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New national and regional Annex I Habitat records: #1-#8

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Abstract

New data concerning the distribution of the 92/43/EEC Directive's Annex I Habitats 3160, 3170*, 3240, 4090, 6110*, 6510, 9540 in Italy are reported. They include four new occurrences in Natura 2000 Sites and 12 new cells in the EEA 10 km x 10 km Reference grid. This is the first contribution focused on reporting about new national and regional Annex I Habitat records on this journal: in a specific Appendix, instructions for the authors who wish to contribute in future are given.

Key words: 3160, 3170*, 3240, 4090, 6110*, 6510, 9540, conservation, Habitat Directive, Italy.

Introduction

In line with other products developed by the network of Annex I Habitat experts of the Italian Society for Vegetation Science and the Italian Botanical Society (e.g. Biondi *et al.*, 2012; Gigante *et al.*, 2016), this new section of the journal Plant Sociology intends to support the process of implementation of the 92/43/EEC "Habitat" Directive in Europe.

The "New national and regional Annex I Habitat records" is proposed as a reference vehicle for reporting, archiving and retrieving data on Annex I habitats actual distribution. This tool might be particularly useful in correspondence of the six-years periodical Habitat reporting ex-Art. 17, when collecting robust data in support of the monitoring activities is in some cases very time-consuming and suffers for lack of communication between site managers, public bodies and scientific community. Updated distribution data can also support the process of assessment of conservation status with reference to different frames and spatial scales (e.g. Gigante *et al.*, 2018). Such a coordinated and scientifically validated tool for the collection of Habitat

records will hopefully represent a reference for all the scientists and stakeholders dealing for various reasons with issues related to Natura 2000.

For the present contribution, related to the Italian territory, all the phytosociological relevés representative of the various mentioned Annex I Habitats in Italy will be archived and freely accessible in the national database "VegItaly" (Landucci *et al.*, 2014), managed by the Italian Society of Vegetation Science, within which a dedicated archive named "HAB_IT" has been created.

#1. Annex I Habitat: 3160 Natural dystrophic lakes and ponds (Selvaggi A.)

EUNIS Classification system: C1.45 Peatmoss and *Utricularia* communities of dystrophic waterbodies

Biogeographical Region: Alpine

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

Phytosociological reference: *Scorpidio-Utricularion minoris* Pietsch 1965, *Utricularietalia intermedio-minoris* Pietsch 1965, *Utricularietea intermedio-minoris*

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Pietsch 1965 (Biondi & Blasi, 2015).

Geographic information: Italy, Piedmont, Torino, Col Blegier, 2340 m a.s.l., Coordinates: 45.03816 N, 6.91298 E.

Cell ID in the EEA reference grid: 10kmE407N244 (Fig. 1).

Natura 2000 Site Code: IT1110010

Phytosociological table: Tab. 1; taxonomic nomenclature according to Bartolucci et al. (2018); Aleffi et al. (2008).

Notes: The relevés describe the vegetation growing in dystrophic water pools present inside the "Col Blegier" alkaline bog, located on calcschist substrata in the Subalpine belt in the Western Alps, dominated by brown mosses and typical sedges such as *Carex davalliana* Sm. The bog is fed partly by rainwater and partly by springs. The pH value measured at the source is 8.2, while in dystrophic pools it shows lower values (6.6) (Bersani & Odasso, 2006), consistent with the weak acidification due to the presence of humic acids generated by the mosses decomposition. The water in pools shows high levels of Fe (8.8 mg/l) and low concentration values of nitrates and phosphates (Bersani & Odasso, 2006). The pools have a depth varying between 5 and 70 cm. They are characterized by the presence of *Utricularia minor* L. that grows semi-submerged above the undecomposed remains of brown mosses forming the alkaline bog (alliance *Caricion davallianae* Klika 1934), accompanied by emerging stems of *Menyanthes trifoliata* L. The moss layer is dominated by *Scorpidium cossonii* (Schimp.) Hedenäs. *Scorpidium scorpioides* (Hedw.) Limpr, typical species associated to the *Scorpidio-Utricularion minoris* alliance, is recorded in the alkaline bog.



Fig. 1 - Distribution in Italy of the the Habitat 3160: in black the new cells, in grey the cells officially reported in the 3rd Habitat report ex-Art. 17 (period 2007-2012).

#2. Annex I habitat: 3170* Mediterranean Temporary Ponds (Caria M.C., Bagella S.)

EUNIS Classification system: C3.4 Species-poor beds of low-growing water-fringing or amphibious vegetation

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: *Isoetion* Br.-Bl. 1936,

Tab. 1 - Habitat 3160.

Relevée number	1	2	3	4	5	6	
Cell ID	10kmE407N244	10kmE407N244	10kmE407N244	10kmE407N244	10kmE407N244	10kmE407N244	
Latitude	45.03808	45.03794	45.03795	45.03805	45.03798	45.03786	
Longitude	6.91281	6.91288	6.91273	6.91282	6.91289	6.91315	
Date	15/08/2014	16/08/2014	17/08/2014	17/08/2014	17/08/2014	17/08/2014	
Area (m ²)	9	9	9	9	9	9	
Altitude (m a.s.l.)	2.340	2.340	2.340	2.340	2.340	2.340	
Exposition	-	-	-	-	-	-	
Slope (°)	0	0	0	0	0	0	
Emergent herb layer Cover (%)	40	30	50	30	90	60	
Submerged herb layer Cover (%)	10	10	15		5	5	
Moss layer Cover (%)	10	40	70	70	80	90	
Water surface (%)	50	50	20	40	5	10	
<i>Utricularietea intermedio-minoris</i>							
<i>Utricularia minor</i> L.	1	2	2	.	1	1	5
Other species							
<i>Menyanthes trifoliata</i> L.	3	3	3	2	5	4	6
<i>Carex nigra</i> (L.) Reichard subsp. <i>nigra</i>	1	1	1	1	2	1	6
<i>Scorpidium cossonii</i> (Schimp.) Hedenäs	2	3	4	4	5	.	5
<i>Eriophorum angustifolium</i> Honck. subsp. <i>angustifolium</i>	.	+	.	+	.	.	2
<i>Epilobium alsinifolium</i> Vill.	+	.	1

Isoetalia Br.-Bl. 1936, *Isoeto-Nanojuncetea* Br.-Bl. & Tüxen ex Westhoff, Dijk & Passchier 1946 (Biondi & Blasi, 2015).

Geographic information: Italy, Sardinia, Medio Campidano, Arbus, Capo Frasca, 78 m a.s.l. Coordinates: 39.72789 N, 8.45240 E (Rel. 1); Italy, Sardinia, Medio Campidano, Arbus, Capo Frasca, 79 m a.s.l. Coordinates 39.72507 N, 8.45493 E (Rel. 2); Italy, Sardinia, Medio Campidano, Arbus, Capo Frasca, 92 m a.s.l. Coordinates 39.74195 N, 8.46235 E (Rel. 3).

Cells ID in the EEA reference grid: 10kmE418N185 (Rels. 1, 2); 10kmE418N184 (Rel. 3) (Fig. 2).

Natura 2000 Site Code: ITB030032

Phytosociological table: Tab 2; taxonomic nomenclature according to Bartolucci *et al.* (2018).

Notes: The habitat is located inside the military area of Capo Frasca. The relevés refer to the vegetation developed in the outer belt of three temporary ponds (size: 1,672 m², 9,313 m², 2,542 m²), on temporary waterlogged soils (Bagella *et al.*, 2009). The habitat is not reported in the Management Plan of the Natura 2000 Site.

#3. Annex I Habitat: 3240 Alpine rivers and their ligneous vegetation with *Salix elaeagnos* (Gigante D., Maneli F.)

EUNIS Classification system: F9.1 Riverine scrub

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: *Salicion incanae*



Fig. 2 - Distribution in Italy of the the Habitat 3170*: in black the new cells, in grey the cells officially reported in the 3rd Habitat report ex-Art. 17 (period 2007-2012).

Aichinger 1933, *Salicetalia purpureae* Moor 1958, *Salicetea purpureae* Moor 1958 (Biondi & Blasi, 2015).

Geographic information: Italy, Umbria, Perugia, Corno River, 530 m a.s.l. Coordinates: 13.001990 E 42.763950 N

Cell ID in the EEA reference grid: 10kmE456N218 (Fig. 3).

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

Phytosociological table: Tab. 3; taxonomic nomenclature according to Bartolucci *et al.* (2018).

#4. Annex I Habitat: 4090 Endemic oro-Mediterranean heaths with gorse (Gigante D., Maneli F.)

EUNIS Classification system: F7.4E *Astragalus sempervirens* hedgehog-heaths

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: *Phleo ambigui-Bromion erecti* Biondi, Ballelli, Allegrezza & Zuccarello ex Biondi & Galdenzi 2012, *Phleo ambigui-Brometalia erecti* Biondi, Allegrezza, Blasi & Galdenzi in Biondi *et al.* 2014, *Festuco valesiacae-Brometea erecti* Br.-Bl. & Tuxen ex Br.-Bl. 1949.

Geographic information: Italy, Umbria, Perugia, Monte Subasio, 1230 m a.s.l. Coordinates: 12.671152 E 43.068994 N (Rel. 1); Italy, Umbria, Perugia, Monte Galloro, 1166 m a.s.l. Coordinates: 42.748117 N, 12.902417 E (Rel. 2).



Fig. 3 - Distribution in Italy of the the Habitat 3240: in black the new cells, in grey the cells officially reported in the 3rd Habitat report ex-Art. 17 (period 2007-2012).

Tab. 2 - Habitat 3170*.

Relevée number	1	2	3	
Cell ID	10kmE418N185	10kmE418N185	10kmE418N184	
Latitude	39.72789	39.72507	39.74195	
Longitude	8.45240	8.45493	8.46235	
Date	22/04/2014	22/04/2014	22/04/2014	
Area (m ²)	3	4	2	
Altitude (m a.s.l.)	78	79	92	
Exposition	-	-	-	
Slope (°)	0	0	0	
Cover (%)	100	90	90	
Average vegetation height (cm)	5	5	5	Presences
<i>Isoetion</i> , <i>Isoetetalia</i> , <i>Isoeto-Nanojuncetea</i>				
Isoetes gymnocarpa (Genn.) A.Braun	2	2	2	3
Isoetes histrix Bory	2	2	2	3
Lythrum hyssopifolia L.	1	1	1	3
Juncus bufonius L.	1	+	+	3
Juncus capitatus Weigel	+	.	+	2
Eryngium barrelieri Boiss.	.	1	1	2
Buillarda vaillantii (Willd.) DC	.	+	.	1
Middendorfia borysthenica (Schränk) Trautv.	.	+	.	1
Mentha pulegium L. subsp. pulegium	.	.	1	1
Cicendia filiformis (L.) Delarbre	.	.	1	1
Juncus pygmaeus Rich. ex Thuill.	.	.	+	1
Solenopsis laurentia (L.) C. Presl.	.	.	+	1
Other species				
Linum bienne Mill.	+	+	+	3
Asphodelus ramosus L. subsp. ramosus	+	r	r	3
Moraea sisyrinchium (L.) Ker Gawl.	r	r	r	3
Bellis annua L. subsp. annua	1	1	.	2
Chamaemelum fuscum (Brot.) Vasc.	1	.	1	2
Lysimachia foemina (Mill.) U.Manns & Anderb.	+	.	+	2
Trifolium subterraneum L. s.l.	1	1	.	2
Ranunculus sardous Crantz s.l.	.	1	r	2
Carex flacca Schreb. subsp. serrulata (Biv.) Greuter	.	+	+	2
Lotus conimbricensis Brot.	.	r	r	2
Alopecurus bulbosus Gouan	.	.	1	1
Anthoxanthum aristatum Boiss. S.l.	.	.	1	1
Centaureum maritimum (L.) Fritsch	.	.	r	1
Poa annua L.	1	.	.	1
Trifolium micranthum Viv.	+	.	.	1
Romulea ramiflora Ten. subsp. ramiflora	r	.	.	1
Lotus hispidus DC.	.	+	.	1
Montia fontana L. subsp. amporitana Sennen	.	+	.	1
Plantago coronopus L.	.	+	.	1
Medicago minima (L.) L.	.	r	.	1
Plantago lanceolata L.	.	.	+	1

Cell ID in the EEA reference grid: 10kmE453N222 (Rel. 1), 10kmE455N218 (Rel. 2) (Fig. 4).

Natura 2000 Site Code: IT5210027

Phytosociological table: Tab. 4; taxonomic nomenclature according to Bartolucci *et al.* (2018).

#5. Annex I Habitat: 6110* Rupicolous calcareous or basophilic grasslands of the *Alysso-Sedion albi* (Gennai M., Foggi B., Viciani D., Ferretti G., Angiolini C.)

EUNIS Classification system: E1.1 Inland sand and rock with open vegetation

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: *Alysso alyssoidis-Sedion albi* Oberdorfer & Müller in Müller 1961, *Alysso alyssoidis-Sedetalia albi* Moravec 1967, *Sedo albi-Scleranthetea biennis* Br.-Bl. 1955 (Biondi & Blasi, 2015; Mucina *et al.*, 2016).

Geographic information: Italy, Tuscany, Arezzo, Poppi (loc. Moggiona), 730 m a.s.l., Coordinates: 11.7955464 E, 43.7821626 N.

Cell ID in the EEA reference grid: 10kmE446N229 (Fig. 5).

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

Tab. 3 - Habitat 3240.

Relevée number	1	2	3	
Cell ID	10kmE456N218	10kmE456N218	10kmE456N218	
Latitude	42.761467	42.762317	42.763733	
Longitude	13.000917	13.002450	13.002233	
Date	30/06/2016	30/06/2016	30/06/2016	
Area (m ²)	80	80	80	
Altitude (m a.s.l.)	533	532	531	
Exposition	-	-	-	
Slope (°)	0	0	0	
Cover (%)	95	100	95	
Vegetation height (m)	5	5	4.5	Presences
Diagnostic species				
<i>Salix eleagnos</i> Scop.	5	5	5	3
<i>Salicion incanae, Salicetalia purpureae, Salicetea purpureae</i>				
<i>Urtica dioica</i> L.	2a	3	4	3
<i>Rubus caesius</i> L.	2a	2b	2b	3
<i>Humulus lupulus</i> L.	2a	1	1	3
<i>Saponaria officinalis</i> L.	2b	+	+	3
<i>Agrostis stolonifera</i> L.	+	2a	+	3
<i>Convolvulus sepium</i> L.	2a	+	.	2
<i>Clematis vitalba</i> L.	2b	.	1	2
<i>Ranunculus repens</i> L.	.	+	+	2
<i>Salix purpurea</i> L.	.	1	.	1
<i>Cornus sanguinea</i> L.	.	+	.	1
<i>Corylus avellana</i> L.	.	+	.	1
<i>Populus nigra</i> L. subsp. <i>nigra</i>	.	+	.	1
<i>Brachypodium sylvaticum</i> (Huds.) P.Beauv.	.	+	.	1
Other species				
<i>Galium aparine</i> L.	2a	2b	2a	3
<i>Elymus caninus</i> (L.) L.	1	2b	+	3
<i>Pastinaca sativa</i> L.	1	2a	2a	3
<i>Conium maculatum</i> L. subsp. <i>maculatum</i>	+	2a	1	3
<i>Chaerophyllum temulum</i> L.	+	1	1	3
<i>Alliaria petiolata</i> (M.Bieb.) Cavara & Grande	+	r	r	3
<i>Cruciata laevipes</i> Opiz	+	+	+	3
<i>Geum urbanum</i> L.R	r	+	+	3
<i>Ranunculus acris</i> L.	1	+	.	2
<i>Mentha longifolia</i> (L.) L.	+	+	.	2
<i>Geranium columbinum</i> L.	+	+	.	2
<i>Dactylis glomerata</i> L.	r	+	.	2
<i>Dipsacus fullonum</i> L.	r	+	.	2
<i>Silene latifolia</i> Poir.	r	+	.	2
<i>Solanum dulcamara</i> L.	1	.	1	2
<i>Lapsana communis</i> L.	+	.	+	2
<i>Ballota nigra</i> L. subsp. <i>meridionalis</i> (Bég.) Bég.	.	2b	3	2
<i>Valeriana officinalis</i> L. subsp. <i>officinalis</i>	.	1	+	2
<i>Carduus pycnocephalus</i> L. subsp. <i>pycnocephalus</i>	.	+	+	2
<i>Torilis arvensis</i> (Huds.) Link subsp. <i>arvensis</i>	.	+	+	2
<i>Galium mollugo</i> L.	1	.	.	1
<i>Moehringia trinervia</i> (L.) Clairv.	+	.	.	1
<i>Trigonella alba</i> (Medik.) Coulot & Rabaute	+	.	.	1
<i>Rumex sanguineus</i> L.	+	.	.	1
<i>Persicaria mitis</i> (Schrank) Assenov	+	.	.	1
<i>Dioscorea communis</i> (L.) Caddick & Wilkin	+	.	.	1
<i>Anisantha sterilis</i> (L.) Nevski	+	.	.	1
<i>Scrophularia umbrosa</i> Dumort. subsp. <i>umbrosa</i>	.	2a	.	1
<i>Helianthus tuberosus</i> L.	.	1	.	1
<i>Acer campestre</i> L.	.	+	.	1
<i>Pulmonaria vallisarsae</i> A.Kern. subsp. <i>apennina</i> (Cristof. & Puppi) L.Cecchi & Selvi	.	+	.	1
<i>Thalictrum aquilegifolium</i> L. subsp. <i>aquilegifolium</i>	.	+	.	1
<i>Viola alba</i> Besser subsp. <i>dehnhardtii</i> (Ten.) W.Becker	.	+	.	1
<i>Chelidonium majus</i> L.	.	.	2b	1
<i>Heracleum sibiricum</i> L. subsp. <i>ternatum</i> (Velen.) Briq.	.	.	+	1

Phytosociological table: Tab. 5 (Rels. 1 and 2); taxonomic nomenclature according to Conti *et al.* (2005).
Notes: the recorded coenoses occur in the vicinity of the border of the Natura 2000 site IT5180002 “Foreste alto bacino dell’Arno”; the location has been excluded from the protected area owing to the presence of a little hamlet.

#6. Annex I Habitat: 6110* Rupicolous calcareous or basophilic grasslands of the *Alysso-Sedion albi* (Gennai M., Foggi B., Ferretti G., Lastrucci L., Viciani D., Angiolini C.)

EUNIS Classification system: E1.1 Inland sand and rock with open vegetation

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: *Alysso alyssoidis-Sedion albi* Oberdorfer & Müller in Müller 1961, *Alysso alyssoidis-Sedetalia albi* Moravec 1967, *Sedo albi-Scleranthetea biennis* Br.-Bl. 1955 (Biondi & Blasi, 2015; Mucina *et al.*, 2016).

Geographic information: Italy, Tuscany, Massa-Carrara, Apuan Alps (Campo Cecina), 1260 m a.s.l., Coordinates: 10.1402444 E, 44.115219 N (Rel. 3); Italy, Tuscany, Pistoia, Serravalle, 65 m a.s.l., Coordinates: 10.8150031 E, 43.9066309 N (Rel. 4).

Cells ID in the EEA reference grid: 10kmE433N233 (Rel. 3), 10kmE438N231 (Rel. 4) (Fig. 5).

Natura 2000 Site Code: currently not included in any

Natura 2000 Site.

Phytosociological table: Tab. 5 (Rels. 3 and 4); taxonomic nomenclature according to Conti *et al.* (2005).

Notes: the coenoses recorded in the site a) occur in the vicinity of the border of the Natura 2000 Site IT5110008 “Monte Borla - Rocca di Tenerano”; the location has been excluded from the protected area owing to the presence of a marble quarry.

#7. Annex I Habitat: 6510 Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*) (Zanatta K.)

EUNIS Classification system: E2.2 Low and medium altitude hay meadows

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: *Arrhenatherion elatioris* Koch 1926, *Arrhenatheretalia elatioris* Tüxen 1931, *Molinio-Arrhenatheretea* Tüxen 1937 (Biondi & Blasi, 2015).

Geographic information: Italy, Veneto, Treviso, Montello, 92 m a.s.l., Coordinates: 12.17236223 E, 45.80604079 N (Rel. 1); Italy, Veneto, Treviso, Montello, 320 m a.s.l., Coordinates: 12.11998549 E, 45.81431215 N (Rel. 15); Italy, Veneto, Treviso, Montello, 281 m a.s.l., Coordinates: 12.06911737 E, 45.80848864 N (Rel. 27).

Cells ID in the EEA reference grid: 10kmE449N252 (Rel. 1); 10kmE448N252 (Rels. 15 and 27) (Fig. 6).



Fig. 4 - Distribution in Italy of the the Habitat 4090: in black the new cells, in grey the cells officially reported in the 3rd Habitat report ex-Art. 17 (period 2007-2012).



Fig. 5 - Distribution in Italy of the the Habitat 6110*: in black the new cells, in grey the cells officially reported in the 3rd Habitat report ex-Art. 17 (period 2007-2012).

Tab. 4 - Habitat 4090.

Relevée number	1	2		
Cell ID	10kmE453N222	10kmE455N218		
Latitude	43.068994	42.748117		
Longitude	12.671152	12.902417		
Date	08/06/2017	11/06/2017		
Area (m ²)	16	16		
Altitude (m a.s.l.)	1230	1166		
Exposition (°)	50	195	Presences	
Slope (°)	10	13		
Cover (%)	45	60		
Diagnostic species				
<i>Astragalus sempervirens</i> Lam.	3	3		2
<i>Phleo ambigu-Bromion erecti, Phleo ambigu-Brometalia erecti, Festuco valesiacae-Brometea erecti</i>				
<i>Bromopsis erecta</i> (Huds.) Fourr. subsp. <i>erecta</i>	2b	2a	2	
<i>Leontodon rosanoi</i> (Ten.) DC.	2a	+	2	
<i>Festuca circummediterranea</i> Patzke	1	2a	2	
<i>Pilosella officinarum</i> Vaill.	1	2a	2	
<i>Koeleria splendens</i> C.Presl	1	1	2	
<i>Galium lucidum</i> All.	1	+	2	
<i>Knautia calycina</i> (C.Presl) Guss.	1	+	2	
<i>Thymus longicaulis</i> C.Presl subsp. <i>longicaulis</i>	1	+	2	
<i>Asperula purpurea</i> (L.) Ehrend.	+	1	2	
<i>Eryngium amethystinum</i> L.	+	1	2	
<i>Lotus corniculatus</i> L. subsp. <i>corniculatus</i>	+	+	2	
<i>Globularia meridionalis</i> (Podp.) O.Schwarz	.	3	1	
<i>Linum tenuifolium</i> L.	.	2b	1	
<i>Centaurea deusta</i> Ten.	.	2b	1	
<i>Helianthemum oelandicum</i> (L.) Dum.Cours. subsp. <i>incanum</i> (Willk.) G.López	.	2a	1	
<i>Anthyllis vulneraria</i> L. subsp. <i>rubriflora</i> (DC.) Arcang.	.	2a	1	
<i>Helianthemum apenninum</i> (L.) Mill. subsp. <i>apenninum</i>	.	1	1	
<i>Seseli tommasinii</i> Rchb.f.	.	1	1	
<i>Teucrium montanum</i> L.	.	1	1	
<i>Centaurea ambigua</i> Guss. subsp. <i>nigra</i> (Fiori) Pignatti	+	.	1	
Other species				
<i>Juniperus deltoides</i> R.P.Adams	1	1	2	
<i>Bombacilaena erecta</i> (L.) Smoljan.	+	.	1	
<i>Alyssum alyssoides</i> (L.) L.	+	.	1	
<i>Bupleurum baldense</i> Turra	+	.	1	
<i>Argyrobolium zanonii</i> (Turra) P.W.Ball subsp. <i>zanonii</i>	.	1	1	
<i>Ononis pusilla</i> L. subsp. <i>pusilla</i>	.	+	1	
<i>Cherleria laricifolia</i> (L.) Iamónico subsp. <i>laricifolia</i>	.	+	1	

Natura 2000 Site Code: IT3240004

Phytosociological table: Relevés n. 1, 15 and 27, Appendix I, in Zanatta (2018).

Notes: The relevés refer to acidophilous and mesophylous hay meadows of deep oligotrophic soils with acid reaction, typical of the Montello hill (NE-Italy). The floristic-vegetational and physiognomic structure assumes characteristics of originality, not found in neighboring territories; sometimes not fully compliant with the models described in the Manual (Biondi *et al.*, 2009). The influence of the soil and the local agronomic history are critical for the floristic structure. Indeed, these habitats are characterized by the dominance of species of *Arrhenatherion elatioris* and by the not negligible presence of segetal species of *Stellarienea mediae*. The best aspects are mark-out

by a significant participation of species of *Festuco-Brometea*, *Nardetea strictae* and *Trifolio-Geranietea*. The presence of segetal species gives these meadows a naturalistic, historical and cultural value, indicative of their traditional agronomic practices.

In better preserved cases, on oligotrophic soils in submontane areas, both the physiognomy and the floristic composition tend to shift from the typical towards the species-rich *Nardus* grasslands. In these cases, *Arrhenatherum elatius* tends to be replaced by *Festuca nigrescens*, a montane species. Its presence on Montello, together with a significant group of acidophilic and thermo-xerophilous species, makes the flora of this hill extremely interesting, complex, with features typical of the montane rather than the hilly belt.

Tab. 5 - Habitat 6110*.

Relevée number	1	2	3	4	
Cell ID	10kmE446N229	10kmE446N229	10kmE433N233	10kmE438N231	
Latitude	43.7821626	43.7821803	44.115219	43.9066309	
Longitude	11.7955464	11.7955596	10.1402444	10.8150031	
Year	2010	2010	2010	2009	
Area (m ²)	2	3	1	1	
Altitude (m a.s.l.)	727	737	1266	65	
Exposition	S	S	-	-	Presences
Slope (°)	25	30	0	0	
Cover (%)	70	40	55	40	

Alyssu alyssoidis-Sedion albi, *Alyssu alyssoidis-Sedetalia albi*, *Sedo albi-Scleranthetea biennis*

<i>Poa bulbosa</i> L.	+	r	1	1	4
<i>Arenaria serpyllifolia</i> L. s.l.	2	1	+	+	4
<i>Sedum album</i> L.	2	2	2	.	3
<i>Trifolium scabrum</i> L. subsp. <i>scabrum</i>	+	+	.	1	3
<i>Sedum rupestre</i> L. subsp. <i>rupestre</i>	1	1	.	3	3
<i>Saxifraga tridactylites</i> L.	2	+	.	.	2
<i>Sedum sexangulare</i> L.	3	2	.	.	2
<i>Homungia petraea</i> (L.) Rchb. subsp. <i>petraea</i>	.	r	2	.	2
<i>Alyssum alyssoides</i> (L.) L.	+	.	.	.	1
<i>Teucrium botrys</i> L.	.	+	.	.	1
<i>Coronilla scorpioides</i> (L.) W.D.J. Koch	.	r	.	.	1
<i>Erophila verna</i> (L.) DC. s.l.	.	.	1	.	1
<i>Minuartia mediterranea</i> (Link) K. Malý	.	.	.	+	1

Other species

<i>Festuca inops</i> De Not.	+	+	2	.	3
<i>Hypochaeris achyrophorus</i> L.	+	+	.	+	3
<i>Medicago</i> sp.	1	+	.	.	2
<i>Petrorhagia</i> sp.	1	+	.	.	2
<i>Geranium rotundifolium</i> L.	+	+	.	.	2
<i>Bromus madritensis</i> L.	.	+	.	1	2
<i>Bromus</i> sp.	1	.	.	.	1
<i>Capsella bursa-pastoris</i> (L.) Medik. subsp. <i>bursa-pastoris</i>	+	.	.	.	1
<i>Veronica arvensis</i> L.	+	.	.	.	1
<i>Alyssum</i> sp.	.	+	.	.	1
<i>Bromus erectus</i> Huds. subsp. <i>erectus</i>	.	+	.	.	1
<i>Euphorbia</i> sp.	.	+	.	.	1
<i>Galium lucidum</i> All. subsp. <i>lucidum</i>	.	+	.	.	1
<i>Tordylium apulum</i> L.	.	r	.	.	1
<i>Centaurea arachnoidea</i> Viv.	.	.	1	.	1
<i>Salvia pratensis</i> L. subsp. <i>pratensis</i>	.	.	.	+	1
<i>Veronica cymbalaria</i> Bodard subsp. <i>cymbalaria</i>	.	.	.	+	1

#8. Annex I Habitat: 9540 Mediterranean pine forests with endemic Mesogean pines (Allegrezza M., Tesei G.)

EUNIS Classification system: T3.947 Italic *Pinus halepensis* forests (formerly: G3.747 Italic *Pinus halepensis* forests)

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: *Coronillo emeroidis-Pinetum halepensis* Allegrezza, Biondi & Felici 2006, *Pistacio lentisci-Pinion halepensis* Biondi, Blasi, Galdenzi, Pesaresi & Vagge in Biondi, Allegrezza, Casavecchia, Galdenzi, Gasparri, Pesaresi, Vagge & Blasi 2014; *Pinetalia halepensis* Biondi, Blasi, Galdenzi, Pesaresi & Vagge in Biondi, Allegrezza,

Casavecchia, Galdenzi, Gasparri, Pesaresi, Vagge & Blasi 2014; *Quercetia ilicis* Br.-Bl. in Br.-Bl., Roussine & Negre 1952 (Biondi *et al.* 2014; Biondi & Blasi, 2015).

Geographic information: Italy, Marche, Ascoli Piceno, San Basso hill, between 90 and 100 m a.s.l. Coordinates: 13.8550 E, 43.0292 N.

Cell ID in the EEA reference grid: 10kmE463N222 (Fig. 7).

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

Phytosociological table: Rels. 1, 2 and 3, Tab. 1, in Allegrezza *et al.* (2006).

Notes: although reported by Allegrezza *et al.* (2006), the presence of the Habitat in the indicated cell has not been included in the Third Report under Article 17 of the Habitats Directive (period 2007-2012).



Fig. 6 - Distribution in Italy of the the Habitat 6510: in black the new cells, in grey the cells officially reported in the 3rd Habitat report ex-Art. 17 (period 2007-2012).



Fig. 7 - Distribution in Italy of the the Habitat 9540: in black the new cells, in grey the cells officially reported in the 3rd Habitat report ex-Art. 17 (period 2007-2012).

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Annex I - New national and regional Annex I Habitat records: instructions for the authors

This is a numbered section hosting novelties on the distribution of 92/43/EEC Directive's Annex I Habitat types. Records of Annex I Habitat presence are accepted only when they refer to:

- first occurrence in EEA 10 km x 10 km Reference grid cell(s) (<https://www.eea.europa.eu/data-and-maps/data/eea-reference-grids-2>) where the Annex I Habitat was formerly not known (with reference to the last reporting official data, currently 2013, available online at https://bd.eionet.europa.eu/activities/Reporting/Article_17/);
- first occurrence in Natura 2000 Sites where the Annex I Habitat was formerly not known (with reference to the official data from the last reporting period, available online at https://bd.eionet.europa.eu/activities/Reporting/Article_17/, and to the official last updated version of the Standard Data Form of the Site, available at <http://natura2000.eea.europa.eu/Natura2000/SDF.aspx?site=SITECODE>);
- exclusion of occurrence from a Natura 2000 Site or from an EEA 10 km x 10 km Reference grid cell (<https://www.eea.europa.eu/data-and-maps/data/eea-reference-grids-2>) where the Annex I Habitat was formerly acknowledged (with reference to the official data from the last reporting period, available online at https://bd.eionet.europa.eu/activities/Reporting/Article_17/).

Reports from any part of Europe are welcome for in-

clusion, provided they are supported by robust phytosociological data and references, and precise geographic and cartographic details.

Each group of records will be organized as a single paper carrying the names of all contributors and the section Coordinators as authors.

The following fields are requested for the publication of a valid Annex I Habitat record.

Contributors: Author(s) and Autor(s)' affiliation(s)

Habitat's Code and Name: official reference from Annex I to the Directive 92/43/EEC and further updations.

Correspondence with the EUNIS Classification system: Code and Name (<https://eunis.eea.europa.eu/>).

Biogeographical Region according to the official delineations used in the Habitats Directive 92/43/EEC (<https://www.eea.europa.eu/data-and-maps/data/biogeographical-regions-europe-3>).

National Habitat Checklist of reference: indicate the National Annex I Habitat Manual, or analogous official source, in use in the country of reference.

Phytosociological reference: at least at the alliance level, including the reference source for syntaxonomic nomenclature.

Geographic information: State, Region, Province, locality, altitude, geographic coordinates in Degrees (Datum World Geographic System 1984).

ID of the cell in the EEA 10 km x 10 km Reference grid where the habitat is reported (e.g. 10kmE407N244).

Natura 2000 Site Code: code of the Natura 2000 site, in cases when a new occurrence is proposed or excluded from a Site (<https://www.eea.europa.eu/data-and-maps/data/natura-10>).

Phytosociological table (max 10 unpublished relevés), including the reference source for taxa nomenclature; published relevés can also be used, as long as no one has ever associated them with Annex I Habitat types: in this case, it is enough to provide a precise reference to relevés number(s), table number and bibliographic source.

Map of the new record(s), representing the new cell(s) in the EEA 10 km x 10 km reference grid at national scale.

Notes (max 250 words).