

Report on the main results of the surveillance under Article 11 for Annex II, IV and V species (Annex B)

NATIONAL LEVEL

1. General information

1.1 Member State	GR
1.2 Species code	1459
1.3 Species scientific name	<i>Silene holzmannii</i>
1.4 Alternative species scientific name	
1.5 Common name (in national language)	

2. Maps

2.1 Sensitive species	No
2.2 Year or period	2015
2.3 Distribution map	Yes
2.4 Distribution map Method used	Based mainly on extrapolation from a limited amount of data
2.5 Additional maps	Yes

3. Information related to Annex V Species (Art. 14)

3.1 Is the species taken in the wild/exploited?	No	
3.2 Which of the measures in Art. 14 have been taken?	a) regulations regarding access to property	No
	b) temporary or local prohibition of the taking of specimens in the wild and exploitation	No
	c) regulation of the periods and/or methods of taking specimens	No
	d) application of hunting and fishing rules which take account of the conservation of such populations	No
	e) establishment of a system of licences for taking specimens or of quotas	No
	f) regulation of the purchase, sale, offering for sale, keeping for sale or transport for sale of specimens	No
	g) breeding in captivity of animal species as well as artificial propagation of plant species	No
	h) other measures	No

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3.3 Hunting bag or quantity taken in the wild for Mammals and Acipenseridae (Fish)

a) Unit

b) Statistics/ quantity taken	Provide statistics/quantity per hunting season or per year (where season is not used) over the reporting period					
	Season/ year 1	Season/ year 2	Season/ year 3	Season/ year 4	Season/ year 5	Season/ year 6
Min. (raw, ie. not rounded)						
Max. (raw, ie. not rounded)						
Unknown	No	No	No	No	No	No

3.4. Hunting bag or quantity taken in the wild Method used

3.5. Additional information

BIOGEOGRAPHICAL LEVEL

4. Biogeographical and marine regions

4.1 Biogeographical or marine region where the species occurs

Mediterranean (MED)

4.2 Sources of information

- Greuter W. 1995. *Silene holzmannii*. In: Phitos D., Strid A., Snogerup S. & Greuter W. (eds). The Red Data Book of rare and threatened plants of Greece. World Wide Fund for Nature. Athens, pp. 466-467. ISBN 960-7506-04-9.
- Höner D. & Greuter W. 1988. Plant population dynamics and species turnover on small islands near Karpathos (South Aegean, Greece). *Vegetatio* 77:129-137
- Panitsa M & Tzanoudakis D. 2001. A floristic investigation of the islet groups Arki and Lipsi (East Aegean area, Greece). *Folia Geobot.* 36:265-279
- Raus Th. 1989. Die flora von Armathia und der Kleininseln um Kasos (Dodekanes, Griechenland). *Bot. Chron.* 9:19-39
- Rechinger K.H. 1943. Flora Aegaea. Flora der Inseln und Halbinseln des ägäischen Meeres. *Acad. Wiss. Wien, Math.-Naturwiss. Kl., Denkschr.* 105(1): xx + 924 pp. +25 plates and 3 maps. Reprinted by Otto Koeltz Antiquariat 1973.
- Runemark H. 1969. Reproductive drift, a neglected principle in reproductive biology. *Bot. Not.* 122:90-129
- Runemark H. 1996. Report 632: *Silene holzmannii*. In: Kamari, G., F. Ferber & F. Garbari (eds.). Mediterranean chromosome number reports – 6. *Fl. Medit.* 6:235-236
- Βαλλιανάτου Ε. 2005. Γεωβοτανική έρευνα της Σαλαμίνας, της Αίγινας και μερικών άλλων νησιών του Σαρωνικού Κόλπου. Διδακτορική διατριβή. Αθήνα, σελ. 119-122
- Γιαννίτσαρος Α., Οικονομίδου Ε., Δεληπέτρου Π., Μπαζός Ι., Γεωργίου Κ. 2000. Νέα δεδομένα για την εξάπλωση μερικών φυτικών ειδών στην περιοχή του Αιγαίου. Πρακτικά 8ου Επιστημονικού Συνεδρίου της Ελληνικής Βοτανικής Εταιρείας: 118-121. Πάτρα
- Πανίτσα Μ. 1997. Συμβολή στη γνώση της χλωρίδας και της βλάστησης των

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6.5 Type of estimate	
6.6 Population size Method used	Complete survey or a statistically robust estimate
6.7 Short-term trend Period	2007-2018
6.8 Short-term trend Direction	Unknown (x)
6.9 Short-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval
6.10 Short-term trend Method used	Insufficient or no data available
6.11 Long-term trend Period	
6.12 Long-term trend Direction	
6.13 Long-term trend Magnitude	a) Minimum b) Maximum c) Confidence interval
6.14 Long-term trend Method used	
6.15 Favourable reference population (using the unit in 6.2 or 6.4)	a) Population size 22000 with unit number of individuals (i) b) Operator c) Unknown d) Method Favourable reference population was set as larger than the theoretically estimated Minimum Viable Population per subpopulation for an annual species, with high fertility, frequent production of reproductive units but unknown survival, at a stageless habitat with high environmental fluctuations. This corresponds to 1000-1500 individuals per each of the c. 22 subpopulations of the species and should represent at least one count of that magnitude for each subpopulation in a 6 year period.
6.16 Change and reason for change in population size	Improved knowledge/more accurate data Use of different method The change is mainly due to: Improved knowledge/more accurate data
6.17 Additional information	The species has been recorded from a total of 35 islets throughout the Aegean so surveying is both difficult due to accessibility and costly. Also, repeated population counts at some of the islets have demonstrated that population size on each islet may present large interannual fluctuations (e.g. in the period 2008-2015 population size on the islet of Glaronisi varied between 85 to 806 individuals). So it is difficult to provide an accurate number for each reporting period (mean values have no meaning in this case).

7. Habitat for the species

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7.1 Sufficiency of area and quality of occupied habitat

- a) Are area and quality of occupied habitat sufficient (for long-term survival)? Yes
- b) Is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

7.2 Sufficiency of area and quality of occupied habitat Method used

Complete survey or a statistically robust estimate

7.3 Short-term trend Period

2007-2018

7.4 Short-term trend Direction

Stable (0)

7.5 Short-term trend Method used

Complete survey or a statistically robust estimate

7.6 Long-term trend Period

7.7 Long-term trend Direction

7.8 Long-term trend Method used

7.9 Additional information

The surface area of the habitat is estimated at 0.3 km² and its quality is good. The area of suitable habitat is 5 km². The habitat of the species is the epilittoral zone of islets of an area of 0.0003-0.15 km² (rarely at the coastal zone of larger islands or the mainland). On most islets where the species occurs it is of good quality regarding species composition (it includes islet specialists and halophilous or halonitrophilous species) and width (>1300 m²), despite occasional grazing. The habitat is moderate or of bad quality at the islets of Prasonisi (Oxalis pes-caprae invasion), Glaronisi (connection to the main island) and at the probably transient establishment localities of Kea and mainland Attiki.

8. Main pressures and threats

8.1 Characterisation of pressures/threats

Pressure	Ranking
Extensive grazing or undergrazing by livestock (A10)	H
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	H
Threat	Ranking
Extensive grazing or undergrazing by livestock (A10)	H
Interspecific relations (competition, predation, parasitism, pathogens) (L06)	H

8.2 Sources of information

PRESSURES: Based exclusively or to a larger extent on real data from sites/occurrences or other data sources.
THREATS: Based on expert opinion.

8.3 Additional information

9. Conservation measures

9.1 Status of measures

- a) Are measures needed? Yes
- b) Indicate the status of measures Measures needed but cannot be identified

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9.2 Main purpose of the measures taken

9.3 Location of the measures taken

9.4 Response to the measures

9.5 List of main conservation measures

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9.6 Additional information

10. Future prospects

10.1 Future prospects of parameters	a) Range	Poor
	b) Population	Unknown
	c) Habitat of the species	Good

10.2 Additional information

11. Conclusions

11.1. Range	Unfavourable - Inadequate (U1)
11.2. Population	Unknown (XX)
11.3. Habitat for the species	Favourable (FV)
11.4. Future prospects	Unfavourable - Inadequate (U1)
11.5 Overall assessment of Conservation Status	Unfavourable - Inadequate (U1)
11.6 Overall trend in Conservation Status	Unknown (x)
11.7 Change and reasons for change in conservation status and conservation status trend	a) Overall assessment of conservation status No change The change is mainly due to: b) Overall trend in conservation status No change The change is mainly due to:

11.8 Additional information

12. Natura 2000 (pSCIs, SCIs and SACs) coverage for Annex II species

12.1 Population size inside the pSCIs, SCIs and SACs network (on the biogeographical/marine level including all sites where the species is present)	a) Unit	number of individuals (i)
	b) Minimum	14300
	c) Maximum	16800
	d) Best single value	

12.2 Type of estimate
Minimum

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12.3 Population size inside the network Method used

Complete survey or a statistically robust estimate

12.4 Short-term trend of population size within the network Direction

Unknown (x)

12.5 Short-term trend of population size within the network Method used

Insufficient or no data available

12.6 Additional information

Species for which either new Natura sites have been designated or former ones have been expanded to cover a bigger part of their populations. The population size in 12.1 is reported as minimum due to the recent update of the Greek Natura 2000 Database (extended areas of current Natura 2000 sites and newly proposed SCIs). No relevant data exist for the extensions or the new Natura 2000 sites.

13. Complementary information

13.1 Justification of % thresholds for trends

13.2 Trans-boundary assessment

13.3 Other relevant Information

Note on 5.1: The range tool produces an erroneous distribution and range map for the species due to the fact that some islets are not included in the map of terrestrial areas it uses.

Note on 5.3 and 5.6: In the short term, the species has apparently established at new localities (although it may be transient at these new localities). In the long term, there is the fact of the confirmed absence of the species in 3 islets and the very probable absence in 2 more islets (based on the intense grazing). These extinctions may or may not be transient.

Note on 6.2. The minimum number reported 6.2 is the minimum number counted in the period 2008-2015 on 14 islets, 1 larger island and 3 mainland localities and is based on both time series and unique counts. The maximum number at the same localities was 20716 individuals. This maximum number cannot be reported in 6.2 since data on population size at the rest 23 islets are either too old (6 islets) or non-existent. A very rough and non-reliable estimation on the maximum population size can be reached taking into account older data and an arbitrary maximum number of 1000 individuals for the rest of the islets of the current distribution of the species and this number is reported as a maximum population size.

Note regarding 6.7 (short term trend): Due to the large interannual fluctuations of the population size, it is difficult to estimate a trend, even when there are time series of population estimations. On the islet of Tristomo (0.8 ha, offshore the large island of Karpathos), population viability analysis (PVA) using the diffuse approximation method for 12 non consecutive years (counts between 5 and 2200 individuals, generally c. 100-200 individuals, 1983-2012) resulted in a positive value for the change in population growth rate, i.e. the population was not anticipated to reach the extinction threshold of 1 individuals. However, in 2013, 2014 and 2015 there were no individuals on the islet, possibly because of the establishment of a rodent. It is possible that the population will recover since there is still available habitat. On the islet of Glaronisi (0.1 ha, offshore the large island of Karpathos, presently artificially connected to the mainland,) using the

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same PVA method based on counts for 9 non-consecutive years, the change in population growth rate was also positive. In general, population size seems to vary most at smaller and more disturbed islets (grazing, other predators). The species is most probably extinct on Prasonisi islet (off Kaprathos) where it has not been found since 1987 (it was searched for in 2004, 2008 and 2014 but during the 1990s rabbits had been introduced on the islet, for hunting) and the available habitat on the islet is presently close to null. It is also most probably extinct from the islets of Pilavi (due to grazing) and Stefania (due to the establishment of rabbits). Similarly, on the locus classicus, the small islet of Arpidoni in Attiki the population has deteriorated to 11 individuals (2014), apparently due to grazing by predators. On the other hand, there are several remote or undisturbed islets which provide a safe habitat for the species. The largest population counts were made on the remote islet of Fokionisi (2.5 ha), where the population ranged from 6324 (2008) to 7961 (2013) individuals and on the islet of Vai (0.2 ha, offshore E Kriti) where 5723 individuals were counted in 2014. Moreover, the species has recently established at 5 new localities (although the populations may be transient).

Note regarding the area of suitable habitat: There are 680 – 700 islets of an area 0.0003-0.15 km² in the central, southern and eastern Aegean which may provide suitable habitat for the species. The area of suitable habitat has been estimated as c. one third of the area of these islets (which is roughly equal to the width of the epilittoral zone).

Note regarding pressures: Grazing by goat or sheep which are fetched to the islets

during the winter and predation by rodents intentionally or non-intentionally established on the islets are the main pressures and threats for the species. Predation may lead to extinction of the species from an islet. Although many of the islets where it occurs are totally undisturbed, at least 5 – 6 of them are either grazed or host rodents. Fortunately, grazing on the small islets is generally in retreat. All other pressures and threats concern local, non-widespread occurrences. Although it seems the species which is very capable of establishing on islets and is dispersed by sea water will remain viable in the long term, it may lose part of its distribution if grazing and predation persist.

Note on 3.1. It has been reported from 3 islets S of the borders of GR4210002. The species was present on one islet in GR4210003 (last seen in 2008) and the islet is included in the FRR for the species, but currently there are no individuals on the islet (2013, 2014).

Note on 3.2. Code 1.2 refers to the control of grazing on islets, the prohibition of the establishment of rabbits for hunting and safeguarding of the islets in case of occasional establishments of rodents.

Code 7.0 refers to fencing of the species' habitat and the establishment of an informational signboard on the island of Kea.

Note on 12.1. Range status is considered inadequate despite the short term stable trend due to the long term loss of localities. Although establishment at new localities keeps the range size in balance, these localities may well be transient.