

Report on the main results of the surveillance under article 17 for annex I habitat types (Annex D)

CODE: 6170

NAME: Alpine and subalpine calcareous grasslands

1. National Level

1.1 Maps

1.1.1 Distribution Map	Yes
1.1.2 Distribution Method	Estimate based on partial data with some extrapolation and/or modelling (2)
1.1.3 Year or period	2006-2012
1.1.4 Additional map	No
1.1.5 Range Map	Yes

2. Biogeographical Or Marine Level

2.1 Biogeographical Region

2.2 Published

Mediterranean (MED)

Dimopoulos P., Xystrakis F. and Tsiripidis I. 2014. Deliverable A1. Final Catalogue of Habitat Types – 1st edition. Ministry of Environment, Energy and Climate Change, OIKOM Ltd - E. Alexandropoulou - A. Glavas, Athens, pages 54.

Dimopoulos P., Fotiadis G., Tsiripidis I., Panitsa M. and Karadimou E. 2014. Deliverable A2. Report and Literature Database on Habitat Types of Greece – 1st edition. Ministry of Environment, Energy and Climate Change, OIKOM Ltd - E. Alexandropoulou - A. Glavas, Athens, pages 210.

Tsiripidis I., Xystrakis F., Kasampalis D., Mastrogianni A., Strid A. and Dimopoulos P., 2014. Deliverable A4. Potential Distribution Maps of Habitat Types – 1st edition. Ministry of Environment, Energy and Climate Change, OIKOM Ltd - E. Alexandropoulou - A. Glavas, Athens, Athens, pages 176.

Dimopoulos P., Tsiripidis I., Xystrakis F., Panitsa M., Fotiadis G., Kallimanis A.S. and Kazoglou I. 2014. Deliverable A6. Explanatory Implementation Manual for the Conservation Degree Assessment of Habitat Types – 1st edition. Ministry of Environment, Energy and Climate Change, OIKOM Ltd - E. Alexandropoulou - A. Glavas, Athens, pages 35. (with Annexes: I. Habitat types protocols, pages 600; II. Explanatory notes on the habitat types protocols selection, pages 4; III. Correspondence of Habitat types protocols with the clusters of vegetation relevés (excel file).

Dimopoulos P., Tsiripidis I., Xystrakis F., Kallimanis A.S and Panitsa M. 2014. Deliverable A7. Preliminary Analysis of the Field Data for the Habitat Types – 1st edition. Ministry of Environment, Energy and Climate Change, OIKOM Ltd - E. Alexandropoulou - A. Glavas, Athens, pages 16.

Bergmeier E. 2002. The vegetation of the high mountains of Crete – a revision and multivariate analysis. *Phytocoenologia* 32: 205-249.

Bergmeier E. 2004. Two ways of vegetation classification for the high mountains of Crete: A critical comparison of methods and results. *Annali di Botanica*, n.s. 3: 7-21.

Βλάχος Α. 2006. Χλωρίδα Βλάστηση και Οικολογία του ορεινού συγκροτήματος των Βαρδουσίων. Διδακτορική Διατριβή. Πανεπιστήμιο Πατρών, σελ. 396.

Βραχνάκης Μ., Φωτιάδης Γ., Καζόγλου Ι. 2011. Τύποι Οικοτόπων Εθνικού Πάρκου Πρεσπών – Αναγνώριση-Καταγραφή 2011. Εταιρία Προστασίας Πρεσπών, σελ. 101.

Δημητρέλλος Ν.Γ. 2005. Γεωβοτανική Έρευνα του Όρους Τυμφρηστού (ΒΔ Στερεά Ελλάδα) Χλωρίδα - Βλάστηση - Αξιολόγηση - Διαχείριση. Διδακτορική Διατριβή. Πανεπιστήμιο Πατρών, σελ. 296.

Δημόπουλος Δ. Π. 1993. Χλωριδική και Φυτοκοινωνιολογική έρευνα του όρους Κιθρήνη - Οικολογική Προσέγγιση-. Διδακτορική Διατριβή. Πανεπιστήμιο Πατρών

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, σελ. 370.

Georgiadis Th. & Dimopoulos P. 1993. Etude de la vegetation supraforestiere du Mont Kyllini (Peloponnese-Grece). Bot. Helv. 103: 149-175.

Θεοδωρόπουλος Κ., Ξυστράκης Φ., Ελευθεριάδου Ε. & Σαμαράς Δ. 2011. Ζώνες βλάστησης και τύποι οικοτόπων της περιοχής του φορέα διαχείρισης Εθνικού Δρυμού Ολύμπου. Επιστ. Επετ. Σχολής Δασολογίας και Φυσικού Περιβάλλοντος, ΑΠΘ 2002, ΜΕ, σελ. 18 (σε CD).

Karagiannakidou V. 1994. Contribution to the study of mountain-subalpine grassland vegetation of Mount Menikion, north-eastern Greece. Ecologia Mediterranea XX (3-4): 73-84.

Karagiannakidou V., Dimopoulos P. & K. Papademetriou. 2001. Phytosociological researches on the montane and high-altitude grasslands of North Eastern Greece: Mount Pangeon. Fitosociologia 38 (1): 25-54.

Μαρούλης Γ. 2003. Χλωρίδα και βλάστηση των οικοσυστημάτων του όρους Ερύμανθος (ΒΔ Πελοπόννησος). Διδακτορική Διατριβή. Πανεπιστήμιο Πατρών, σελ. 450 + 1 Παράρτημα + 1 Χάρτης.

Marulis G. & Georgiadis T. 2005. The vegetation of supra-forest meadows and rock crevices of Mount Erimanthos (NW Peloponnisis, Greece). Fitosociologia 42(1): 33-56.

Quézel P. 1964. Vegetation des hautes montanges de la Grece meridionale. Vegetatio XII (5/6): 289-385 + 33 Tables.

Quézel P. 1967. La vegetation des hauts sommets du Pinde et de l'Olympe de Thessale. Vegetatio XIV (1/4): 127-229.

Quézel, P. 1989. Contribution à l'étude phytosociologique des pelouses ecorchées culminales du massif du Falakron. Bios (Thessalonika) 1989: 187-193.

Χοχλίουρος Π.Σ. 2005. Χλωριδική και Φυτοκοινωνιολογική Έρευνα του Όρους Βερμίου - Οικολογική προσέγγιση. Διδακτορική Διατριβή. Πανεπιστήμιο Πατρών, σελ. 352 + 3 Παραρτήματα.

2.3 Range of the habitat type in the biogeographical region or marine region

2.3.1 Surface area - Range (km ²)	2922
2.3.2 Range method used	Estimate based on partial data with some extrapolation and/or modelling (2)
2.3.3 Short-term trend period	2001-2012
2.3.4 Short-term trend direction	stable (0)
2.3.5 Short-term trend magnitude	min max
2.3.6 Long-term trend period	
2.3.7 Long-term trend direction	N/A
2.3.8 Long-term trend magnitude	min max
2.3.9 Favourable reference range	area (km ²) operator approximately equal to (≈) unkown No method
2.3.10 Reason for change	Improved knowledge/more accurate data Use of different method

2.4 Area covered by Habitat

2.4.1 Surface area (km ²)	556,62
2.4.2 Year or period	2000-2012
2.4.3 Method used	Estimate based on partial data with some extrapolation and/or modelling (2)
2.4.4 Short-term trend period	2001-2012
2.4.5 Short-term trend direction	stable (0)
2.4.6 Short-term trend magnitude	min max

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2.4.7 Short term trend method used	Estimate based on partial data with some extrapolation and/or modelling (2)	
2.4.8 Long-term trend period		
2.4.9 Long-term trend direction	N/A	
2.4.10 Long-term trend magnitude	min	max
2.4.11 Long term trend method used	N/A	
2.4.12 Favourable reference area	area (km) operator unknown method	approximately equal to (≈) No
2.4.13 Reason for change	Improved knowledge/more accurate data Use of different method	

2.5 Main Pressures

Pressure	ranking	pollution qualifier(s)
grazing (A04)	medium importance (M)	N/A
Structures, buildings in the landscape (E04)	low importance (L)	N/A
Taking / Removal of terrestrial plants, general (F04)	low importance (L)	N/A

2.5.1 Method used – pressures mainly based on expert judgement and other data (2)

2.6 Main Threats

Threat	ranking	pollution qualifier(s)
grazing (A04)	low importance (L)	N/A
problematic native species (I02)	low importance (L)	N/A

2.6.1 Method used – threats expert opinion (1)

2.7 Complementary Information

2.7.1 Species

Achillea holosericea

Achillea setacea

Alchemilla flabellata

Alyssum montanum

Androsace villosa

Anthyllis aurea

Anthyllis montana

Anthyllis vulneraria subsp. Pulchella

Armeria canescens

Asperula aristata

Astragalus angustifolius

Bromus cappadocicus

Bromus riparius

; Carex kitaibeliana

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Centaurea napulifera

Cerastium banaticum

Cirsium heldreichii

Daphne oleoides

Digitalis ferruginea

Draba lasiocarpa

Dryas octopetala

Eryngium amethystinum

Euphorbia myrsinites

Festuca koritnicensis

Festuca species

Festucopsis sancta

Galium anisophyllum

Geranium subcaulescens

Hieracium pilosella

Juniperus communis subsp. *Nana*

Minuartia verna

Onobrychis montana

Phleum alpinum

Sesleria coerulans

Sesleria rigida

Sesleria robusta

Sideritis scardica

Stipa pennata

Teucrium montanum

Thalictrum minus

Thymus longicaulis

Thymus praecox

Thymus thracicus

Trifolium heldreichianum

Verbascum mallophorum

Vincetoxicum hirundinaria

2.7.2 Species method used

Typical species were determined on the basis of a vegetation database, comprised of about 22000 sampling plots. First, a list of possible typical species was determined per habitat type, selecting the ones presenting a high fidelity value to the habitat types according the algorithm of Tsiripidis et al. (2009) and the phi coefficient value (Chytrý et al. 2002). Then typical species per habitat type were selected from the above-mentioned lists by expert judgment and using as criteria species niche breadth, their ability to comprise indicators of habitat types' conservation status and their function as keystone species. The nomenclature of the typical species follows Dimopoulos et al.

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(2013).ReferencesChytrý, M., Tichý, L., Holt, J. & Botta-Dukát, J. 2002. Determination of diagnostic species with statistical fidelity measures. *Journal of Vegetation Science* 13: 79–90. Dimopoulos, P., Raus, Th., Bergmeier, E., Constantinidis, Th., Iatrou, G., Kokkini, S., Strid, A. & Tzanoudakis, D. 2013: *Vascular plants of Greece: an annotated checklist*. – Berlin: Botanischer Garten und Botanisches Museum Berlin-Dahlem, Freie Universität Berlin; Athens: Hellenic Botanical Society. *Englera* 31: 1-367. Tsiripidis, I., Bergmeier, E., Fotiadis, G. & Dimopoulos, P. 2009. A new algorithm for the determination of differential taxa. *Journal of Vegetation Science* 20: 233-240.

2.7.3 Justification of % - thresholds for trends

2.7.4 Structure and functions - methods used

Complete survey/Complete survey or a statistically robust estimate (3)

2.7.5 Other relevant information

2.8 Conclusions (assessment of conservation status at end of reporting period)

2.8.1 Range

assessment Favourable (FV)
qualifiers N/A

2.8.2 Area

assessment Favourable (FV)
qualifiers N/A

2.8.3 Specific structures and functions (incl Species)

assessment Favourable (FV)
qualifiers N/A

2.8.4 Future prospects

assessment Favourable (FV)
qualifiers N/A

2.8.5 Overall assessment of Conservation Status

Favourable (FV)

2.8.5 Overall trend in Conservation Status

N/A

3. Natura 2000 coverage conservation measures - Annex I habitat types on biogeographical level

3.1 Area covered by habitat

3.1.1 Surface area (km²)

min 362 max 362

3.1.2 Method used

Complete survey/Complete survey or a statistically robust estimate (3)

3.1.3. Trend of surface area

stable (0)

3.2 Conversation Measures

3.2.1 Measure

3.2.2 Type

3.2.3 Ranking

3.2.4 Location

3.2.5 Broad Evaluation

Establish protected areas/sites (6.1)

Legal
Administrative
One-off

high importance
(H)

Inside

Maintain
Long term