



New national and regional Annex I Habitat records: from #16 to #20

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Abstract

New data on the distribution of the Annex I Habitats 3120, 3260, 6310, 9180* and 92A0 are reported in this contribution. In detail, 3 new occurrences in Natura 2000 Sites are presented and 5 new cells in the EEA 10 km x 10 km Reference grid are added. The new data refer to Italy and in particular to the Administrative Regions of Liguria, Sardinia, Sicily and Umbria. This issue of the section "Habitat records" includes an *Errata corrigere* referring to the last released issue.

Keywords

3120, 3260, 6310, 9180*, 92A0, 92/43/EEC Directive, biodiversity, conservation, Italy, vegetation

Introduction

This is the fourth standardized contribution reporting records of new occurrences of Annex I Habitats in Europe. The occurrences reported here turned out to be new based on the comparison with the results of the 4th Report ex-Art. 17 on Annex I Habitat Monitoring in Europe (Eionet 2019). Also in this case, the related phytosociological relevés will be archived in the Italian database "VegItaly" (Gigante et al. 2012; Landucci et al. 2012).

Tab. 1. For the cartographic analyses and maps production, the open source QGIS Geographic Information System (QGIS.org 2020) has been used.

#16. Annex I Habitat: 3120 Oligotrophic waters containing very few minerals generally on sandy soils of the West Mediterranean with *Isoëtes* spp. (Rivieccio G, Caria MC, Bagella S)

EUNIS Classification system: C3.42 Mediterraneo-Atlantic amphibious communities

Biogeographical Region: Mediterranean

National Habitat Checklist of reference: Manuale Italiano di interpretazione degli habitat della Direttiva 92/43/CEE (Biondi et al. 2009).

Habitats Records

Data, details and descriptions of the new habitat records are hereafter provided, according to the standard format (Gigante et al. 2019). A general overview is reported in

Table 1. Synthetic overview of the newly reported data.

Hab ID	Hab name	Cell ID	Country	BR	N2000 Site	Authors
3120	Oligotrophic waters containing very few minerals generally on sandy soils of the West Mediterranean with <i>Isoëtes</i> spp.	10kmE421N184	Italy	MED		Riveccio G, Caria MC, Bagella S
3260	Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation.	10kmE457N219	Italy	CON	IT5210071	Bonini F
6310	Dehesas with evergreen <i>Quercus</i> spp.	10kmE471N167	Italy	MED	ITA030043	Gianguzzi L, Bazan G
9180*	<i>Tilio-Acerion</i> forests of slopes, screes and ravines.	10kmE414N232	Italy	MED		Dagnino D, Mariotti M
92A0	<i>Salix alba</i> and <i>Populus alba</i> galleries.	10kmE426N236	Italy	MED	IT1332717	Dagnino D, Turcato C

Phytosociological reference: *Helosciadio crassipedis-Isoëtetum tiguliana* Biondi & Bagella 2005 nom. corr., *Helosciadienion crassipedis* Bagella, Caria, Farris & Filigheddu 2009 nom. corr., *Preslion cervinae* Br.-Bl. ex Moor 1937, *Isoëtalia* Br.-Bl. 1936, *Isoëto-Nanojuncetea* Br.-Bl. & Tüxen ex Westhoff, Dijk & Passchier 1946 (Bagella et al. 2009).

Geographic information: Italy, Sardinia, Oristano, Mogoro, 127 m a.s.l., Coordinates: 39.651615 N, 8.776443 E (Tab. 2, Rel. 1); Coordinates: 39.651672 N, 8.776348 E (Tab. 2, Rel. 2); Coordinates: 39.651818 N, 8.776509 E (Tab. 2, Rel. 3).

Cell ID in the EEA reference grid: 10kmE421N184 (Fig. 1).

Natura 2000 Site Code: currently not included in any Natura 2000 Site.

Phytosociological table: Tab. 2; taxonomic nomenclature according to Portale della Flora d'Italia (2019).

Notes: The association was described for the first time in the National Park "Arcipelago di La Maddalena" (Biondi and Bagella 2005) and referred later to the Tyrrhenian endemic suballiance *Apienion crassipedis* Bagella, Caria, Farris & Filigheddu 2009 (Bagella et al. 2009). The communities referred to this association should receive special attention for their chorological peculiarity, especially if located outside Natura 2000 network (Bagella et al. 2013).

#17. Annex I Habitat: 3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation (Bonini F)

EUNIS Classification system: C2.2 Permanent non-tidal, fast, turbulent watercourses, C2.1 Springs, spring brooks and geysers [with the subtype C2.16 Crenal streams (spring brooks)]

Biogeographical Region: Continental

National Habitat Checklist of reference: Manuale Italiano di interpretazione degli habitat della Direttiva 92/43/CEE (Biondi et al. 2009).

Phytosociological reference: *Ranunculus trichophyllus*-dominated community (unpublished relevés: Tab. 3, Rel. 1; published relevés: Tab. 3, Rel. 6 and 7 in Pedrotti 2008), *Veronica-Apietum submersi* Buchwald 1992 (un-

published relevés: Tab. 3, Rel. 2 and 3; published relevés: Tab. 3, Rel. 1 to 5 in Pedrotti 2008), and *Callitrichetum obtusangulae* Seibert 1962 (published relevés: Tab. 2, Rel. 1 and 2 in Pedrotti 2008), *Batrachion fluitantis* Neuhäusl 1959, *Callitricho hamulatae-Ranunculetalia aquatilis* Pas-sarge ex Theurillat in Theurillat et al. 2015, *Potamogetone-tea* Klika in Klika et Novák 1941 (Mucina 2016).

Geographic information: unpublished relevés: Italy, Umbria, Perugia, Norcia, Marcite, 564 m a.s.l., Coordinates: 42.793669 N, 13.083889 E (Tab. 3, Rel. 1); 563 m a.s.l., Coordinates: 42.792869 N, 13.082294 E (Tab. 3, Rel. 2); 563 m a.s.l., Coordinates: 42.792881 N, 13.082514 E (Tab. 3, Rel. 3); published relevés: Italy, Umbria, Perugia, Norcia, Marcite, 563 m a.s.l., Coordinates: unknown (Tab. 2, Rel. 1 and 2 in Pedrotti 2008; Tab. 3, Rel. 1 to 7 in Pedrotti 2008).

Cells ID in the EEA reference grid: 10kmE457N219 (Fig. 2).

Natura 2000 Site Code: SPA IT5210071 "Monti Sibillini (versante umbro)"

Phytosociological table: Tab. 3; published relevés: Tab. 2 (Rel. 1 and 2) and Tab. 3 (Rel. 1 to 7) in Pedrotti (2008); taxonomic nomenclature according to Bartolucci et al. (2018) and recent updatings (Portale della Flora d'Italia 2019).

Notes: The recorded communities occur in the area of the 'Marcite di Norcia' which is part of the SPA IT5210071 "Monti Sibillini (versante umbro)" as well as of the "Monti Sibillini" National Park.

The Habitat 3260 was already known for this SPA, with reference to another area (Fosso Mergani in Pian Grande of Castelluccio) falling in a different EEA cell (Eionet 2019). As concerns the new record, the *Ranunculus trichophyllus*-dominated community occurs in the river Sordo bed, while the *Veronica-Apietum submersi* on a tributary southernmost spring stream. Surveys from this area had already been published by Pedrotti (2008) with no reference to Annex I habitats.

Although Habitat 3260 is reported in the Standard Data Form of the adjacent and contiguous SAC IT5210059 "Marcite di Norcia", falling in the same cell grid, it results as non-occurring in the 4th Report ex-Art. 17 on Annex I Habitat Monitoring (Eionet 2019). It should also be noticed that, due to recent changes, the current configura-

Table 2. Habitat 3120.

Relevé number	1	2	3	
Cell ID	10kmE421N184	10kmE421N184	10kmE421N184	
Latitude	39.651615	39.651672	39.651818	
Longitude	8.776443	8.776348	8.776509	
Date	5/21/2020	5/21/2020	5/21/2020	
Area (m ²)	1	1	1	
Altitude (m a.s.l.)	127	127	127	
Cover (%)	90	70	60	
Average vegetation height (m)	0.5	0.5	0.6	
Water depth (cm)	0	0	0	Presences
Charact. and diff. taxa of the ass. and the upper units				
[^] <i>Helosciadium crassipes</i> W.D.J. Koch ex Rchb.	4	3	3	3
[^] <i>Isoëtes tiguliana</i> Gennari	2	.	2	2
<i>Ranunculus ophioglossifolius</i> Vill.	1	+	.	2
<i>Illecebrum verticillatum</i> L.	+	.	+	2
<i>Oenanthe fistulosa</i> L.	.	+	1	2
Other species				
<i>Glyceria spicata</i> Guss.	2	2	1	3
<i>Eleocharis palustris</i> (L.) Roem. & Schult.	2	1	1	3
<i>Polypogon viridis</i> (Gouan) Breistr.	1	.	+	2
<i>Phalaris coerulescens</i> Desf.	.	.	+	1
<i>Agrostis pourretii</i> Willd.	.	.	3	1

[^] Reference plant species of the Habitat 3120, from Biondi et al. (2009).



Figure 1. Distribution in Italy of the Habitat 3120: in black the new cell, in grey the cells officially reported in the 4th Habitat report ex-Art. 17 (period 2013-2018; Eionet 2019).

Table 3. Habitat 3260.

	1 WF_38	2 WF_47	3 WF_48	Presences
Relevé number				
Original relevé number				
Cell ID	10kmE457N219	10kmE457N219	10kmE457N219	
Latitude	42.793669	42.792869	42.792881	
Longitude	13.083889	13.082294	13.082514	
Date	6/28/2018	7/3/2018	7/3/2018	
Area (m ²)	4	4	4	
Altitude (m a.s.l.)	564	563	563	
Exposition (°)	-	-	-	
Slope (°)	0	0	0	
Cover (%)	90	95	80	
Charact. and diff. taxa of <i>Batrachion fluitantis</i>, <i>Callitricho hamulatae-Ranunculetalia aquatilis</i>, <i>Potamogetonetea</i>				
^ <i>Helosciadium nodiflorum</i> (L.) W.D.J.Koch subsp. <i>nodiflorum</i> (fo. <i>submersum</i>)	.	5	4	2
^ <i>Ranunculus trichophyllum</i> Chaix	5	.	.	1
Other species				
^ <i>Veronica anagallis-aquatica</i> L. subsp. <i>anagallis-aquatica</i>	2m	+	.	2
^ <i>Nasturtium officinale</i> R.Br.	.	.	2b	1
<i>Carex acutiformis</i> Ehrh.	.	.	1	1
<i>Glyceria notata</i> Chevall.	.	.	1	1
<i>Lemna minor</i> L.	.	.	1	1
<i>Mentha longifolia</i> (L.) L.	.	1	.	1
<i>Rumex conglomeratus</i> Murray	.	1	.	1

^ Reference plant species of the Habitat 3260, from Biondi et al. (2009).



Figure 2. Distribution in Italy of the Habitat 3260: in black the new cell, in grey the cells officially reported in the 4th Habitat report ex-Art. 17 (period 2013-2018; Eionet 2019).

tion of the SAC IT5210059 actually does not include the area of Marcite.

The alliance *Batrachion fluitantis* Neuhäusl 1959 (syn. *Ranunculion fluitantis* Neuhäusl 1959), originally used by Pedrotti (2008) for the syntaxonomic frame of the published relevés, has been recently referred to the order *Calitricho hamulatae-Ranunculetalia aquatilis* Passarge ex Theurillat in Theurillat et al. 2015, class *Potamogetonetea* Klika in Klika et Novák 1941 (Mucina et al. 2016).

#18. Annex I Habitat: 6310 Dehesas with evergreen *Quercus* spp. (Gianguzzi L., Bazan G.)

EUNIS Classification system: E7.3 Dehesa

Biogeographical Region: Mediterranean

National Habitat Checklist of reference: Manuale Italiano di interpretazione degli habitat della Direttiva 92/43/ CEE (Biondi et al. 2009).

Phytosociological reference: This habitat refers to a mosaic of plant communities, which can be framed in, or linked to, the following syntaxa: *Quercus suber* tree layer (*Genisto aristatae-Quercetum suberis* Brullo 1984, *pistaci-etosum lentisci* Brullo, Gianguzzi, La Mantia & Siracusa 2008), *Myrtus communis* hedgerow (*Erico arboreae-Myrtetum communis* Quezel, Barbero, Benabid, Loisel & Rivas-Martínez 1988, *calicotometum infestae* Brullo, Minissale, Signorello & Spampinato 1995), *Calicotome infesta* shrublands (*Pyro amygdaliformis-Calicotometum infestae* Gianguzzi & La Mantia 2008), *Cistus monspeliensis* formation (all. *Cisto-Ericion multiflorae* Horvatic 1958), *Hyparrhenia hirta* grassland (*Hyparrhenietum hirti-pubescentis* A.& O.Bolòs & Br.-Bl. in A. & O.Bolòs 1950), *Lolium perenne* and *Cynosurus cristatus* grassland (all. *Plantaginion cupanii* Brullo & Grillo 1978, ord. *Cirsietalia vallis-demonii* Brullo & Grillo 1978, cl. *Molinio-Arrhenatheretea* Tüxen 1937), herb subnitrophilous vegetation of the *Echio-Galactition tomentosae* O. Bolòs & Molinier 1969 (Gianguzzi 2007; Brullo et al. 2008; Gianguzzi and La Mantia 2008).

Geographic information: Italy, Sicily, Caronia, Vallata Torrente Buzzo (Contrada Porri Soprani), 140 m a.s.l., Coordinates: 38.02380 N, 14.49250 E (Tab. 4, Rel. 1); 38.02270 N, 14.49350 E (Tab. 5, Rel. 2).

Cells ID in the EEA reference grid: 10kmE471N167 (Fig. 3).

Natura 2000 Site Codes: SPA ITA030043 “Monti Nebrodi”.

Phytosociological table: Tabs. 4-5; taxonomic nomenclature according to Galasso et al. (2018).

Notes: In Sicily, geobotanical and phytosociological research conducted in recent years has made a significant contribution to the knowledge on distribution of various habitats and species of Community interest (Caldarella et al. 2013; De Castro et al. 2008, 2015; Gianguzzi and La Mantia 2008; Gianguzzi et al. 2010, 2016; 2020; Gianguzzi and Bazan, 2019, 2020; Marino et al. 2012, etc.). Regarding the habitat 6310 (Dehesas with evergreen *Quercus* spp.) it is rarely observed in Sicily, unlike Sardinia where

Table 4. Habitat 6310, related grassland within wooded pastures.

Relevé number	1
Cell ID	10kmE471N167
Latitude	38.02380
Longitude	14.49250
Date	10/16/2020
Area (m ²)	200
Altitude (m a.s.l.)	140
Cover (%)	95
Slope (%)	25
Aspect	NW
Average vegetation height (cm)	10

Charact. and diff. taxa of *Cirsietalia vallis demonis* and *Molinio Arrhenatheretea*

<i>Lolium perenne</i> L.	4
<i>Cynosurus cristatus</i> L.	3
<i>Daucus carota</i> L. subsp. <i>carota</i>	2
<i>Dactylis glomerata</i> L. subsp. <i>glomerata</i>	1
<i>Prunella laciniata</i> (L.) L.	+
<i>Bromus hordeaceus</i> L. subsp. <i>hordeaceus</i>	+
<i>Oenanthe pimpinelloides</i> L.	+
<i>Anthoxanthum odoratum</i> L.	+
<i>Silene vulgaris</i> (Moench) Garcke subsp. <i>vulgaris</i>	+
<i>Holcus lanatus</i> L. subsp. <i>lanatus</i>	+
Other species	
<i>Mentha pulegium</i> L. subsp. <i>pulegium</i>	3
^ <i>Quercus suber</i> L.	2
<i>Dittrichia viscosa</i> (L.) Greuter subsp. <i>viscosa</i>	2
<i>Dittrichia graveolens</i> (L.) Greuter	2
<i>Asphodelus ramosus</i> L. subsp. <i>ramosus</i>	2
<i>Oxalis pes-caprae</i> L.	2
<i>Leontodon hispidus</i> L. subsp. <i>hispidus</i>	2
<i>Plantago lanceolata</i> L.	2
<i>Scolymus grandiflorus</i> Desf.	1
<i>Crepis vesicaria</i> L. subsp. <i>vesicaria</i>	1
<i>Trifolium repens</i> L.	1
<i>Carlina lanata</i> L.	1
<i>Reichardia picroides</i> (L.) Roth	1
<i>Hypericum perforatum</i> L. subsp. <i>perforatum</i>	+
<i>Sonchus asper</i> (L.) Hill subsp. <i>asper</i>	+
<i>Euphorbia helioscopia</i> L. subsp. <i>helioscopia</i>	+
<i>Polygonum aviculare</i> L. subsp. <i>aviculare</i>	+
<i>Portulaca oleracea</i> L.	+
<i>Hyparrhenia hirta</i> (L.) Stapf subsp. <i>hirta</i>	+
<i>Charybdis maritima</i> (L.) Speta	+
<i>Eryngium campestre</i> L.	+
<i>Bellis perennis</i> L.	+
<i>Rumex conglomeratus</i> Murray	+
<i>Crepis leontodontoides</i> All.	+
<i>Hyoseris radiata</i> L.	+
<i>Clinopodium nepeta</i> (L.) Kuntze subsp. <i>nepeta</i>	+
<i>Carex flacca</i> Schreb. subsp. <i>erythrostachys</i> (Hoppe) Holub	+
<i>Cichorium intybus</i> L.	+
<i>Prunella vulgaris</i> L. subsp. <i>vulgaris</i>	+
<i>Rumex thrysoides</i> Desf.	+
<i>Helminthotheca echioides</i> (L.) Holub	+
<i>Carlina corymbosa</i> L.	+

^ Reference plant species of the Habitat 6310, from Biondi et al. (2009).

Table 5. Habitat 6310, related hedgerow within wooded pastures.

Relevé number	1
Cell ID	10kmE471N167
Latitude	38.02270
Longitude	14.49350
Date	10/16/2020
Area (m ²)	150
Altitude (m a.s.l.)	140
Cover (%)	100
Slope (%)	15
Aspect	NW
Average vegetation height (m)	3
Charact. and diff. taxa of Quercetea ilicis	
<i>Myrtus communis</i> L.	3
^ <i>Quercus suber</i> L.	2
<i>Quercus gussonei</i> (Borzi) Brullo	2
<i>Pistacia lentiscus</i> L.	2
<i>Smilax aspera</i> L.	2
<i>Asparagus acutifolius</i> L.	1
<i>Clematis cirrhosa</i> L.	1
<i>Dioscorea communis</i> (L.) Caddick & Wilkin	1
<i>Euphorbia ceratocarpa</i> Ten.	1
<i>Olea europaea</i> L. var. <i>sylvestris</i> (Mill.) Lehr	1
<i>Rosa sempervirens</i> L.	1
<i>Rubia peregrina</i> L.	1
<i>Rubus ulmifolius</i> Schott	1
<i>Sorbus domestica</i> L.	1
<i>Genista monspessulana</i> (L.) L.A.S.Johnson	+
<i>Cytisus infestus</i> (C.Presl) Guss. subsp. <i>infestus</i>	+
<i>Euonymus europaeus</i> L.	+
Other species	
<i>Prunus spinosa</i> L. subsp. <i>spinosa</i>	2
<i>Arundo plinii</i> Turra	1
<i>Oloptum miliaceum</i> (L.) Röser & H.R. Hamash	1
<i>Ulmus minor</i> Mill. subsp. <i>minor</i>	1
<i>Fraxinus angustifolia</i> Vahl subsp. <i>oxycarpa</i> (M.Bieb. ex Willd.) Franco & Rocha Afonso	1
<i>Crataegus monogyna</i> Jacq.	1
<i>Cistus monspeliensis</i> L.	1
<i>Cistus salvifolius</i> L.	+
<i>Pteridium aquilinum</i> (L.) Kuhn subsp. <i>aquilinum</i>	+
<i>Spartium junceum</i> L.	+
<i>Bituminaria bituminosa</i> (L.) C.H.Stirt.	+
^ Reference plant species of the Habitat 6310 from Biondi et al. (2009)	

it is more common (Bagella 2016; Biondi et al. 2009). In fact, in Sicily this habitat is very rare and punctual, located in small areas at the edge of the forests of sub-mountainous and high-hilly belt (in particular Nebrodi, Peloritani, Etna and Madonie).

Interesting aspects of the habitat 6310 were detected along the valley of Buzzo stream, near Caronia (ME), in the coastal area of Nebrodi Mts, on flysch formations with

a thermo- and mesomediterranean subhumid bioclimate (Gianguzzi 2007).

The habitat has a clear anthropogenic origin due to the partial deforestation of *Quercus suber* wood, the cutting of shrub and soil plowing. It is a pasture quite peculiar in Sicily for its dual attitude. In fact, the pasture is grazed by cattle, sheep and horses, during most of the year, and by pigs (the native breed “Suino nero dei Nebrodi”), especially in autumn, in order to exploit the acorns production of cork oak (Fig. 4).

In the literature, only forest elements (*Quercus suber*, *Q. ilex* subsp. *ilex* and *Q. coccifera*) are indicated as typical species for this habitat, as well as some herbaceous taxa of *Poetea bulbosae* (Biondi et al. 2009; Bagella 2016). The floristic composition of this habitat is very heterogeneous in the Mediterranean area, also due to the fact that it actually refers to a vegetation mosaic. In the present paper, we report 2 phytosociological relevés representative of grasslands and shrublands related to Habitat 6310 in Sicily (Tabs. 4-5), linked to secondary aspects of the cork oak series and, in particular, to the pastures of *Cirsietalia vallis-demonii* (Brullo & Grillo 1978). For this area, we suggest that some herbaceous taxa such as *Lolium perenne*, *Cynosurus cristatus*, *Dactylis glomerata*, should be considered among the “reference plant species”.

#19. Annex I Habitat: 9180* *Tilio-Acerion* forests of slopes, screes and ravines (Dagnino D, Mariotti M)

EUNIS Classification system: G1.A45 Thermophilous Alpine and peri-Alpine mixed *Tilia* forests

Biogeographical Region: Mediterranean

National Habitat Checklist of reference: Manuale Italiano di interpretazione degli habitat della Direttiva 92/43/CEE (Biondi et al. 2009).

Phytosociological reference: *Tilio platyphylli-Acerion pseudoplatani* Klika 1955, *Fagetalia sylvaticae* Pawłowski in Pawłowski, Sokołowski & Wallisch 1928, *Querco roboris-Fagetea sylvaticae* Br.-Bl. & Vlieger in Vlieger 1937 (Biondi and Blasi 2015)

Geographic information: Italy, Liguria, Imperia, Ponte dei Passi, between 750 and 800 m a.s.l., Coordinates: 7.83854 E, 44.02037 N (Tab. 6, Rel. 1).

Cells ID in the EEA reference grid: 10kmE414N232 (Fig. 5).

Natura 2000 Site Code: currently not included in any Natura 2000 Site.

Phytosociological table: Tab. 6; taxonomic nomenclature according to Bartolucci et al. (2018) and later updates, and Aleffi et al. (2020).

Notes: The finding occurred during the activities for the Interreg ALCOTRA CoBiodiv and GeBiodiv projects. The habitat occupies a narrow belt within the ravines near the confluence of three montane creeks (i.e., Teroselli, Giurè and Conchè). Despite the phytosociological relevé was performed outside the border, the patch of habitat ex-



Figure 3. Distribution in Italy of the Habitat 6310: in black the new cell, in grey the cells officially reported in the 4th Habitat report ex-Art. 17 (period 2013-2018; Eionet 2019).



Figure 4. Aspect of dehesas with *Quercus suber* in the valley of Torrente Buzzia (Caronia, Nebrodi Mts, Sicily).

Table 6. Habitat 9180*; specific cover values are expressed as percentage.

Relevé number	1
Cell ID	10kmE414N232
Latitude	44.02037
Longitude	7.83854
Date	6/10/2020
Area (m ²)	200
Altitude (m a.s.l.)	760
Exposition	W-NW
Slope (°)	45
Total cover (%)	85
Tree layer cover (%)	80
Shrub layer cover (%)	35
Herb layer cover (%)	55
Bryophyte layer cover (%)	15
Charact. and diff. taxa of <i>Tilio platyphyllo-Acerion pseudoplatani</i>, <i>Fagetalia sylvaticae</i>, <i>Quero roboris-Fagetea sylvaticae</i>	
^ <i>Acer opalus</i> Mill. subsp. <i>opus</i>	30
^ <i>Acer campestre</i> L.	30
^ <i>Corylus avellana</i> L.	25
<i>Hedera helix</i> L. subsp. <i>helix</i>	20
^ <i>Tilia platyphyllos</i> Scop. subsp. <i>cordifolia</i> (Besser) C.K. Schneid.	10
^ <i>Carpinus betulus</i> L.	10
<i>Geranium nodosum</i> L.	10
^ <i>Ostrya carpinifolia</i> Scop.	5
<i>Festuca heterophylla</i> Pourr.	5
<i>Cornus sanguinea</i> L.	5
<i>Melica uniflora</i> Retz.	5
<i>Dioscorea communis</i> (L.) Caddick & Wilkin	5
<i>Hepatica nobilis</i> Mill.	5
<i>Crataegus monogyna</i> Jacq.	1
<i>Daphne laureola</i> L.	1
<i>Primula veris</i> L. subsp. <i>columnae</i> (Ten.) Maire & Petitm.	+
<i>Carex digitata</i> L.	+
<i>Sanicula europaea</i> L.	+
<i>Ilex aquifolium</i> L.	+
<i>Melittis melissophyllum</i> L. subsp. <i>melissophyllum</i>	+
<i>Primula vulgaris</i> Huds. subsp. <i>vulgaris</i>	+
<i>Digitalis lutea</i> L.	+
<i>Carex sylvatica</i> Huds.	+
^ <i>Polystichum setiferum</i> (Forssk.) T. Moore ex Woyn.	+
<i>Luzula nivea</i> (Nathh.) DC.	+
<i>Pulmonaria vallarsae</i> A. Kern. subsp. <i>apennina</i> (Cristof. & Puppi) L. Cecchi & Selvi	+
Other species	
<i>Exsertotheca crispa</i> (Hedw.) S.Olsson, Enroth & D.Quandt	5
<i>Homalothecium lutescens</i> (Hedw.) H.Rob. var. <i>lutescens</i>	5
<i>Euryhynchium striatum</i> (Hedw.) Schimp.	5
<i>Rosa</i> sp.	5
<i>Sesleria</i> cfr. <i>autumnalis</i> (Scop.) F.W. Schultz	5
<i>Emerus major</i> Mill. subsp. <i>major</i>	1
<i>Rubus</i> sp.	1
<i>Sympyrum tuberosum</i> L. subsp. <i>angustifolium</i> (A. Kern.) Nyman	1
<i>Carex brachystachys</i> Schrank	1
<i>Saxifraga cuneifolia</i> L. subsp. <i>cuneifolia</i>	1
<i>Porella arboris-vitae</i> (With.) Grolle subsp. <i>arboris-vitae</i>	1
<i>Aegopodium podagraria</i> L.	+
<i>Polyodium interjectum</i> Shivas	+
<i>Tanacetum</i> cfr. <i>corymbosum</i> (L.) Sch. Bip.	+
<i>Asplenium trichomanes</i> L.	+
<i>Vicia sepium</i> L.	+
<i>Epipactis</i> sp.	+
<i>Senecio nemorensis</i> aggr.	+
<i>Viola</i> sp.	+
<i>Helleborus foetidus</i> L. subsp. <i>foetidus</i>	+
<i>Dryopteris cambrensis</i> (Fraser-Jenk.) J. Beitel & W.R. Buck subsp. <i>insubrica</i> (Oberh. & Tavel ex Fraser-Jenk.) Fraser-Jenk.	+
<i>Anomodon viticulosus</i> (Hedw.) Hook. & Taylor	+

Table 6. Continuation.

Relevé number	1
Cell ID	10kmE414N232
Latitude	44.02037
Longitude	7.83854
Date	6/10/2020
Area (m ²)	200
Altitude (m a.s.l.)	760
Exposition	W-NW
Slope (°)	45
Total cover (%)	85
Tree layer cover (%)	80
Shrub layer cover (%)	35
Herb layer cover (%)	55
Bryophyte layer cover (%)	15
<i>Rhynchosstegium confertum</i> (Dicks.) Schimp.	+
<i>Plagiomnium undulatum</i> (Hedw.) T.J.Kop. var. <i>undulatum</i>	+
<i>Fissidens taxifolius</i> Hedw.	+
<i>Ctenidium molluscum</i> (Hedw.) Mitt.	+
<i>Tortella nitida</i> (Lindb.) Broth.	+

^ Reference plant species of the Habitat 9180*, from Biondi et al. (2009).



Figure 5. Distribution in Italy of the Habitat 9180*: in black the new cell, in grey the cells officially reported in the 4th Habitat report ex-Art. 17 (period 2013-2018; Eionet 2019).

tends into the nearby Natura 2000 Site SAC IT1314609 “Monte Monega - Monte Plearba” without interruption.

#20. Annex I Habitat: 92AO *Salix alba* and *Populus alba* galleries (Dagnino D, Turcato C)

EUNIS Classification system: G1.31 - Mediterranean riparian *Populus* forests

Biogeographical Region: Mediterranean

National Habitat Checklist of reference: Manuale Italiano di interpretazione degli habitat della Direttiva 92/43/CEE (Biondi et al. 2009).

Phytosociological reference: *Populion albae* Br.-Bl. ex Tchou 1948, *Populetalia albae* Br.-Bl. ex Tchou 1948, *Salici purpureae-Populetea nigrae* Rivas-Martínez & Cantó ex Rivas-Martínez, Báscones, T.E. Díaz, Fernández-González & Loidi 2001 (Biondi and Blasi 2015).

Geographic information: Italy, Liguria, Carasco, San Quirico, 20 m a.s.l., Coordinates: 9.35769 E, 44.352737 N (Tab. 7, Rel. 1).

Cells ID in the EEA reference grid: 10kmE426N236 (Fig. 6).

Natura 2000 Site Code: SAC IT1332717 “Foce e medio corso del fiume Entella”

Phytosociological table: Tab. 7; taxonomic nomenclature according to Bartolucci et al. (2018) and Galasso et al. (2018), and later updates.

Notes: The finding occurred during the field surveys for the implementation of the SAC Management Plan. Although reported by Mariotti (2008) for the Entella river, the presence of the Habitat in the indicated cell has not been included in the Article 17 Habitats Directive IV Report (Eionet 2019). The habitat occupies a narrow part of the Entella river banks on the left orographic side. The habitat is degraded by the abundance of exotic species, as well as by the significant anthropic impact.

Errata Corrige

The recently published “New national and regional Annex I Habitat records: from #13 to #15” (Gianguzzi et al. 2020), published in this journal (Plant Sociology 57(1): 65–74), makes a wrong reference to the Habitat code 7120 instead of 7210*, in both figure and table captions. As correctly indicated in the text, the record refers unmistakably to Habitat 7210*.

In the same paper, the geographical coordinates in Tabs. 2 and 3 appeared to be modified due to the wrong cell format. Also in this case, the coordinates are correctly indicated in the text.

Hereafter the corrected version of the *errata* is shown in Tab. 8.

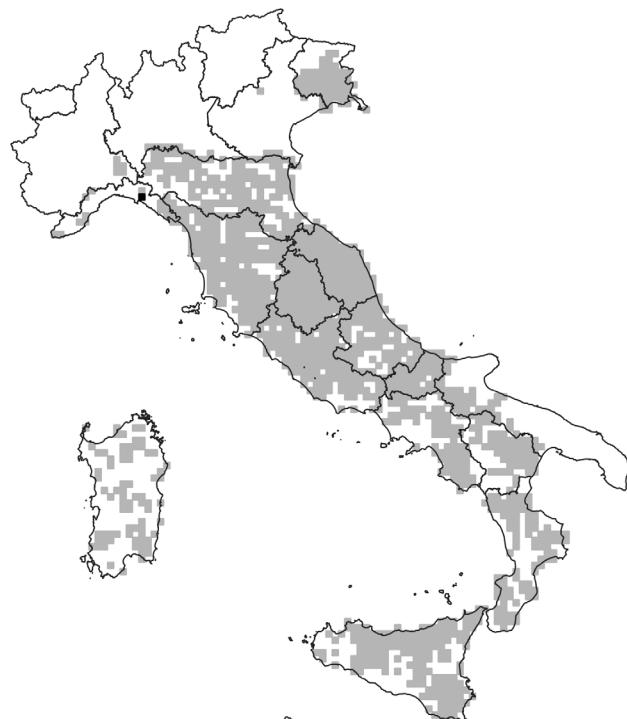


Figure 6. Distribution in Italy of the Habitat 92AO: in black the new cell, in grey the cells officially reported in the 4th Habitat report ex-Art. 17 (period 2013-2018; Eionet 2019).

Table 7. Habitat 92A0; specific cover values are expressed as percentage.

Relevé number	1
Cell ID	10kmE426N236
Latitude	44.352737
Longitude	9.35769
Date	7/23/2020
Area (m ²)	200
Altitude (m a.s.l.)	20
Exposition	S
Slope (°)	1
Total cover (%)	100
Tree layer cover (%)	80
Shrub layer cover (%)	50
Herb layer cover (%)	20
Charact. and diff. taxa of <i>Populion albae</i>, <i>Populetalio albae</i>, <i>Salici purpureae-Populetea nigrae</i>	
^ <i>Populus nigra</i> L.	30
^ <i>Populus alba</i> L.	30
^ <i>Salix alba</i> L.	25
^ <i>Humulus lupulus</i> L.	10
^ <i>Convolvulus sepium</i> L.	5
^ <i>Sambucus nigra</i> L.	1
<i>Carex pendula</i> Huds.	1
<i>Salix purpurea</i> L. subsp. <i>purpurea</i>	+
Other species	
<i>Helianthus tuberosus</i> L.	10
<i>Persicaria maculosa</i> Gray	10
<i>Rubus</i> sp.	5
<i>Arundo donax</i> L.	5
<i>Xanthium italicum</i> Moretti	5
<i>Pittosporum tobira</i> (Thunb.) W.T.Aiton	5
<i>Acer saccharinum</i> L. subsp. <i>saccharinum</i>	5
<i>Tradescantia fluminensis</i> Vell.	+
<i>Parthenocissus quinquefolia</i> (L.) Planch.	+
<i>Dysphania ambrosioides</i> (L.) Mosyakin & Clements	+
<i>Plantago major</i> L.	+
<i>Passiflora caerulea</i> L.	+

^ Reference plant species of the Habitat 92A0, from Biondi et al. (2009).

Table 8. Errata corrigere referring to “New national and regional Annex I Habitat records: from #13 to #15” (Gianguzzi et al. 2020).

page	erratum	corrigé
67 (Tab. 2, Latitude, Longitude)	4.516.735, 1.070.986 4.516.682, 1.070.964	45.16735, 10.70986 45.16682, 10.70964
68 (Tab. 3, caption)	Habitat 7120*	Habitat 7210*
68 (Tab. 3, Latitude, Longitude)	41.046.760, 8.936.343 41.046.661, 8.936.558 41.046.535, 893.668	41.046760, 8.936343 41.046661, 8.936558 41.046535, 8.936687
69 (Fig. 2, caption)	Distribution in Italy of the Habitat 7120*	Distribution in Italy of the Habitat 7210*

Bibliography

- Aleffi M, Tacchi R, Poponessi S (2020) New checklist of the Bryophytes of Italy. *Cryptogamie Bryologie* 41(13): 147-195.
- Bagella S (2016) 6310 Dehesas con *Quercus* spp. sempreverde. In; Angelini P, Casella L, Grignetti A, Genovesi P (eds) Manuali per il monitoraggio di specie e habitat di interesse comunitario (Direttiva 92/43/CEE) in Italia: habitat. ISPRA Serie Manuali e Linee Guida 142/2016, 257-258. Available at: http://www.isprambiente.gov.it/public_files/direttiva-habitat/Manuale-141-2016.pdf
- Bagella S, Caria MC, Filigheddu R (2013) Gap analysis revealed a low efficiency of Natura 2000 network for the conservation of endemic species in Mediterranean temporary freshwater habitats. *Plant Biosystems* 147(4): 1092-1094. <https://doi.org/10.1080/11263504.2013.860055>
- Bagella S, Caria MC, Filigheddu RS, Farris E (2009) Phytosociological analysis in Sardinian Mediterranean temporary wet habitats. *Fitosociologia* 46(1): 11-26. Available at: <http://www.scienzadellavegetazione.it/sisv/documenti/Articolo/pdf/115.pdf>
- Bartolucci F, Peruzzi L, Galasso G, Albano A, Alessandrini A, Ardenghi NMG, et al. (2018) An updated checklist of the vascular flora native to Italy. *Plant Biosystems* 152(2): 179-303. <https://doi.org/10.1080/11263504.2017.1419996>
- Biondi E, Blasi C (2015) Prodromo della vegetazione italiana. MATTM, SBI. Available online at <http://www.prodromo-vegetazione-italia.org/> [accessed on 2020, Nov 20].
- Biondi E, Blasi C, Burrascano S, Casavecchia S, Copiz R, Del Vico E et al. (2009) Manuale Italiano di interpretazione degli habitat della Direttiva 92/43/CEE. Società Botanica Italiana. Ministero dell'Ambiente e della tutela del territorio e del mare, D.P.N. Available online at <http://vnr.unipg.it/habitat/> [accessed on 2020, Nov 19].
- Biondi E, Bagella S (2005) Vegetazione e paesaggio vegetale dell'arcipelago di La Maddalena (Sardegna nord-orientale). *Fitosociologia* 42(2) suppl. 1: 3-99. Available at: <http://www.scienzadellavegetazione.it/sisv/documenti/Articolo/pdf/123.pdf>
- Brunello S, Gianguzzi L, La Mantia A, Siracusa G (2008) La classe *Quercetea ilicis* in Sicilia. *Bollettino dell'Accademia Gioenia di Scienze Naturali* 41(369):1-24.
- Caldarella O, Gianguzzi L, Gottschlich G (2013) Hieracium busambarense, a new species of the sect. *Grovesiana* (*Asteraceae*) from Sicily (Italy). *Plant Biosystems* 148(3): 439-443. <https://doi.org/10.1080/11263504.2013.778352>
- De Castro O, Colombo P, Gianguzzi L, Perrone R (2015) Flower and fruit structure of the endangered species *Petagnaea gussonei* (Sprengel) Rauschert (*Saniculoideae, Apiaceae*) and implications for its reproductive biology. *Plant Biosystems* 149(6): 1042-1051. <https://doi.org/10.1080/11263504.2015.1014007>
- De Castro O, Senatore F, Rigano D, Formisano C, Cennamo P, Gianguzzi L (2008) Composition of the essential oil of *Petagnaea gussonei* (Sprengel) Rauschert, a relict species from Sicily (Southern Italy). *Flavour Fragrance Journal* 23: 172-177. <https://doi.org/10.1002/fjj.1870>
- Eionet (2019) Eionet Central Data Repository. <https://cdr.eionet.europa.eu/it/eu/art17/envxuwp6g/> [accessed on 2020, Dec 7]
- Galasso G, Conti F, Peruzzi L, Ardenghi NMG, Banfi E, Celesti-Grapow L, et al. (2018) An updated checklist of the vascular flora alien to Italy. *Plant Biosystems* 152(3): 556-592. <https://doi.org/10.1080/11263504.2018.1441197>
- Gianguzzi L, Bagella S, Bazan G, Caria MC, Cerabolini BEL, Dalla Vecchia A, Riveccio G, Bolpagni R (2020) New national and regional Annex I Habitat records: from #13 to #15. *Plant Sociology* 57(1): 65-74. <https://doi.org/10.3897/pls2020571/07>
- Gianguzzi L, Bazan G (2020) A phytosociological analysis of the *Olea europaea* L. var. *sylvestris* (Mill.) Lehr. forests in Sicily. *Plant Biosystems* 154(5): 705-725. <https://doi.org/10.1080/11263504.2019.1681532>
- Gianguzzi L, Bazan G (2019) The *Olea europaea* L. var. *sylvestris* (Mill.) Lehr. forests in the Mediterranean area. *Plant Sociology* 56(2): 3-34. <https://doi.org/10.7338/pls2016531/02>
- Gianguzzi L, Cuttonaro P, Cusimano D, Romano S (2016) Contribution to the phytosociological characterization of the forest vegetation of the Sicani Mountains (inland of the North-Western Sicily). *Plant Sociology* 53(1): 5-43. <https://doi.org/10.7338/pls2016531/02>
- Gianguzzi L, Papini F, Cusimano D (2015) Phytosociological survey vegetation map of Sicily (Mediterranean region). *Journal of Maps* 12(5): 845-851. <https://doi.org/10.1080/17445647.2015.1094969>
- Gianguzzi L, D'Amico A, Romano S (2010) Phytosociological remarks on residual woodlands of *Laurus nobilis* in Sicily. *Lazaroa* 31: 67-84. https://doi.org/10.5209/rev_LAZA.2010.v31.4
- Gianguzzi L, La Mantia A (2008) Contributo alla conoscenza della vegetazione e del paesaggio vegetale della Riserva Naturale "Monte Cofano" (Sicilia occidentale) (con allegata Carta sinfitosociologica della vegetazione, scala 1:20.000). *Fitosociologia* 45(1) suppl. 1: 1-55. Available at: <http://www.scienzadellavegetazione.it/sisv/documenti/Articolo/pdf/54.pdf>
- Gianguzzi L (2007) Flora e vegetazione dei Nebrodi. Itinerari didattici. Seconda Edizione. Regione Siciliana, Assessorato Agricoltura e Foreste, Servizi allo Sviluppo. S. Agata di Militello (ME), pp. 232.
- Gigante D, Bagella S, Bonini F, Caria MC, Gabellini A, Gennai M, et al. (2019) New national and regional Annex I Habitat records: #9-#12. *Plant Sociology* 56(2): 129-134. <https://www.doi.org/10.7338/pls2019562/09>
- Gigante D, Acosta ATR, Agrillo E, Attorre F, Cambria VM, Casavecchia S, et al. (2012) VegItaly: Technical features, crucial issues and some solutions. *Plant Sociology* 49(2): 71-79. <https://www.doi.org/10.7338/pls2012492/05>
- Landucci F, Acosta ATR, Agrillo E, Attorre F, Biondi E, Cambria VM, et al. (2012) VegItaly: The Italian collaborative project for a national vegetation database. *Plant Biosystems* 146(4): 756-763. <https://doi.org/10.1080/11263504.2012.740093>
- Marino P, Guarino R, Bazan G (2012) The Sicilian taxa of *Genista* sect. *Voglera* and their phytosociological framework. *Flora Mediterranea* 22: 169-190. <https://doi.org/10.7320/FIMedit22.169>
- Mariotti MG (2008) Atlante degli Habitat. Natura 2000 in Liguria. Genova, Regione Liguria, 592 pp. <https://doi.org/10.7320/FIMedit22.169>
- Mucina L, Bültmann H, Dierßen K, Theurillat JP, Raus T, Čarní A, et al. (2016) Vegetation of Europe: hierarchical floristic classification system of vascular plant, bryophyte, lichen, and algal communities. *App. Veg. Sci.* 19 (Suppl. 1): 3-264.
- Pedrotti F (2008) La vegetazione delle marcite di Norcia (Italia centrale). *Braun-Blanquetia* 44: 1-31. Available at: <http://www.scienzadellavegetazione.it/sisv/libreria/braun-blquetia/BRBL44.pdf>
- Portale della Flora d'Italia (2019) Available online at <http://dryades.units.it/floritaly/> [accessed on 2020, Nov 17].
- QGIS.org (2020) QGIS Geographic Information System. Open Source Geospatial Foundation Project. v3.10. <http://qgis.org> [accessed on 2020, Nov 21].