarter.
T	average annual temperature in degrees centigrade.
Tcmax	average temperature of the maximums of the most contrasted month of the year.
Tcmin	average temperature of the minimums of the most contrasted month of the year.
Tmax	average temperature of the hottest month of the year.
Tmin	average temperature of the coldest month of the year.
Tp	positive annual temperature: Total in tenths of degrees centigrade of the average monthly temperatures higher than 0º, $\Sigma Ti_{1\text{-}12} > 0$ºC.
Ts	average temperature of the summer quarter
M	average temperature of the maximums of the coldest month
m	average temperature of the minimums of the coldest month
Tr_3	quarter corresponding to the summer solstice (summer, N: 6-8, S; 12-2)
Ic	simple continentality index simple or annual thermic interval thermic anual (Tmax-Tmin in degrees centigrade)
Id	diurnality index or daily thermic interval (Tcmax-Tcmin in degrees centigrade)
Io	annual ombrothermic index (Pp/Tp) 10
Ios_1	ombrothermic index of the hottest month of the summer quarter (Tr_3)
Ios_2	ombrothermic index of the hottest two months of the summer quarter (Tr_3)
Ios_3	ombrothermic index of the summer quarter (Tr_3)
Ios_4	ombrothermic index of the four-month period resulting from adding the summer quarter (Tr_3) and the month immediately preceding it
Itc	compensated thermicity index

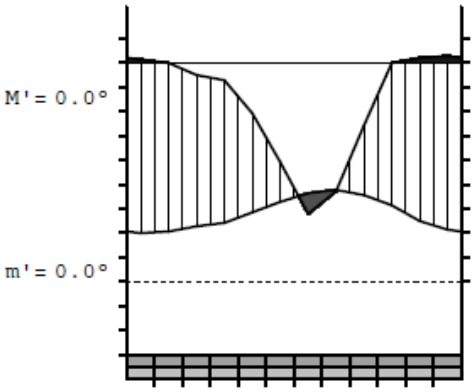
Bioclimatic parameters and indices

Locality	Prov.	Alt. (m)	Lat.	Long.	Yea. T	Yea. P	T	M	m	P	Pp	Ps	Itc	Tp	Ts	Ic	Id	Io	Ios_1	Ios_2	Ios_3	Ios_4
La Coruña	C	58	43º22'N	8º25'W	40	117	14.1	14.0	6.2	997	997	114	343	1689	536	8.6	12.3	5.9	1.53	1.76	2.13	2.71
Puentes de G.R.	C	343	43º27'N	7º51'W	22	22	11.8	10.5	2.7	1721	1721	159	250	1410	498	10.8	11.1	12.2	2.03	2.57	3.19	4.1
Betanzos	C	38	43º17'N	8º13'W	36	36	12.1	11.4	3.8	871	871	101	273	1456	483	9.3	9.5	6.0	1.25	1.78	2.09	2.67
Corcubión	C	120	42º57'N	9º11'W	10	10	16.3	15.2	9.2	1635	1635	124	407	1952	604	8.6	8.5	8.4	1.63	2.25	2.03	3.02
Finisterre	C	122	42º53'N	9º16'W	34	34	14.2	12.3	7.6	868	868	98	341	1698	538	8.8	7.5	5.1	1.09	1.59	1.82	2.33
Noya	C	104	42º47'N	8º53'W	13	13	13.8	12.1	5.2	1833	1833	181	311	1655	578	11.4	12.7	11.1	2.60	2.61	3.13	4.16
Padrón	C	58	42º44'N	8º38'W	28	28	14.9	13.6	4.9	1692	1692	148	334	1782	612	11.8	13.0	9.5	1.24	1.88	2.42	3.34
Santiago de C.	C	316	42º54'N	8º26'W	30	30	12.8	10.9	4.3	1545	1545	154	280	1531	528	10.8	11.1	10.1	2.04	2.49	2.92	3.93
Guitiriz	Lu	460	43º11'N	7º53'W	8	8	11.1	9.8	1.3	1318	1318	114	222	1326	494	11.7	13.7	9.9	0.69	1.43	2.31	3.55
Lugo	Lu	454	43º01'N	7º33'W	33	33	12.0	9.4	2.6	1054	1054	119	240	1444	530	12.6	12.5	7.3	1.44	1.77	2.25	3.07
Otero de Rey	Lu	414	43º06'N	7º37'W	12	12	11.4	9.6	2.4	1018	1018	111	234	1365	496	11.4	13.5	7.5	0.88	2.12	2.24	2.41
S. Martín Oscos	O	697	43º16'N	6º57'W	21	21	10.0	9.1	-0.3	1485	1485	164	188	1197	462	11.7	13.8	12.4	1.99	2.68	3.55	4.55
Orense	Ou	139	42º20'N	7º51'W	38	38	13.9	9.9	3.6	802	802	73	274	1665	624	15.0	12.1	4.8	0.60	0.70	1.17	1.60
La Guardia	Po	40	41º54'N	8º52'W	23	23	14.2	13.3	5.5	1338	1338	104	330	1707	556	9.9	9.4	7.8	0.83	1.01	1.07	2.04
Lalin	Po	552	42º40'N	8º06'W	10	10	12.5	9.2	3.6	1342	1342	105	253	1495	540	12.5	12.3	8.9	1.05	1.43	1.94	2.84
Lourizan	Po	60	42º25'N	8º39'W	13	13	14.1	12.6	5.2	1703	1703	15	319	1691	573	11.0	10.3	10.1	1.01	1.42	2.01	3.24
Peinador	Po	250	42º10'N	8º30'W	14	14	13.2	11.1	4.9	1965	1965	163	292	1579	539	10.6	10.2	12.4	1.62	2.40	3.02	4.53
Puenteareas	Po	50	42º11'N	8º30'W	36	36	14.5	13.0	4.1	1517	1517	124	316	1741	612	12.6	15.2	8.7	1.04	1.47	2.03	3.03
Pontevedra	Po	19	42º26'N	8º38'W	40	40	14.6	12.4	5.9	1595	1595	138	329	1752	593	11.3	10.8	9.1	1.98	2.01	2.33	3.63
Tuy	Po	58	42º03'N	8º39'W	25	25	13.8	10.9	4.7	1908	1908	221	294	1654	569	12.1	10.8	11.5	3.05	3.24	3.00	4.49
Vigo	Po	27	42º14'N	8º43'W	40	40	15.0	13.5	6.9	1338	1338	120	354	1779	580	9.7	8.7	7.4	1.31	1.74	2.07	3.02

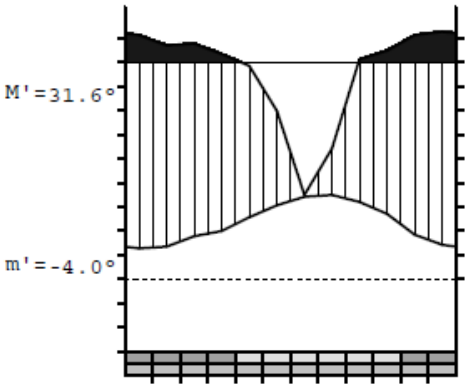
Bioclimatic diagnosis

Locality	Prov.	Alt. (m)	Lat.	Long.	Bioclimatic diagnosis
La Coruña	C	58	43º22'N	8º25'W	High eutemperate Strong Subhyperoceanic Temperate hyperoceanic submediterranean upper thermotemperate upper subhumid
Puentes de G.R.	C	343	43º27'N	7º51'W	High eutemperate Weak Subhyperoceanic Temperate hyperoceanic submediterranean low mesotemperate low hyperhumid
Betanzos	C	38	43º17'N	8º13'W	High eutemperate Strong Subhyperoceanic Temperate hyperoceanic submediterranean low mesotemperate upper subhumid
Corcubión	C	120	42º57'N	9º11'W	Low eutemperate Strong Subhyperoceanic Temperate hyperoceanic submediterranean low thermotemperate low humid
Finisterre	C	122	42º53'N	9º16'W	Low eutemperate Strong Subhyperoceanic Mediterranean pluviseasonal-oceanic low mesomediterranean upper subhumid
Noya	C	104	42º47'N	8º53'W	Low eutemperate Strong Semihyperoceanic Temperate oceanic submediterranean upper thermotemperate upper humid
Padrón	C	58	42º44'N	8º38'W	Low eutemperate Strong Semihyperoceanic Temperate oceanic submediterranean upper thermotemperate upper humid
Santiago de C.	C	316	42º54'N	8º26'W	Low eutemperate Weak Subhyperoceanic Temperate hyperoceanic submediterranean low mesotemperate upper humid
Guitiriz	Lu	460	43º11'N	7º53'W	High eutemperate Strong Semihyperoceanic Temperate oceanic submediterranean upper mesotemperate upper humid
Lugo	Lu	454	43º01'N	7º33'W	High eutemperate Weak Semihyperoceanic Temperate oceanic submediterranean low mesotemperate low humid
Otero de Rey	Lu	414	43º06'N	7º37'W	High eutemperate Strong Semihyperoceanic Temperate oceanic submediterranean upper mesotemperate low humid
S. Martín Oscos	O	697	43º16'N	6º57'W	High eutemperate Strong Semihyperoceanic Temperate oceanic submediterranean low supratemperate low hyperhumid
Orense	Ou	139	42º20'N	7º51'W	Low eutemperate Strong Euoceanic Mediterranean pluviseasonal-oceanic upper mesomediterranean upper subhumid
La Guardia	Po	40	41º54'N	8º52'W	Low eutemperate Weak Subhyperoceanic Temperate hyperoceanic submediterranean upper thermotemperate low humid
Lalin	Po	552	42º40'N	8º06'W	Low eutemperate Strong Semihyperoceanic Temperate oceanic submediterranean lowr mesotemperate low humid
Lourizan	Po	60	42º25'N	8º39'W	Low eutemperate Weak Subhyperoceanic Temperate hyperoceanic submediterranean upper thermotemperate upper humid
Peinador	Po	250	42º10'N	8º30'W	High eutemperate Weak Subhyperoceanic Temperate hyperoceanic submediterranean low thermotemperate low hyperhumid
Puenteareas	Po	50	42º11'N	8º30'W	High eutemperate Weak Semihyperoceanic Temperate oceanic submediterranean upper thermotemperate low humid
Pontevedra	Po	19	42º26'N	8º38'W	High eutemperate Strong Semihyperoceanic Temperate oceanic submediterranean upper thermotemperate upper humid
Tuy	Po	58	42º03'N	8º39'W	High eutemperate Weak Semihyperoceanic Temperate oceanic upper thermotemperate upper humid
Vigo	Po	27	42º14'N	8º43'W	High eutemperate Strong Subhyperoceanic Temperate hyperoceanic submediterranean low thermotemperate low humid

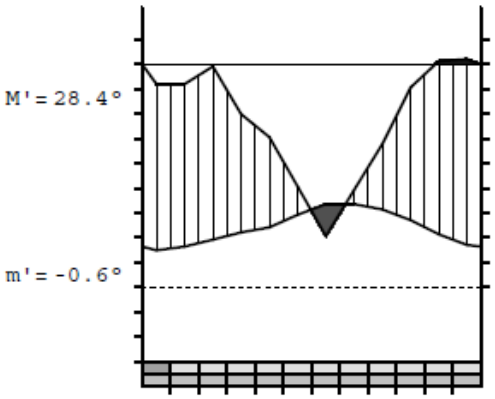
LA CORUÑA (LA CORUÑA) 58 m
P= 997 43° 22'N 8° 25'W 40/117 y.
T=14.1° Ic= 8.7 Tp=1688 Tn= 0
m= 6.2° M=14.0° Itc= 343 Io= 5.9



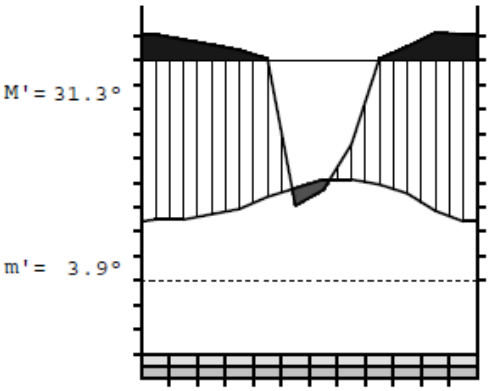
PUENTES DE GARCIA RODRIGUEZ (LA CORUÑA) 343 m
P=1721 43° 27'N 7° 51'W 22/22 y.
T=11.8° Ic=10.8 Tp=1410 Tn= 0
m= 2.7° M=10.5° Itc= 250 Io= 12.2



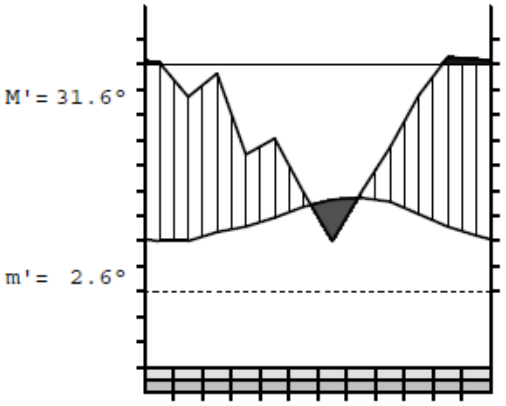
BETANZOS (LA CORUÑA) 38 m
P= 871 43° 17'N 8° 13'W 36/36 y.
T=12.1° Ic= 9.3 Tp=1456 Tn= 0
m= 3.8° M=11.4° Itc= 273 Io= 6.0



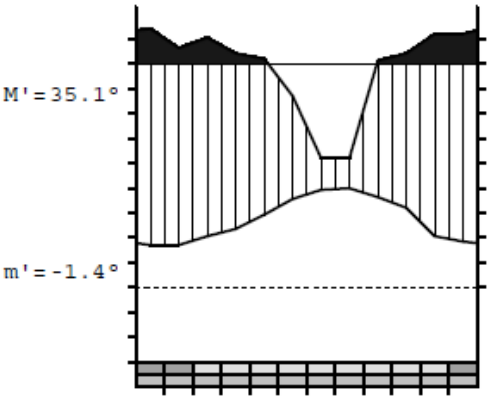
CORCUBION (LA CORUÑA) 120 m
P=1635 42° 57'N 9° 11'W 10/10 y.
T= 16.3° Ic= 8.6 Tp=1952 Tn= 0
m= 9.2° M= 15.2° Itc= 407 Io= 8.4



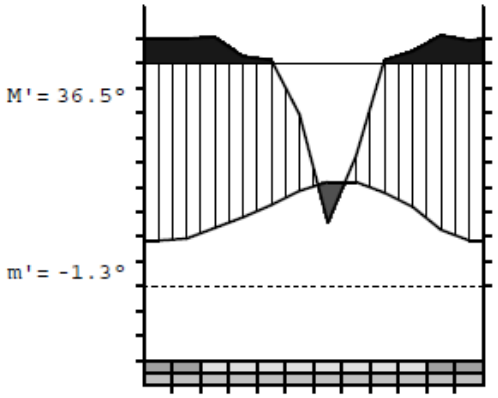
FINISTERRE (LA CORUÑA) 122 m
P= 868 42° 53'N 9° 16'W 34/34 y.
T= 14.1° Ic= 8.8 Tp=1698 Tn= 0
m= 7.6° M=12.3° Itc= 341 Io= 5.1



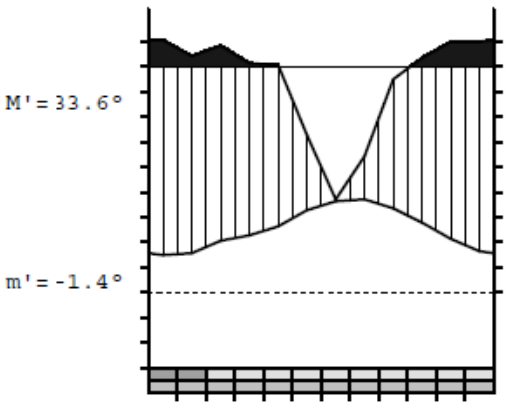
NOYA(LA CORUÑA) 104 m
P=1833 42° 47'N 8° 53'W 13/13 y.
T= 13.8° Ic=11.4 Tp=1655 Tn= 0
m= 5.2° M=12.1° Itc= 311 Io= 11.1



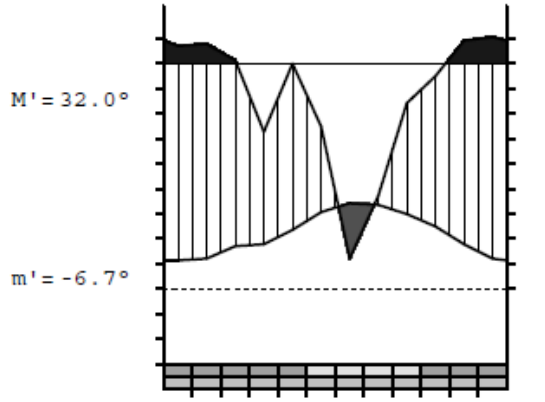
PADRON (LA CORUÑA) 58 m
P= 1692 42° 44'N 8° 38'W 28/28 y
T= 14.8° Ic= 11.8 Tp= 1782 Tn= 0
m= 4.9° M= 13.6° Itc= 334 Io= 9.5



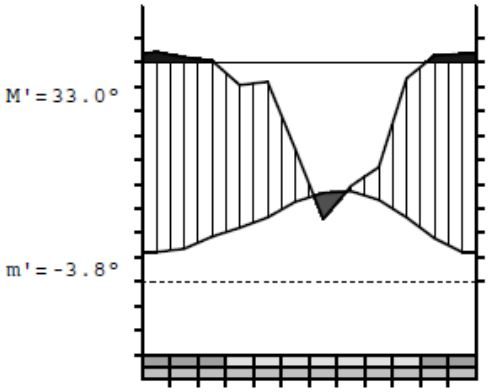
SANTIAGO DE COMPOSTELA (LA CORUÑA) 316 m
P= 1545 42° 54'N 8° 26'W 30/30 y.
T= 12.8° Ic= 10.8 Tp= 1531 Tn= 0
m= 4.3° M= 10.9° Itc= 280 Io= 10.1



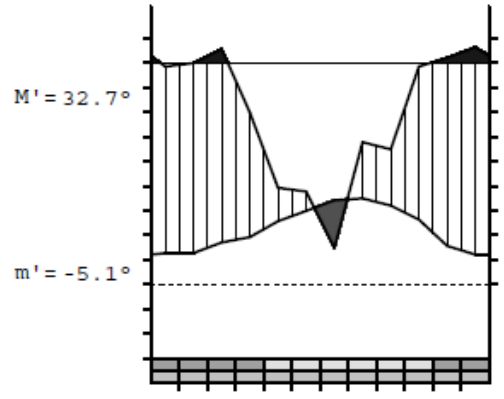
GUITIRIZ (LUGO) 460 m
P= 1318 43° 11'N 7° 53'W 8/8 y.
T= 11.1° Ic= 11.7 Tp= 1326 Tn= 0
m= 1.3° M= 9.8° Itc= 222 Io= 9.9



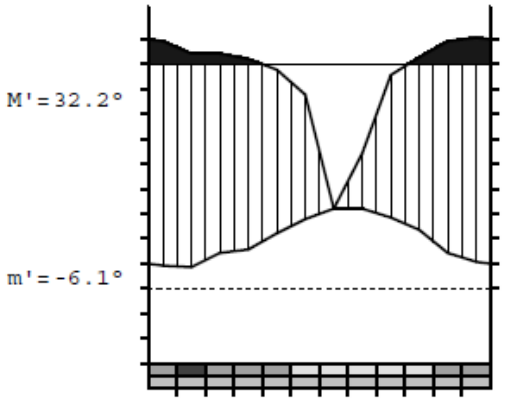
LUGO (LUGO) 454 m
P= 1054 43° 1'N 7° 33'W 33/33 y.
T= 12.0° Ic= 12.6 Tp= 1444 Tn= 0
m= 2.6° M= 9.4° Itc= 240 Io= 7.3



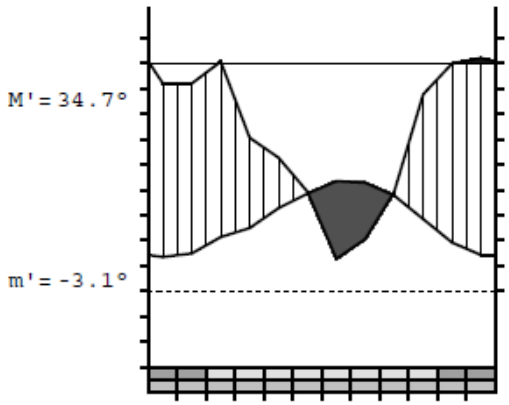
OTERO DEL REY (LUGO) 414 m
P= 1018 43° 6'N 7° 37'W 12/12 y.
T= 11.4° Ic= 11.4 Tp= 1365 Tn= 0
m= 2.4° M= 9.6° Itc= 234 Io= 7.5



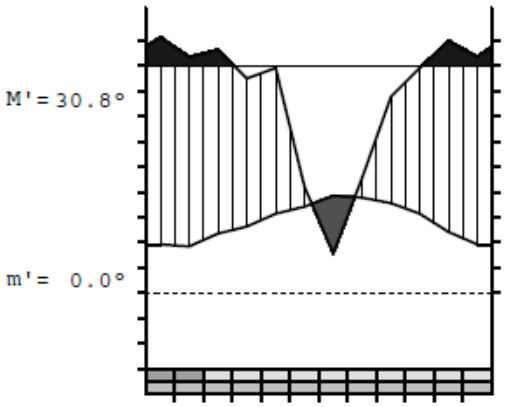
SAN MARTIN DE OSCOS (OVIEDO) 697 m
P= 1485 43° 16'N 6° 57'W 21/21 y.
T= 10.0° Ic= 11.7 Tp= 1197 Tn= 0
m= -0.3° M= 9.1° Itc= 188 Io= 12.4



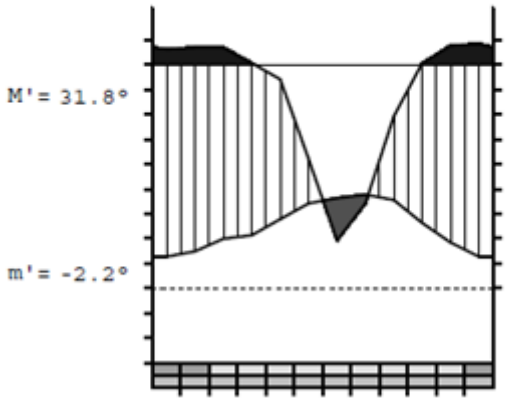
ORENSE (ORENSE) 139 m
P= 802 42° 20'N 7° 51'W 38/38 y.
T= 13.9° Ic= 15.0 Tp=1665 Tn= 0
m= 3.6° M= 9.9° Itc= 274 Io= 4.8



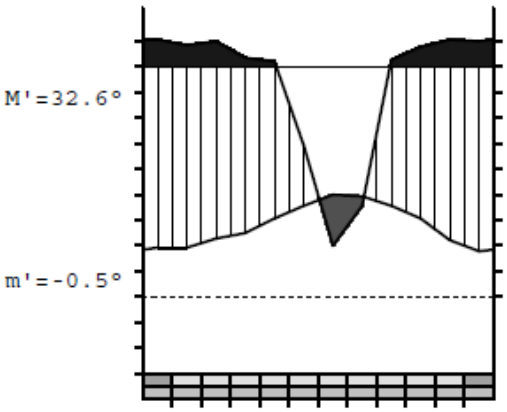
LA GUARDIA(PONTEVEDRA) 40 m
P= 1338 41° 54'N 8° 52'W 23/23 y.
T= 14.2° Ic= 9.9 Tp=1707 Tn= 0
m= 5.5° M= 13.3° Itc= 330 Io= 7.8



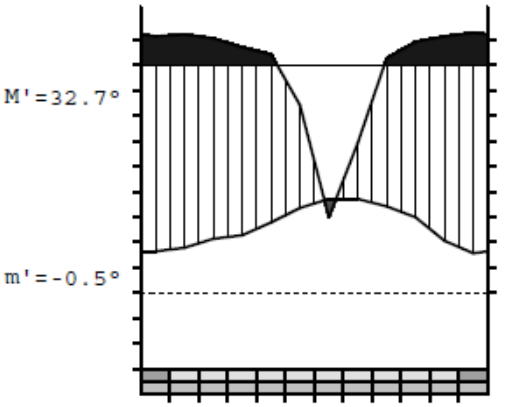
LALIN (PONTEVEDRA) 552 m
P= 1342 42° 40'N 8° 6'W 10/10 y.
T= 12.5° Ic= 12.5 Tp=1495 Tn= 0
m= 3.6° M= 9.2° Itc= 253 Io= 9.0



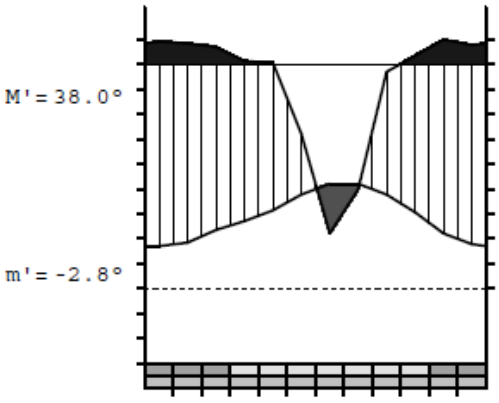
LOURIZAN (PONTEVEDRA) 60 m
P= 1703 42° 25'N 8° 39'W 13/13 y.
T= 14.1° Ic= 11.0 Tp=1691 Tn= 0
m= 5.2° M= 12.6° Itc= 319 Io= 10.1

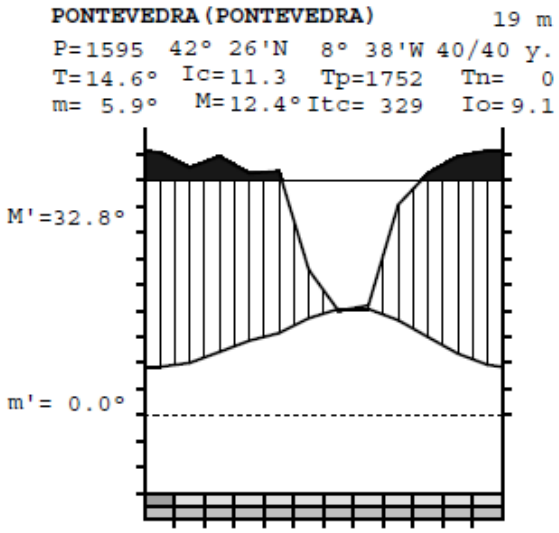


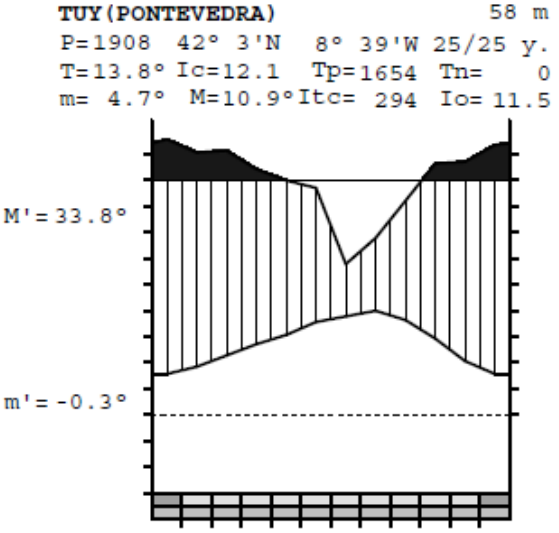
PEINADOR (PONTEVEDRA) 250 m
P= 1965 42° 13'N 8° 38'W 14/14 y.
T= 13.2° Ic= 10.6 Tp=1579 Tn= 0
m= 4.9° M= 11.1° Itc= 292 Io= 12.4

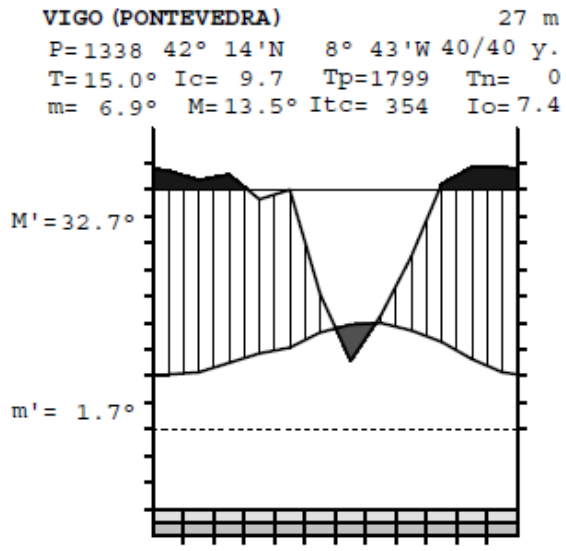


PUENTEAREAS (PONTEVEDRA) 50 m
P= 1517 42° 11'N 8° 30'W 36/36 y.
T= 14.5° Ic= 12.6 Tp=1741 Tn= 0
m= 4.1° M= 13.0° Itc= 316 Io= 8.7









Vegetation series

A. Climatophilous, temporihigrophilous and edaphohigrophylous Series

8c. Serie climastophylous North Galician-Portuguese acidophilous temperate oceanic and hyperoceanic thermo-supratemperate humid-hyperhumid submediterranean of *Quercus robur* and *Ruscus aculeatus* with *Melampyrum pratense* and *Ulex izcoi* forests. [**Rusco aculeati-Querco roboris sigmetum**]

8ca. Compostelan and Luguese mesotemperate with *Ulex izcoi* typical faciation.

8cb. Compostelan and Luguese supratemperate with *Genista polygaliphylla.*

8cc. Compostelan and brigantian thermotemperate with *Davallia canariensis* faciation.

8cd. North Minian thermotemperate with *Celtica gigantea* faciation.

8ce. North Minian mesotemperate with *Ulex minor* faciation.

8cf. North Minian supratemperate with *Ulex breoganii* faciation.

Natural potential vegetation (VPN): *Rusco aculeati-Quercetum roboris*

8e. Serie climatophilous North Galician-Portuguese acidophilous temperate hyperoceanic and oceanicy infra-thermotemperate and mesomediterranean humid-hyperhumid submediterranean of *Quercus robur* and *Viburnum tinus* with *Arbutus unedo* and *Teucrium scorodonia* forests. [**Viburno tini-Querco roboris sigmetum**]

Natural potential vegetation (VPN):*Viburno tini-Quercetum roboris*

9c. Serie climatophilous Navian and Inner Galician acidophilous temperate oceanic meso-supratemperate and mediterranean pluviseasonal oceanic meso-supramediterranean humid-hyperhumid submediterranean of *Quercus pyrenaica* and *Lonicera periclymenum* with *Quercus robur* and *Ulex breoganii* forests. [**Lonicero periclymeni-Querco pyrenaicae sigmetum**]

9ca. Navian mesotemperate with *Lonicera periclymenum* typical faciation.

9cb. **N**avian mesotemperate with *Arbutus unedo* faciation.

9cc. Navian supratemperate with *Ulex breoganii* faciation.

9cd. Inner Galician mediterranean with *Quercus suber* faciation.

9ce. Inner Galician mediterranean and temperate with *Quercus rotundifolia* faciation.

9cf. Inner Galician supratemperate with *Genista polygaliphylla* faciation.

Natural potential vegetation (VPN): *Lonicero periclymeni-Quercetum pyrenaicae*

5l. Serie climatophilous North-West Asturian y Luguese acidophilous temperate hyperoceanic meso-supratemperate hyperhumid of *Fagus sylvatica* y *Saxifraga spathularis* with *Avenella flexuosa* and *Lonicera periclymenum* forests. [**Saxifrago spathularis-Fago sylvaticae sigmetum**]

Natural potential vegetation (VPN): *Saxifrago spathularis-Fagetum sylvaticae*

23e. Serie climatophilous y edaphoxerophylous Valdeorrese and Navian silicicolous mediterranean pluviseasonal and temperate oceanic mesomediterranean and mesotemperate subhumid-humid submediterranean of *Quercus suber* and *Physospermum cornubiense* with *Cytisus striatus* and *Erica cinerea* forests. [**Physospermo cornubiensis-Querco suberis sigmetum**]

23ea. Valdeorrese mesomediterranean with *Cytisus striatus* typical faciation.

23eb. Navian mesotemperate with *Daboecia cantabrica* faciation.

Natural potential vegetation (VPN): *Physospermo cornubiensis-Quercetum suberis*

6n. Serie climato-temporihigrophilous Galician-Portuguese and North Lusitanian Atlantic slightly acidophillous temperate hyperoceanic and oceanic meso-supratemplerate humid-hyperhumid submediterranean of *Quercus robur* and *Hypericum androsaemum* with *Betula celtiberica* and *Frangula alnus* forests. [**Hyperico androsaemi-Querco roboris sigmetum**]

Natural potential vegetation (VPN): *Hyperico androsaemi-Quercetum roboris*

B. Edaphophilous, fluvial and lacustrine Geoseries

35h, 63a. Serie and geoserie fluvial-marsh Iberoatlantic dystrophic, lentic temperate hyperoceanic and mediterranean pluviseasonal oceanic thermo-mesotemperate and mesomediterranean subhumid-humid submediterranean of *Alnus glutinosa* and *Carex lusitanica* with *Salix atrocinerea* and *Betula celtiberica* forests. [**Carici lusitanicae-Alno glutinosae sigmetum et geosigmetum**]

35hb, 63ab. Galician-Portuguese mesomediterranean with *Fraxinus angustifolia* faciation and geofaciation.

Natural potential vegetation (VPN): *Carici lusitanicae-Alnetum glutinosae*

37h, 62e. Serie y geoserie fluvial Galician-Portuguese soft freshwater temperate hyperoceanic and oceanic and mediterranean pluviseasonal oceanic thermo-mesotemperate and mesomediterranean subhumid-humid submediterranean of *Alnus glutinosa* and *Senecio bayonnensis* with *Fraxinus angustifolia* and *Osmunda regalis* forests. [**Senecioni bayonnensis-Alno glutinosae sigmetum et geosigmetum**]

Natural potential vegetation (VPN): *Senecioni bayonnensis-Alnetum glutinosae*

37b, 62d. Serie and geoserie fluvial Carpetanian-Leonese soft freshwater mediterranean pluviseasonal oceanic supramediterranean dry-humid of *Alnus glutinosa* and *Galium broterianum* con *Betula celtiberica* and *Caltha palustris* forests. [**Galio broteriani-Alno glutinosae sigmetum et geosigmetum**]

Natural potential vegetation (VPN) *Galio broteriani-Alnetum glutinosae*

37g, 62c. Serie and geoserie fluvial mediterranean iberolusitanian soft freshwater mediterranean pluviseasonal oceanic mesomediterranean dry-humid of *Alnus glutinosa* and *Scrophularia scorodonia* with *Carex lusitanica* and *Vitis sylvestris* forests. [**Scrophulario scorodoniae-Alno glutinosae sigmetum et geosigmetum**]

Natural potential vegetation (VPN):*Scrophulario scorodoniae-Alnetum glutinosae*

35g, 60d. Serie and geoserie fluvial Lacianese-Ancarese and North Galician-Asturian soft freshwater or slightly hard temperate oceanic meso-supratemperate subhumid-hyperhumid submediterranean of *Alnus glutinosa* and *Valeriana pyrenaica* with *Betula celtiberica* and *Carex reuteriana* forests. [**Valeriano pyrenaicae-Alno glutinosae sigmetum et geosigmetum**]

35gb, 60db. Navian with *Fraxinus angustifolia* faciation and geofaciation.

Natural potential vegetation (VPN): *Valeriano pyrenaicae-Alnetum glutinosae*

C. Coastal Geopermaseries

54a. Geopermaserie of dunes coastal Cantabroatlantic Coastal Iberic temperate hyperoceanic and mediterranean pluviseasonal oceanic thermotemperate and mesomediterranean subhumid-humid of *Ammophila australis* and *Otanthus maritimus* with *Elytrigia boreoatlantica* and *Iberis procumbens* fascicled grassland. [**Otantho maritimi-Ammophilo australis geopermasigmetum**]

54ab. Coastal Galician with *Helichrysum picardii* typical geopermafaciation.

Otantho maritimi-Ammophiletum australis

55c. Geopermaserie haloanemophylous coastal rock Coastal Galician temperate hyperoceanic and mediterranean pluviseasonal oceanic thermotemperate and mesomediterranean subhumid-humid submediterranean of cespitose nanoshrubland of *Armeria pubigera* and *Crithmum maritimum* with *Festuca pruinosa* and *Angelica pachycarpa*. [**Crithmo-Armerio pubigerae geopermasigmetum**]

55cb. Coastal West Galician with *Armeria pubigera* geopermafaciation.

D. Permaseries and minoriseries

16.2.1. *Euphorbio paraliae-Elytrigietum boreoatlanticae* Tüxen in Br.-Bl. & Tüxen 1952 nom. mut. [*Euphorbio paraliae-Agropyretum atlanticum* Tüxen in Br.-Bl. & Tüxen 1952 (art. 45), *Euphorbio-Agropyretum junceiformis* Tüxen in Br.-Bl. & Tüxen nom. mut. in Darimont, Duvigneaud & Lambinon 1962 (art. 45)]

19.7.6. *Dauco gummiferi-Festucetum pruinosae* Rivas-Martínez 1978

[*Armerio pubigerae-Festucetum pruinosae* Honrado & H.N. Alves in Honrado, P. Alves, H.N. Alves & F.B. Caldas 2004 (syntax. syn.)]

16.6.3. *Iberidetum procumbentis* Bellot 1968

[*Festuco arenariae-Crucianelletum maritimae* F. Álvarez 1972 (syntax. syn.)]

16.7.2. *Linario polygalifoliae-Corynephoretum canescentis* J. Rodríguez, Ortiz & Pulgar 1988

75.10.2. *Festuco pruinosae-Corematum albi*

61.3.2. *Cisto salviifolii-Ulicetum humilis* Br.-Bl., P. Silva & Rozeira 1965
[Incl. *Sileno maritimae-Ulicetum humilis daphnetosum maritimi* Rivas-Martínez 1979]

E. Secondary forests

68.1.3. *Carici lusitanicae-Salicetum atrocinereae* Neto, Capelo, J.C. Costa & Lousã 1996

76.14.1. *Holco mollis-Betuletum celtibericae* Amigo & M.I. Romero 2002
[*Holco mollis-Betuletum celtibericae* Amigo & Romero 1994 (art. 2b)]

F. Serial shrubland

61.4.3. *Cirsio filipenduli-Ericetum ciliaris* Br.-Bl., P. Silva & Rozeira 1965
[*Genisto triacanthi-Ericetum ciliaris* (Br.-Bl., P. Silva & Rozeira 1965) F. Prieto in T.E. Díaz 1998 (art. 5)]

61.4.8. *Halimio alyssoidis-Ulicetum breoganii* (Rivas-Martínez 1979) Rivas-Martínez, T.E. Díaz, F. Prieto, Loidi & Penas corr. Rivas-Martínez, T.E. Díaz, Fernández-González, Izco, Loidi, Lousã & Penas 2002
[*Daboecio-Ulicetum gallii halimietosum alyssoidis* Rivas-Martínez 1979 (basion.), *Halimio alyssodis-Ulicetum gallii* (Rivas-Martínez 1979) Rivas-Martínez, T.E. Díaz, F. Prieto, Loidi & Penas 1984 (art. 43)]

61.4.11. *Ulicetum latebracteato-minoris* Rivas-Martínez 1979

61.4.13. *Ulici izcoi-Ericetum cinereae* Bellot 1949 corr. Rivas-Martínez, Izco, Amigo & Pulgar in Rivas-Martínez & col. 2011
[*Ulici europaei-Ericetum cinereae* Bellot 1949 (art. 43), *Ulici-Halimietum occidentalis* (Bellot 1949) Tüxen in Tüxen & Oberdorfer 1958 (art. 29)]

61.4.20. *Erico umbellatae-Ulicetum breoganii* Rivas-Martínez, Izco, Amigo & Pulgar in Rivas-Martínez & col. 2011

65.4.2. *Cytisetum striati* Bellot & Casaseca ex Castroviejo 1973
[*Sarothamnetum eriocarpi* Bellot & Casaseca in Bellot 1968 (art. 3b), *Ulici europaei-Cytisetum striati* Rivas-Martínez ex T.E. Díaz & F. Prieto 1994 (syntax. syn.)]

65.4.8. *Ulici europaei-Cytisetum ingramii* Rivas-Martínez 1978
[*Cytisetum commutati* Bellot & Casaseca in Bellot 1968 (art. 3b)]

65.4.9. *Ulici latebracteati-Cytisetum striati* Rivas-Martínez ex J.C. Costa, Izco, Lousã, Aguiar & Capelo in J.C. Costa, Capelo, Lousã, Antunes, Aguiar, Izco & Ladero 2000

65.4.10. *Avenello flexuosae-Ericetum arboreae* M. Rodríguez, Real, Amigo & R. Romero in Rivas-Martínez & col. 2011
[*Avenello flexuosae-Ericetum arboreae* M. Rodríguez, Real, Amigo & R. Romero 2003 (art. 5)]

66.2.1. *Tamo communis-Rubetum ulmifolii* Tüxen in Tüxen & Oberdorfer 1958 nom. inv. propos. Rivas-Martínez & col. 2011
[*Rubo ulmifolii-Tametum communis* Tüxen in Tüxen & Oberdorfer 1958 (art. 42), *Corno sanguineae-Rubetum ulmifolii* Br.-Bl. in Vegetatio 14(1-4): 111, tb. 34, lectotypus Rivas-Martínez & col. 2011: 3. 1967 (syntax. syn.)]

66.4.1. *Frangulo alni-Pyretum cordatae* Herrera, F. Prieto & Loidi 1991

Syntaxomy

16. ***EUPHORBIO PARALIAE-AMMOPHILETEA AUSTRALIS*** Géhu & Rivas-Martínez in Rivas-Martínez & col. 2011
[*Euphorbio-Ammophiletea arundinaceae* Géhu & Géhu-Franck 1988 (art. 5, 8), *Ammophiletea arenariae* sensu. auct. non Br.-Bl. & Tüxen ex Westhoff, Dijk, Passchier & Sissingh, Oberzicht plantengem. in Nederland. Bibl. Ned. Naturhist. Ver. 7: 42. 1946, quod est: *Honckenyo-Elymetea arenariae* Tüxen 1966]

16a. *AMMOPHILETALIA AUSTRALIS* Br.-Bl., Prodr. Group. Végétaux. Ammophiletalia et Salicornietalia: 1: 5. 1933
[*Ammophiletalia* Br.-Bl. 1931 (art. 2b), *Ammophiletalia* Br.-Bl. 1933 (rec. 10C), *Elymetalia arenarii* Br.-Bl. & Tüxen 1952 (syntax. syn.), *Elymetalia arenarii* Fröde 1958 (art. 31), *Elymo-Ammophiletalia arenariae* Géhu-Franck 1969 (syntax. syn.), *Euphorbio-Ammophiletalia* Géhu & Géhu-Franck 1969 (syntax. syn.)]

16.1. **Ammophilion australis (arundinaceae)** Br.-Bl. in Jahrb. St. Gallischen Naturwiss. Ges. 52(2): 346. 1921 corr. Rivas-Martínez, Costa & Izco in Rivas-Martínez, Lousã, T.E. Díaz, Fernández-González & J.C. Costa 1990
[*Ammophilion* (*arundinaceae*) Br.-Bl. 1921 (art. 43), *Ammophilion* Br.-Bl. 1933 (art. 31, rec. 10C), *Ammophilion borealis* Tüxen in Br.-Bl. & Tüxen 1952 (syntax. syn.), *Euphorbio-Ammophilion arenariae* Géhu & Géhu-Franck 1969 (syntax. syn.)]

16.1a. ***Ammophilenion australis (arundinaceae)*** (Br.-Bl. 1921) Rivas-Martínez & Géhu in Rivas-Martínez, Lousã, T.E. Díaz, Fernández-González & J.C. Costa in Itinera Geobot. 3: 88. 1990
[*Ammophilenion arundinaceae* Rivas-Martínez, Costa, Castroviejo & E. Valdés in Lazaroa 2: 63. 1980 (art. 27a, 28)]

16.1.3. *Otantho maritimi-Ammophiletum australis* Géhu in Inst. Bot. Cavanilles 32(2): 999, tb 2. 1975 corr. Rivas-Martínez, Lousã, T.E. Díaz, Fernández-González & J.C. Costa 1990
[*Otantho-Ammophiletum arundinaceae* Géhu, Rivas-Martínez & Tüxen 1975 (art. 43), *Otantho-Ammophiletum arenariae* Géhu 1975 (publ. 29. XII. 1975); incl. *Agropyro junceiformis-Otanthetum ammophiletosum arenariae* Br.-Bl., Rozeira & P. Silva in Br.-Bl., G. Br.-Bl., Rozeira & P. Silva 1972 (lectotypus: Agron. Lusit. 33(1-4): 224, tb. 3, invent. 1. 1972) (corresp. name)]

16.2. **Honckenyo peploidis-Elytrigion boreoatlanticae** Tüxen in Br.-Bl. & Tüxen in Veröff. Ber. Geobot. Inst. Rübel 25: 248. 1952 nom. inv. et nom. mut. in Rivas-Martínez & col. 2011

[*Agropyro-Minuartion peploidis* Tüxen in Br.-Bl. & Tüxen 1952 (art. 45), *Elytrigio boreoatlanticae-Honckenyion peploidis* Tüxen in Br.-Bl. & Tüxen 1952 nom. mut. (art. 42), *Agropyrion junceiformis* Géhu, Rivas-Martínez & Tüxen ex Loriente 1978 (art. 29a)]

16.2a. ***Honckenyo peploidis-Elytrigienion boreoatlanticae*** (Tüxen in Br.-Bl & Tüxen 1952) Rivas-Martínez in Rivas-Martínez & col. 2011
[*Agropyrenion junceiformis* (Géhu, Rivas-Martínez & Tüxen ex Loriente 1978) Rivas-Martínez, Costa, Castroviejo & E. Valdés in Lazaroa 2: 64. 1980 (art. 5, 8)]

16.2.1. *Euphorbio paraliae-Elytrigietum boreoatlanticae* Tüxen in Br.-Bl. & Tüxen 1952 nom. mut. in Rivas-Martínez & col. 2011
[*Euphorbio paraliae-Agropyretum atlanticum* Tüxen in Br.-Bl. & Tüxen 1952 (art. 45), *Euphorbio-Agropyretum junceiformis* Tüxen in Br.-Bl. & Tüxen nom. mut. in Darimont, Duvigneaud & Lambinon 1962 (art. 45)]

16.2.3. *Elytrigietum junceo-boreoatlanticae* J.C. Costa, Neto, Lousã, Capelo & Rivas-Martínez 2005

16b. *CRUCIANELLETALIA MARITIMAE* Sissingh in Doc. Phytosociol. 7-8: 103. 1974
[*Artemisietalia crithmifoliae* Br.-Bl., Rozeira & P. Silva in Br.-Bl., G. Br.-Bl., Rozeira & P. Silva 1972 p.p. (art. 37), *Helichryso-Crucianelletalia maritimae* (Sissingh 1974) Géhu, Rivas-Martínez & Tüxen in Géhu 1975 (art. 22); excl. *Artemisio-Koelerietalia albescentis* Sissingh 1974]

16.6. **Helichrysion picardii** (Rivas-Martínez, Costa & Izco in Rivas-Martínez, Lousã, T.E. Díaz, Fernández-González & J.C. Costa 1990) Rivas-Martínez, Fernández-González & Loidi in Itinera Geobot. 13: 371. 1999
[*Helichrysenion picardii* Rivas-Martínez, Costa & Izco in Rivas-Martínez, Lousã, T.E. Díaz, Fernández-González & J.C. Costa in Itinera Geobot. 3: 90. 1990 (art. 27a), *Scrophulario frutescentis-Vulpion alopecuroris* Br.-Bl., Rozeira & P. Silva in Br.-Bl., G. Br.-Bl., Rozeira & P. Silva 1972 p.p. (art. 37)]

16c. *ARTEMISIO LLOYDII-KOELERIETALIA ALBESCENTIS* Sissingh in Doc. Phytosociol. 7-8: 103. 1974

16.7. **Euphorbio portlandicae-Helichrysion maritimi** Géhu & Tüxen ex Sissingh in Doc. Phytosociol. 7-8: 101. 1974

16.7.2. *Linario polygalifoliae-Corynephoretum canescentis* J. Rodríguez, Ortiz & Pulgar 1988

19. ***CRITHMO MARITIMI-LIMONIETEA*** Br.-Bl. in Br.-Bl., Roussine & Nègre, Group. Vég. France Medit: 32. 1952 nom. mut. in Rivas-Martínez & col. 2011
[*Crithmo-Staticetea* Br.-Bl. in Br.-Bl., Emberger & Molinier 1947 (art. 8), *Crithmo-Staticetea* Br.-Bl. in Br.-Bl., Roussine & Nègre 1952 (art. 45)]

19b. *CRITHMO MARITIMI-ARMERIETALIA MARITIMAE* Géhu ex Géhu & Géhu-Franck in Doc. Phytosoc. N.S. 8: 61. 1984
[*Crithmo-Armerietalia maritimae* Géhu 1964 (art. 2b)]

19.7**. Crithmo maritimi-Armerion maritimae** Géhu ex Géhu & Géhu-Franck in Doc. Phytosoc. N.S. 8: 61. 1984
[*Crithmion maritimi* Pavillard (1928) 1941 (art. 8), *Crithmo-Armerion maritimae* Géhu in Anales Real Acad. Farm. 41(2): 218. 1975 (art. 2b, 5), *Sileno maritimae-Festucion pruinosae* Géhu 2004 (syntax. syn.); incl. *Sileno-Festucenion pruinosae* Géhu & Géhu-Franck 1984 (art. 2b), *Crithmo-Limonienion binervosi* Géhu & Géhu-Franck 1984 (art. 2b)]

19.7.3. *Crithmo maritimi-Armerietum pubigerae* Rivas-Martínez 1978
[*Crithmo-Armerietum pubigerae* Rozeira in P. Silva & Teles 1972 (art. 1)]

19.7.6. *Dauco gummiferi-Festucetum pruinosae* Rivas-Martínez 1978
[*Armerio pubigerae-Festucetum pruinosae* Honrado & H.N. Alves in Honrado, P. Alves, H.N. Alves & F.B. Caldas 2004 (syntax. syn.)]

61. ***CALLUNO VULGARIS-ULICETEA MINORIS*** Br.-Bl. & Tüxen ex Klika & Hadač in Príroda 36(8-9): 20. 1944
[*Calluno-Ulicetea* Br.-Bl. & Tüxen 1943 (art. 8), *Calluno-Ulicetea minoris* Br.-Bl. & Tüxen ex Westhoff, Dijk & Passchier 1946 (art. 22), *Nardo-Callunetea* Preising 1949 (syntax. syn.)]

61a. *CALLUNO-ULICETALIA MINORIS* Quantin, ex Tüxen in Mitt. Florist.-Soziol. Arbeits. Niedersachsen 3:117. 1937
[*Ulicetalia minoris* Quantin 1935 (art. 1), *Ulicetalia* Br.-Bl. ex Rothmaler 1954 (syntax. syn.), *Erico-Ulicetalia* Br.-Bl., P. Silva & Rozeira 1965 (syntax. syn.), *Vaccinio myrtilli-Genistetalia pilosae* Schubert 1960 (syntax. syn.)]

61.2. **Ericion umbellatae** Br.-Bl., P. Silva, Rozeira & Fontes in Agron. Lusit. 14(4): 316. 1952
[*Ericion umbellatae* Br.-Bl., P. Silva, Rozeira & Fontes 1952, holotypus: *Junipero nanae-Ericetum aragonensis* Br.-Bl., P. Silva, Rozeira & Fontes, Agron. Lusit. 14(4): 316, tb. pág. 317, rel. 688a. 1952 (art. 17, 18), *Halimio-Ulicion* Rothmaler 1954 (syntax. syn.), *Genisto-Ericion aragonensis* Rivas-Martínez 1962 (art. 8), *Cistion hirsuti* Br.-Bl., P. Silva & Rozeira 1965 (syntax. syn.), *Ericion australis* Bellot & Casaseca in Bellot 1968 (syntax. syn.)]

61.2b. ***Ericenion umbellatae*** Rivas-Martínez in Lazaroa 1: 44. 1979
[*Ericenion umbellatae* Rivas-Martínez 1979 pág. 18 (art. 24 b), *Genisto-Cistenion hirsuti* Rivas Goday 1964 (art. 2b), incl. *Cistion hirsuti* Br.-Bl., P. Silva & Rozeira in Agron. Lusit. 23(4): 280. 1965 (corresp. name)]

61.2.27. *Festuco-Corematetum albi* M.A. Giménez & J.M. Losa in J.M. Losa 1975
[*Ulici latebracteati-Corematetum albi* J. & P. Guitián 1990 (art. 5), *Ulici latebracteati-Corematetum albi* J. & P. Guitián ex Izco & Amigo 2001 (syntax. syn.)]

61.3. **Dactylido maritimae-Ulicion maritimi** Géhu in Coll. Phytosociol. 2: 361. 1975
[Incl. *Ulicenion maritimo-humilis* (Géhu 1975) Rivas-Martínez lectotypus: *Ulici maritimi-Ericetum cinereae* Géhu & Géhu-Franck in Lazaroa 1:18. 1979 (art. 27a); incl. *Dactylido maritimae-Ulicenion maritimi* (Géhu 1975) Loidi, García-Mijangos, Herrera, Berastegi & Darquistade in Folia Geobot. Phytotax. 32(3): 268. 1997 (corresp. name)]

61.3.2. *Cisto salviifolii-Ulicetum humilis* Br.-Bl., P. Silva & Rozeira 1965
[Incl. *Sileno maritimae-Ulicetum humilis daphnetosum maritimi* Rivas-Martínez 1979]

61.4. **Daboecion cantabricae** (Dupont ex Rivas-Martínez 1979) Rivas-Martínez, Fernández-González & Loidi in Itinera Geobot. 13: 391. 1999
[*Daboecienion cantabricae* Dupont ex Rivas-Martínez in Lazaroa 1:26. 1979 (nomencl. syn.), *Daboecion cantabricae* Dupont 1975 (art. 2b, 8), *Daboecienion cantabricae* Rivas-Martínez in Rivas-Martínez, Báscones, T.E. Díaz, Fernández-González & Loidi in Itinera Geobot. 5: 367. 1991(art. 31)]

61.4.3. *Cirsio filipenduli-Ericetum ciliaris* Br.-Bl., P. Silva & Rozeira 1965
[*Genisto triacanthi-Ericetum ciliaris* (Br.-Bl., P. Silva & Rozeira 1965) F. Prieto in T.E. Díaz 1998 (art. 5)]

61.4.8. *Halimio alyssoidis-Ulicetum breoganii* (Rivas-Martínez 1979) Rivas-Martínez, T.E. Díaz, F. Prieto, Loidi & Penas corr. Rivas-Martínez, T. E. Díaz, Fernández-González, Izco, Loidi, Lousã & Penas 2002
[*Daboecio-Ulicetum gallii halimietosum alyssoidis* Rivas-Martínez 1979 (basion.), *Halimio alyssodis-Ulicetum gallii* (Rivas-Martínez 1979) Rivas-Martínez, T.E. Díaz, F. Prieto, Loidi & Penas 1984 (art. 43)]

61.4.11. *Ulicetum latebracteato-minoris* Rivas-Martínez 1979

61.4.13. *Ulici izcoi-Ericetum cinereae* Bellot 1949 corr. Rivas-Martínez, Izco, Amigo & Pulgar in Rivas-Martínez & col. 2011
[*Ulici europaei-Ericetum cinereae* Bellot 1949 (art. 43), *Ulici-Halimietum occidentalis* (Bellot 1949) Tüxen in Tüxen & Oberdorfer 1958 (art. 29)]

61.4.20. *Erico umbellatae-Ulicetum breoganii* Rivas - Martínez, Izco, Amigo & Pulgar in Rivas-Martínez & col. 2011

65. ***CYTISETEA SCOPARIO-STRIATI*** Rivas-Martínez in Anales Inst. Bot. Cavanilles 31(1): 200. 1974

65a. *CYTISETALIA SCOPARIO-STRIATI* Rivas-Martínez in Anales Inst. Bot. Cavanilles 31(1): 200. 1974
[*Cytisetalia scopario-striati* Rivas-Martínez 1974 (art. 3f), *Retametalia sphaerocarpae* Rivas Goday 1980 (syntax. syn.), *Genistetalia haenselero-ramosissimae* A.V. Pérez & Cabezudo in Acta Bot. Malacitana 29: 134. 2004 (syntax. syn.); cuyo holotypus es: *Genistion haenselero-polyanthi* A.V. Pérez & Cabezudo in Acta Botanica Malacitana 27: 283. 2002, cuyo holotypus, a su vez es: *Genistetum polyanthi* Rivas-Martínez & Belmonte ex Capelo, Lousã & J.C. Costa 1994]

65.4. **Ulici europaei-Cytision striati** Rivas-Martínez, Báscones, T.E. Díaz, Fernández-González & Loidi in Itinera Geobot. 5: 301. 1991
[Holotypus: *Cytiso striati-Genistetum polygaliphyllae* Rivas-Martínez in Anales Real Acad. Farm. 47: 458, tb. 14. 1981]; [incl. *Cytisenion striati* Rivas-Martínez, T.E. Díaz, F. Prieto, Loidi & Penas, Veg. Alta Mont. Cantábrica: 106. 1984]

65.4.2. *Cytisetum striati* Bellot & Casaseca ex Castroviejo 1973
[*Sarothamnetum eriocarpi* Bellot & Casaseca in Bellot 1968 (art. 3b), *Ulici europaei-Cytisetum striati* Rivas-Martínez ex T.E. Díaz & F. Prieto 1994 (syntax. syn.)]

65.4.8. *Ulici europaei-Cytisetum ingramii* Rivas-Martínez 1978
[*Cytisetum commutati* Bellot & Casaseca in Bellot 1968 (art. 3b)]

65.4.9. *Ulici latebracteati-Cytisetum striati* Rivas-Martínez ex J.C. Costa, Izco, Lousã, Aguiar & Capelo in J.C. Costa, Capelo, Lousã, Antunes, Aguiar, Izco & Ladero 2000

65.4.10. *Avenello flexuosae-Ericetum arboreae* M. Rodríguez, Real, Amigo & R. Romero in Rivas-Martínez & col. 2011
[*Avenello flexuosae-Ericetum arboreae* M. Rodríguez, Real, Amigo & R. Romero 2003 (art. 5)]

66. ***RHAMNO CATHARTICII-PRUNETEA SPINOSAE*** Rivas Goday & Borja ex Tüxen in Mitt. Florist.-Soziol. Arbeitsgem. 9: 300. 1962
[*Rhamno-Prunetea* Rivas Goday & Borja in Anal. Inst. Bot. Cavanilles 9: 67. 1961 (art. 3b), *Crataego-Prunetea* Tüxen in Mitt. Florist.-Soziol. Arbeitsgem. 9: 300. 1952, pro syn. nom. invalid. 1962 (art. 3a), *Sambucetea* Doing 1962 (art. 8), *Urtico-Sambucetea* Passarge & Hofmann 1968 (syntax. syn.), *Franguletea* Doing ex Westhoff & Den Held 1969 (syntax. syn.) p.p.; incl. *Rhamno-Prunenea* Rivas-Martínez, Arnáiz & Loidi in Arnáiz & Loidi 1983 (corresp. name)]

66a. *PRUNETALIA SPINOSAE* Tüxen in Mitt. Geogr. Ges. Hamburg 50: 88. 1952
[*Frangulo-Prunetalia insititiae* Rivas Goday & Borja ex Rivas Goday, Veg. F. Guadiana: 563. 1964 (syntax. syn.); typus *Frangulo-Rubion* Rivas Goday, l.c. 1964; typus: *Primulo vulgaris-Crataegetum monogynae* Br.-Bl. & Tüxen in Veröff Ver. Geobot. Inst. Rübel 25: 392, tb. 57, lecto hoc loco aufn.: 166. 1952]

66.2. **Pruno spinosae-Rubion ulmifolii** O. Bolòs in Collect. Bot. (Barcelona) 4(2): 273. 1954
[*Ligustro vulgaris-Rubion ulmifolii* Géhu & Delelis in Delelis 1973 (art. 3b), *Lonicerion periclymeni* Géhu, De Foucault & Delelis 1983 (art. 8)]

66.2a. ***Lonicero periclymeni-Rubenion ulmifolii*** Géhu, De Foucaud & Delelis in Rivas-Martínez & col. 2011
[*Ligustro vulgaris-Rubenion ulmifolii* (Géhu & Delelis in Delelis 1973) Arnáiz 1983 (art. 8), *Lonicero periclymeni* (Géhu, De Foucault & Delelis 1983) Rivas-Martínez, Báscones, T.E. Díaz, Fernández-González & Loidi in Itinera Geobot. 5: 279. 1991 (art. 8), *Pruno spinosae-Rubenion ulmifolii* Weber 1997, typus: *Rubo ulmifolii-Tametum* Tüxen & Oberdorfer 1958 (art. 31); incl. *Lonicerion periclymeni* Géhu, De Foucault & Delelis 1983, typus: *Lonicero periclymeni-Rubetum ulmifolii* Géhu & Delelis in Géhu, De Foucaud & Delelis in Coll. Phytosociol. 8: 467. 1983 (art. 5, 7)]

66.2.1. *Tamo communis-Rubetum ulmifolii* Tüxen in Tüxen & Oberdorfer 1958 nom. inv. propos. in Rivas-Martínez & col. 2011
[*Rubo ulmifolii-Tametum communis* Tüxen in Tüxen & Oberdorfer 1958 (art. 42), *Corno sanguineae-Rubetum ulmifolii* Br.-Bl. in Vegetatio 14(1-4): 111, tb. 34, lectotypus hoc loco: 3. 1967 (syntax. syn.)]

66.4. **Frangulo alni-Pyrion cordatae** Herrera, F. Prieto & Loidi in Studia Bot. 9: 22. 1991
[*Ulici-Rubion ulmifolii* Weber 1997 (syntax. syn.)]

66.4.1. *Frangulo alni-Pyretum cordatae* Herrera, F. Prieto & Loidi 1991

Table summarizing the vegetation series, geoseries, geopermaseries and minoriseries, secondary forests and serial shrubland of Galician-Portuguese Sector

6. GALICIAN-PORTUGUESE SECTOR										
Sigmataxa, faciations and bioindicator serial associations	**Biogeographic districts**									
Climatophilous, climato-temporihigrophilous and edaphoxerophlous Series	**6a**	**6b**	**6c**	**6d**	**6e**	**6j**	**6k**	**6n**	**6o**	**6p**
8ca. *Rusco aculeati-Querco roboris* S. faciation typical with *Ulex izcoi* (mesotemperate)	+	+	+	-	-	-	-	-	-	-
8cb. *Rusco aculeati-Querco roboris* S. faciation with *Genista polygaliphylla* (supratemperate)	+	-	+	-	-	-	-	-	-	-
8cc. *Rusco aculeati-Querco roboris* S. faciation with *Davallia canariensis* (thermotemperate)	-	+	+	-	-	-	-	-	-	-
8cd. *Rusco aculeati-Querco roboris* S faciation with *Celtica gigantea* (thermotemperate)	-	-	-	+	+	+	+	-	-	-
8ce. *Rusco aculeati-Querco roboris* S. faciation with *Ulex minor* (mesotemperate)	-	-	-	-	+	+	+	-	-	-
8cf. *Rusco aculeati-Querco roboris* S. faciation with *Ulex breoganii* (supratemperate)	-	-	-	-	+	-	-	-	-	-
8e. *Viburno tini-Querco roboris* S. (thermotemperate)	-	-	-	-	-	+	+	-	-	-
9ca. *Lonicero periclymeni- Querco pyrenaicae* S. faciation typical with *Quercus robur* (mesotemperate)	-	-	-	-	-	-	-	-	-	+
9cb. *Lonicero periclymeni- Querco pyrenaicae* S. faciation with *Arbutus unedo* (mesotemperate submediterranean)	-	-	-	-	-	-	-	-	-	+
9cc. *Lonicero periclymeni- Querco pyrenaicae* S. faciation with *Ulex breoganii* (supratemperate)	-	-	-	-	-	-	-	-	-	+
9cd. *Lonicero periclymeni- Querco pyrenaicae* S. faciation with *Quercus suber* (mediterranean)	-	-	-	-	-	-	-	+	+	+
9ce. *Lonicero periclymeni- Querco pyrenaicae* S. faciation with *Quercus rotundifolia* (mediterranean and	-	-	-	-	-	-	-	+	+	-
9cf. *Lonicero periclymeni- Querco pyrenaicae* S. faciation with *Genista polygaliphylla* (supratemperate)	-	-	-	-	-	-	-	+	+	+
5l. *Saxifrago spathularis-Fago sylvaticae* S. (meso-supratemperate)	+	-	-	-	-	-	-	-	-	-
23ea. *Physospermo cornubiensis-Querco suberis* S. faciation typical with *Cytisus striatus* (mesomediterranean)	-	-	-	-	-	-	-	+	+	-
23eb. *Physospermo cornubiensis-Querco suberis* S. faciation with *Daboecia cantabrica* (mesotemperate	-	-	-	-	-	-	-	-	-	+
6n. *Hyperico androsaemi-Querco roboris* S. (meso-supratemperate submediterranean)	+	+	+	-	+	+	-	-	-	+
Edaphohigrophylous fluvial and lacustrine Geoseries										
63ab. *Carici lusitanicae-Alno glutinosae* GS. geofaciation with *Fraxinus angustifolia* (thermotemperate and	+	+	+	-	+	+	-	-	-	+
62e. *Senecioni bayonensis-Alno glutinosae* GS. (thermo-mesotemperate y mesomediterranean)	+	+	+	-	+	+	+	-	+	+
62d. *Galio broteriani-Alno glutinosae* GS. (meso-supramediterranean)	-	-	-	-	-	-	-	+	-	-
62c. *Scrophulario scorodoniae-Alno glutinosae* GS. (mesomediterranean)	-	-	-	-	-	-	+	-	-	-
60db. *Valeriano pyrenaicae-Alno glutinosae* GS. geofaciation with *Fraxinus angustifolia* (mesotemperate	-	-	-	-	-	-	-	-	-	+
Coastal Geopermaseries										
54ab. *Otantho maritimi-Ammophilo australis* GP. geopermafaciation with *Helichrysum picardii* (permaserie of	-	+	+	+	+	+	+	-	-	-
55cb. *Chritmo maritimi-Armerio pubigerae* GP. geopermafaciation with *Armeria pubigera* (haloanemophilous	-	+	+	+	+	+	+	-	-	-
Coastal Permaseries and minoriseries										
16.2.1 *Euphorbio paraliae-Elytrigietum boreoatlanticae* P. (permaserie of dunes)	-	+	+	+	+	+	+	-	-	-
19.7.6 *Dauco gummiferi-Festucetum pruinosae* P. (haloanemophilous coastal rock permaserie)	-	+	+	+	+	+	-	-	-	-

6. GALICIAN-PORTUGUESE SECTOR										
Sigmataxa, faciations and bioindicator serial associations	**6a**	**6b**	**6c**	**6d**	**6e**	**6j**	**6k**	**6n**	**6o**	**6p**
16.6.3. *Iberidetum procumbentis* P. (permaserie of dunes)	-	+	+	+	+	+	+	+	-	-
16.7.2. *Linario polygalifoliae-Corynephoretum maritimi* P. (permaserie of dunes)	-	+	-	-	-	-	-	-	-	-
75.10.2. *Festuco pruinosae-Coremato albi* MS.(minoriserie of dunes)	-	-	-	+	-	-	-	-	-	-
61.3.2. *Cisto salviifoliae-Ulicetum humilis* MS. (haloanemophilous coastal rock minoriserie)	-	-	-	-	+	+	+	-	-	-
Secondary forests										
68.1.3. *Carici lusitanicae-Salicetum atrocinereae*	+	+	+	-	+	+	+	-	-	+
76.14.1. *Holco mollis-Betuletum celtibericae*	+	+	+	-	+	+	+	+	+	+
Serial Schrubland										
61.4.11 *Ulicetum latebracteato-minoris.*	-	-	-	+	-	+	+	-	-	-
61.4.13. *Ulici icoi-Ericetum cinereae*	-	-	-	-	+	+	-	-	-	-
61.4.20. *Erico umbellatae-Ulicetum breoganii*	+	+	+	-	-	-	-	-	-	-
61.4.8. *Halimio alyssoidis-Ulicetum breoganii*	-	-	-	-	+	-	-	-	-	-
61.4.3. *Cirsio filipenduli-Ericetum ciliaris*	+	+	+	-	+	+	-	-	-	-
65.4.2. *Cytisetum striati*	+	+	+	+	+	-	-	+	+	-
65.4.9. *Ulici latebracteati-Cytisetum striati*	-	-	-	-	-	+	+	-	-	-
65.4.8. *Ulici europaei-Cytisetum ingrami*	+	-	-	-	-	-	-	-	-	-
65.4.10. *Avenello flexuosae-Ericetum arboreae*	+	-	+	-	+	-	-	-	-	-
66.4.1. *Frangulo alni-Pyretum cordatae*	+	+	+	-	-	-	-	-	-	+
66.2.1. *Tamo communis-Rubetum ulmifolii*	+	-	-	-	-	-	-	+	+	+

68. ***ALNETEA GLUTINOSAE*** Br.-Bl. & Tüxen ex Westhoff, Dijk & Passchier in Bibl. Ned. Natuurhist. Ver. 7: 21. 1946
[*Alnetea glutinosae* Br.-Bl. & Tüxen in Commun. S.I.G.M.A. (Montpellier) 84: 10. 1943 (art. 8), *Carici-Salicetea cinereae* Passarge & Hofmann 1968 (syntax. syn.), *Carici-Alnetea glutinosae* Passarge & Hofmann 1968 (nomencl. syn.), *Franguletea* Doing ex Westhoff & Den Held 1969 (syntax. syn., typus: *Salicetalia auritae* Doing ex Westhoff in Wethoff & Den Held 1969)]

68a. *ALNETALIA GLUTINOSAE* Tüxen in Mitt. Florist.-Soziol. Arbeitsgem. Niedersachsen, 3: 133. 1937
[*Populetalia albae* Tüxen 1931 (art. 36, 37)]

68.1. **Alnion glutinosae** Malcuit in Archives de Botanique 2(6): 105. 1929

68.1b. ***Salici atrocinereae-Alnenion glutinosae*** Rivas-Martínez, T.E. Díaz & F. Prieto in Rivas-Martínez & col. 2011

68.1.1. *Carici lusitanicae-Alnetum glutinosae* T. E. Díaz & F. Prieto in Itinera Geobot. 8: 313. 1994
[*Carici laevigatae-Alnetum* auct. hisp. non Schwickerath 1938]

68.1.3. *Carici lusitanicae-Salicetum atrocinereae* Neto, Capelo, J.C. Costa & Lousã 1996

71. ***SALICI PURPUREAE-POPULETEA NIGRAE*** (Rivas-Martínez & Cantó ex Rivas-Martínez, Báscones, T.E. Díaz, Fernández-González & Loidi 1991) Rivas-Martínez & Cantó in Itinera Geobot. 15(1): 193. 2002
[*Populetea albae* Br.-Bl. 1962 (art. 2b), *Salicetea purpureae* Moor 1958 (art. 29b), non sensu Dengler & al. in Feddes Repert. 115: 373. 2004; *Alno-Populetea* Fukarek & Fabijanic 1958 (art. 2b); incl. *Salici purpureae-Populenea nigrae* Rivas-Martínez & Cantó ex Rivas-Martínez, Báscones, T.E. Díaz, Fernández-González & Loidi in Itinera Geobot. 5: 260. 1991 (art.27a), *Salici-Populenea nigrae* Rivas-Martínez & Cantó ex Rivas-Martínez, Mem. Series Veg. España: 162. 1987 (art. 5)]

71a. *POPULETALIA ALBAE* Br.-Bl. ex Tchou in Vegetatio 1(1): 11. 1948
[*Populetalia albae* Br.-Bl. 1931 (art. 8), *Rhododendro pontici-Prunetalia lusitanicae* A.V. Pérez, Galán & Cabezudo in A.V. Pérez & al. 1999 (syntax. syn.)]

71.1. **Alnion incanae** Pawłowski in Pawłowski, Sokołowski & Wallisch in Bull. Int. Acad. Pol. Sci. Lett. Cl. Sci. Mat. Nat. Ser B. Suppl. 2: 259. 1928
[*Alno-Padion* Knapp 1942 (syntax. syn.), *Alno-Ulmion* Br.-Bl. & Tüxen 1943 (art. 8), *Alno-Ulmion* Br.-Bl. & Tüxen ex Tchou 1948 em. Müller & Görs 1958 (syntax. syn.)]

71.1a. ***Hyperico androsaemi-Alnenion glutinosae*** Amigo, Guitián & F. Prieto in Publ. Univ. La Laguna Ser. Informes 22: 162. 1987

71.1.9. *Valeriano pyrenaicae-Alnetum glutinosae* Amigo, J. Guitián & F. Prieto 1987

71.3. **Osmundo regalis-Alnion glutinosae** (Br.-Bl., P. Silva & Rozeira 1956) Dierschke & Rivas-Martínez in Rivas-Martínez in Anales Inst. Bot. Cavanilles 32(2): 1529. 1975
[*Alnion lusitanicum* Br.-Bl., P. Silva & Rozeira in Agron. Lusit. 18(3): 227. 1956 (art. 34), *Osmundo-Alnion* Dierschke & Rivas-Martínez in Dierschke 1975 (art. 31), *Rhododendro pontici-Prunion lusitanicae* A.V. Pérez, Galán & Cabezudo in A.V. Pérez, Galán, P. Navas, D. Navas, Y. Gil & Cabezudo 1999 (syntax. syn.), incl. *Rhododendro-Alnenion* Rivas Goday & Rivas-Martínez in Rivas-Martínez 1965]

71.3.3. *Galio broteriani-Alnetum glutinosae* Rivas-Martínez, Fuente & Sánchez-Mata 1986

71.3.8. *Scrophulario scorodoniae-Alnetum glutinosae* Br.-Bl., P. Silva & Rozeira 1956

71.3.9. *Senecioni bayonnensis-Alnetum glutinosae* Amigo, J. Guitián & F. Prieto 1987
[*Carici pendulae-Alnetum glutinosae* Bellot & Casaseca in Casaseca 1959 non O. Bolòs & Oberdorfer in Oberdorfer 1953 (art. 31), *Narcisso cyclaminei-Alnetum glutinosae* Honrado, P. Alves, R. Pereira & F.B. Caldas in Honrado, P. Alves, H.N. Alves & F.B. Caldas 2004 (syntax. syn.)]

75. ***QUERCETEA ILICIS*** Br.-Bl. ex A. & O. Bolòs, Vegetación Comarcas Barcelonesas: 146. 1950
[*Quercetea ilicis* Br.-Bl. in Br.-Bl., Emberger & Molinier 1947 (art. 8), *Quercetea ilicis* Br.-Bl. in Br.-Bl., Roussine & Nègre Group. Vég. France Medit.: 228. 1952 (art. 22), *Euphorbietea dendroidis* Zohary & Orshan 1966 (art. 8), *Pistacio lentisci-Rhamnetea alaterni* Julve 1993 (syntax. syn.)]

75a. *QUERCETALIA ILICIS* Br.-Bl. ex Molinier in Ann. Mus. Hist. Nat. Marseille 27, Mém. 1: 63. 1934
[*Quercetalia ilicis* Br.-Bl. 1931 (art. 8)]

75.2. **Quercion broteroi** Br.-Bl., P. Silva & Rozeira in Agron. Lusit. 18(3): 197. 1956 corr. Rivas-Martínez in Anales Inst. Bot. Cavanilles 29: 125.1972
[*Quercion fagineae* Br.-Bl., P. Silva & Rozeira in Agron. Lusit. 18(3): 197. 1956 (art. 43), *Quercion fagineo-suberis* Br.-Bl., P. Silva & Rozeira 1956 em. nom. Rivas-Martínez 1975 (art. 29a)]

75.2a. ***Quercenion broteroi*** Rivas-Martínez, Mapa Series Veg. España: 152. 1987
[*Quercenion brotero-suberis* Rivas-Martínez, Costa & Izco in Not. Fitosoc. 19(2): 79. 1986 (art. 8)]

75.2.5. *Physospermo cornubiensis-Quercetum suberis* Rivas-Martínez 1987

76. ***QUERCO-FAGETEA SYLVATICAE*** Br.-Bl. & Vlieger in Vlieger in Ned. Kruidk. Arch. 47: 349. 1937
[*Querco-Fagetales* Br.-Bl. & Vlieger in Vlieger 1937 (original name, art. 41b), *Quercetea robori-sessiliflorae* Br.-Bl. & Tüxen 1943 (art. 8), *Quercetea robori-sessiliflorae* Br.-Bl. & Tüxen ex Br.-Bl. 1950 (syntax. syn.), *Quercetea pubescentis* Doing 1955 (art. 8), *Quercetea robori-petraeae* Br.-Bl. & Tüxen ex Oberdorfer 1957 (art. 31), *Quercetea pubescentis* Doing ex Scamoni & Passarge 1959 (syntax. syn.), *Quercetea pubescenti-petraeae* Jakucs 1960 (syntax. syn.), *Carpino-Fagetea* Jakucs 1967 (syntax. syn.), *Fraxino-Fagetea* Moor 1975 (syntax. syn.); incl. *Querco petraeae-Fagenea sylvaticae* Rivas-Martínez, Mapa Series Veg. España: 162. 1987 (corresp. name)]

76a. *FAGETALIA SYLVATICAE* Pawłowski in Pawłowski, Sokołowski & Wallisch in Bull. Inst. Acad. Pol. Sci. Lett. Cl. Sci. Mat. Ser. B, Suppl. 2: 238. 1928
[*Fagetalia sylvaticae* Pawlowski & al. ex Tüxen 1937 (nomend. syn.), *Carpino-Fagetalia* Scamoni & Passarge 1959 (syntax. syn.), *Luzulo-Fagetalia* Scamoni & Passarge 1959 (syntax. syn.), *Tilietalia platyphylli* Moor 1973 (syntax. syn.)]

76.4. **Pulmonario longifoliae-Quercion roboris** Rivas-Martínez & Izco in Itinera Geobot. 15: 178. 2002
[*Fraxino-Carpinion* sous-alliance à *Hypericum androsaemum* Vanden Berghen 1968 (art. 29b), *Carpinion* sensu auct. iber. non Issler 1931 incl. *Polysticho-Corylenion* (Vanden Berghen 1968) O. Bolòs 1973 (art. 29), *Pulmonario-Carpinenion* Oberdorfer 1957 p.p., excl. holotypus: *Stellario-Carpinetum* Oberdorfer 1957]

76.4.8. *Hyperico androsaemi-Quercetum roboris* Honrado, Rocha, P. Alves & F.B. Caldas in Honrado, P. Alves, H.N. Alves & F.B. Caldas 2004

76b. *QUERCETALIA ROBORIS* Tüxen Die Pfanzendecke zwischen Hildesheimer Wald und Ith, in Barner, unsere Heimat: 55. 1931
[*Quercetalia robori-sessiliflorae* Tüxen 1937 (art. 29)]

76.7. **Quercion pyrenaicae** Rivas Goday ex Rivas-Martínez in Anales Inst. Bot. Cavanilles 21(1): 193. 1964
[*Quercion roboris broteroanae* Br.-Bl., P. Silva, Rozeira & Fontes in P. Silva, Rozeira & Fontes 1950 (art. 3b), *Quercion occidentale* Br.-Bl., P. Silva & Rozeira 1956 (art. 34), *Fraxino-Quercion pyrenaicae* Rivas Goday & Borja 1961 (2b), *Fraxino-Quercion pyrenaicae* Rivas-Martínez 1963 (art. 3f), *Quercion robori-pyrenaicae* (Br.-Bl., P. Silva & Rozeira 1956) Rivas-Martínez 1975 (syntax. syn.)]

76.7b. ***Quercenion robori-pyrenaicae*** (Br.-Bl., P. Silva & Rozeira 1956) Rivas-Martínez in Anales Inst. Bot. Cavanilles 32(2): 1528. 1975
[Incl.: *Quercion roboris broteroanae* Br.-Bl., P. Silva, Rozeira & Fontes in P. Silva, Rozeira & Fontes in Agron. Lusit. 12(3): 436. 1952 (art. 43), *Quercion occidentale* Br.-Bl., P. Silva & Rozeira in Agron. Lusit. 12(3): 175.1956 (art. 34)]

76.7.15. *Lonicero periclymeni-Quercetum pyrenaicae* Rivas-Martínez 2002

76.7.18. *Rusco aculeati-Quercetum roboris* Br.-Bl., P. Silva & Rozeira 1956
[*Quercetum roboris gallaecicum* Bellot 1949 (art. 34, 36), *Quercetum roboris gallaecicum* Bellot in Casaseca 1959 (art. 34)]

76.7.19. *Viburno tini-Quercetum roboris* (Br.-Bl., P. Silva & Rozeira 1956) J.C. Costa, Capelo, Honrado, Aguiar & Lousã 2002
[*Rusco-Quercetum roboris viburnetosum tini* Br.-Bl., P. Silva & Rozeira 1956 (basion.) (art. 27d)]

76.8. **Ilici aquifolii-Fagion sylvaticae** Br.-Bl. in Vegetatio 14 (1-4): 98. 1967

76.8a. ***Ilici aquifolii-Fagenion sylvaticae*** (Br.-Bl. 1967) Rivas-Martínez in Anales Inst. Bot. Cavanilles 30: 24. 1973
[*Saxifrago spathularis-Fagenion sylvaticae* Rivas-Martínez, T.E. Díaz, F. Prieto, Loidi & Penas 1984 (syntax. syn.)]

76.8.11. *Saxifrago spathularis-Fagetum sylvaticae* M. Rodríguez, Real, Amigo & R. Romero 2003

76d. *BETULO PENDULAE-POPULETALIA TREMULAE* Rivas-Martínez & Costa in Itinera Geobot. 15(1): 54. 2002
[*Betulo pendulae-Populetalia tremulae* Rivas-Martínez & Costa 1998 (art. 8)]

76.14. **Betulion fontqueri-celtibericae** Rivas-Martínez & Costa in Itinera Geobot. 15(1): 58. 2002

76.14a. **Betulenion fontqueri-celtibericae** Rivas-Martínez & Costa in Rivas-Martínez & col. 2011

76.14.1. *Holco mollis-Betuletum celtibericae* Amigo & M.I. Romero 2002
[*Holco mollis-Betuletum celtibericae* Amigo & Romero 1994 (art. 2b)]

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