

STANDART DATA FORM

For Special Protection Areas (SPA), proposed Sites of Community Importance (pSCI), Sites of Community Importance (SCI) and for Special Areas of Conservation (SAC)

1. SITE IDENTIFICATION

1.1. Type

B

1.2. Site code

T	R	x	x	x	x	x	x
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1.3. Site name:

Dupnisa Cave

1.4. First Compilation date

2	0	1	7	1	0
Y	Y	Y	Y	M	M

1.5. Update date

Y	Y	Y	Y	M	M

1.6. Respondent:

Name/Organisation: Ministry of Forest and Water Management, General Directorate of Nature Conservation and National Parks.

Address: Ankara

E-mail:

1.7. Site Indication and designation/classification dates

Date site classified as SPA:

Y	Y	Y	Y	M	M

National legal reference of SPA designation:

Date site proposed as SCI:

Y	Y	Y	Y	M	M

Date site confirmed as SCI (*):

Y	Y	Y	Y	M	M

Date site designated as SAC:

Y	Y	Y	Y	M	M

National legal reference of SAC designation:

Explanation(s) (**):

(*) Optional field, the date confirmed as SCI (the date of adoption of relevant union list) is documented by DG Environment.
 (**) Optional field, explanations can be given, e.g. for classification or designation dates of sites that are composed of originally separate SPAs and/or SCIs.

2. SITE LOCATION

2.1 Site centre location (decimal degrees):

Longitude

27.555480

Latitude

41.840660

2.2 Area (ha):

2.3 Marine area (%):

0,0

2.4 Site length (km):

2,72

2.5. Administrative region code and name

NUTS level 2 code

T	R	2	1		

Region name

Tekirdag Subregion

2.6. Biogeographical region(s):

☐
☐
☒

Alpine (...% (*))

Atlantic (...%)

Black Sea (...%)

☐
☐
☐

Boreal (...%)

Continental (...%)

Macaronesia (...%)

☐
☐
☐

Mediterranean (...%)

Pannonian (...%)

Steppic (...%)

Additional information on Marine Regions (**)

☐
☐
☐

Marine Atlantic (...%)

Marine Black Sea (...%)

Marine Baltic Sea (...%)

☐
☐

Marine Mediterranean (...%)

Marine Macaronesian (...%)

(*) In case that a site is located in more than one region, the percentage coverage in the region should be entered (optional).

(**) The indication of the marine regions is due to practical/technical reasons and concerns Member States in which one terrestrial biogeographic region borders two marine regions.

3.1. Habitat types present on the site and site evaluation for them:

Annex I Habitat types						Site assessment			
						AIBICID	AIBIC		
Code	PF	NP	Cover (ha)	Caves (number)	Data quality	Representativity	Relative Surface	Conservation	Global
8310				3	G	A	B	A	A

PF: for the habitat types that can have a non-priority as well as a priority form (6210, 7130, 9430) enter 'x' in the column PF to indicate the priority form.

NP: in case that a habitat type no longer exists in the site enter: x (optional).

Cover: decimal values can be entered.

Caves: for habitat types 8310, 8330 (caves) enter the number of caves if estimated surface is not available.

Data quality: G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation).

3.2. Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II to Directive 2/43/EEC and site evaluation for them

Species					Population on the site						Site assessment			
					Type	Size		Unit	Cat.	Data quality	AIBICID	AIBIC		
Group	Code	Scientific Name	S	NP		Min	Max		CIRIVIP		Pop	Cons.	Isol.	Glob
M	1302	Rhinolophus mehelyi			r		300	i	C	G		A	A	A
M	1303	Rhinolophus hipposideros			w		73	i	C	G		A	A	A
M	1304	Rhinilophus ferrumequinum			w		2 200	i	C	G		A	A	A
M	1305	Rhinolophus euryale			r		3 600	i	C	G		A	A	A
M	1306	Rhinolophus blasii			r		200	i	C	G		A	A	A
M	1307	Myotis blythii			w		2 150	i	C	G		A	A	A
M	1308	Barbastella barbastellus			w		1	i	C	G	D			
M	1310	Miniopterus schreibersii			w		45 600	i	C	G		A	A	A
M	1316	Myotis capaccinii			w		1 800	i	C	G		A	A	A
M	1321	Myotis emarginatus			w		93	i	C	G		A	A	A
M	1323	Myotis bechsteinii			w		6	i	C	G	D			
M	1324	Myotis myotis			w		2 150	i	C	G		A	A	A

Group: A = Amphibians, B = Birds, F = Fish, I = Invertebrates, M = Mammals, P = Plants, R = Reptiles

S: in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes.

NP: in case that a species is no longer present in the site enter: x (optional).

Type: p = permanent, r = reproducing, c = concentration, w = wintering (for plant and non-migratory species use permanent).

Unit: i = Individuals, p = pairs or other units according to the standardised list of population units and codes in accordance with Articles 12 and 17 reporting (see reference portal).

Abundance categories (Cat.): C = common, R = rare, V = very rare, P = present – to fill if data quality are deficient (DD) or in addition to population size information.

Data quality: G = 'Good' (e.g. based on surveys); M = 'Moderate' (e.g. based on partial data with some extrapolation); P = 'Poor' (e.g. rough estimation); DD = Data deficient (use this category only, if not even a rough estimation of the population size can be made, in this case the fields for population size can remain empty, but the field 'Abundance categories' has to be filled in).

3.3 Other important species of flora and fauna (optional)

Species					Population in the site				Motivation					
					Size		Unit	Cat.	Species Annex		Other Categories			
Group	Code	Scientific Name	S	NP	Min	Max		CIRIVIP	IV	V	A	B	C	D
M	1314	Myotis daubentonii				56	i	C	Y-HTL		X		X	
M	1322	Myotis nattereri				3	i	C	Y-HTL		X		X	
M	1329	Plecotus austriacus				1	i	C	Y-HTL		X		X	
M	1330	Myotis mystacinus				19	i	C	Y-HTL		X		X	
M	5003	Myotis alcathoe				5	i	C	Y-HTL		X		X	
M	5789	Plecotus auritus auritus				1	i	C	Y-HTL		X		X	

Group: A = Amphibians, B = Birds, F = Fish, Fu = Fungi, I = Invertebrates, L = Lichens, M = Mammals, P = Plants, R = Reptiles.

CODE: for Birds, Annex IV and V species the code as provided in the reference portal should be used in addition to the scientific name.

S: in case that the data on species are sensitive and therefore have to be blocked for any public access enter: yes.

NP: in case that a species is no longer present in the site enter: x (optional).

Unit: i = Individuals, p = pairs or other units according to the standardised list of population units and codes in accordance with Articles 12 and 17 reporting, (see reference portal).

Cat.: Abundance categories: C = common, R = rare, V = very rare, P = present.

Motivation categories: IV, V: Annex Species (Habitats Directive), A: National Red List data; B: Endemics; C: International Conventions; D: other reasons.

4. SITE DESCRIPTION

4.1 General site character

Code	Habitat Class	cover (%)
N22	Inland rocks, Scree, Sands, Permanent Snow and ice	100.0
Total Habitat Cover		100%

Other site characteristics:

Dupnisa Cave System is located south of Sarpdere Village (Kırklareli) in Thrace, the European part of Turkey (Figure 1). The cave system lies in the forested Yıldız (Strandja) Mountains.

Dupnisa Cave System is the second largest cave in Thrace region with a total length of 2720 m long. This cave system, which developed as a result of the disintegration of the Pliocene relief system in the upper part of the Yıldız Mountains with the Quaternary rivers, has the polycyclic development feature [31]. The cave system, which has four entrances, has developed horizontally and its formation process still continues. Dupnisa Cave System is regarded as a cave system because it is formed by two floors and three interconnected caves. These caves have different features. In this system, the active main gallery through which an underground stream flows is called Sulu Cave, while the totally fossilized ones above are called Kuru Cave and Kız Cave (Figure 2) [31].

4.2. Quality and importance

Thrace is one of the major biogeographic zones in Turkey and, due to its karst formation, more than 50 caves have been formed in the region. Dupnisa Cave System, Koyunbaba Cave, and Kocakuyu Cave are the most important shelters for bats in the Thrace region of Turkey [32–38]. Dupnisa Cave System and Koyunbaba Cave, which have different roost characteristics and microclimates, are alternative to each other in terms of the season. Therefore, they are inhabited by different bat species for different purposes at different levels according to weather conditions changing throughout the year. Dupnisa Cave System is mainly used by 18 bat species for hibernating, whereas Koyunbaba Cave is mainly used by 11 bat species for breeding and nursing. Due to different roost characteristics and microclimatic conditions, Dupnisa Cave System and Koyunbaba Cave are the most important underground habitats for bat populations in Turkish Thrace. Therefore, the protection of these caves is very important for the future of bat populations in the region.

The maximum number of bats recorded in Dupnisa Cave System is 54,600 in hibernation, while 11,000 in nursery. Dupnisa Cave System is used for hibernating by the majority (83%) of the total number of bats recorded, while it is used for breeding and nursing by the minority (17%). The three parts of the cave system were used by different species to varying degrees according to the season. Sulu Cave is used only for hibernating, while Kız Cave and Kuru Cave are used for both hibernating and nursery (Figure 6) [36, 38].

In Dupnisa Cave System, 99% of bat colonies are composed of six species, *M. schreibersii* (78%), *M. myotis/blythii* (8%), *R. euryale* (6%), *R. ferrumequinum* (4%), and *M. capaccinii* (3%).

4.3 Threats, pressures and activities with impacts on the site

The most important impacts and activities with high effect on the site

Negative impacts			
Rank	Threats and pressures (code)	Pollution (optional) (code)	inside/outside (I o b)
M	C01		b
M	G01.04.02		i
H	G01.04.03		i
H	H06.01		i
H	H06.02		i
L	M01.01		b

Positive impacts			
Rank	Activities, management (code)	Pollution (optional) (code)	inside/outside (I o b)

Rank H= high, M= medium, L=low.

Pollution: N= Nitrogen input, P= Phosphor/Phosphate input, A= Acid input/acidification, T= toxic inorganic chemical, O= toxic chemical, X= mixed pollutions.

i= inside, o= outside, b= both.

4.4. Ownership (optional)

Type		(%)
Public	National/Federal	100%
	State/Province	
	Local/Municipal	
	Any public	
Joint or Co-Ownership		
Private		
Unknown		
sum		100%

4.5. Documentation (optional)

Paksuz, S., Özkan, B. 2012. The protection of the bat community in the Dupnisa Cave System, Turkey, following opening for tourism. *Oryx*, 46(1), 130-136. doi:10.1017/S0030605310001493

Paksuz S. 2017. Important Caves in Turkish Thrace for Bats: Dupnisa Cave System and Koyunbaba Cave. <http://dx.doi.org/10.5772/intechopen.68836>

Link(s):

<https://doi.org/10.1017/S0030605310001493>

<http://dx.doi.org/10.5772/intechopen.68836>

<http://nationalparksofturkey.com/igneada-longoz-forests-national-park/#prettyPhoto>

5. SITE PROTECTIONS STATUS (OPTIONAL)

5.1. Designation types at national and regional level

Code	Cover (%)	Code	Cover (%)	Code	Cover (%)

5.2. Relation of the described site with other sites:

Designated at national or regional level:

Type code	Site name	Type	Cover (%)

Designated at international level:

[illegible]

5.3. Site designation

6. SITE MANAGEMENT

6.1. Body(ies) responsible for the site management:

Ministry of Forest and Water Management, General Directorate of Nature Conservation and National Parks, Kırklareli office.
Address

E-mail

6.2. Management plan(s):

An actual management plan does exist:

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Yes

Name:

Link: <http://dx.doi.org/10.5772/intechopen.68836>

Paksuz S. 2017. Important Caves in Turkish Thrace for Bats: Dupnisa Cave System and Koyunbaba Cave:

In Dupnisa Cave System, a conservation plan is applied for the protection of the bats and the cave system according to the seasonal use of the cave system by bats. This protection plan includes an appropriate visitor schedule and gate construction. The visitor schedule was arranged according to the seasonal use of Dupnisa Cave System by bats. The entrances of cave system where tourist circuits placed in were closed with horizontal angle iron gates to control the human disturbance. The other entrances of the cave system, outside of the tourist area, have been left to the natural state to minimize the negative effects of the two doors that can disturb the bats. In addition to these, some arrangements have been made for visitors and the use of lighting system. The protection of the caves and the bats will be possible only if the precautions that are taken and the suggestion that have been made are applied carefully [38].

Paksuz and Özkan [38] stated that the seasonal usage patterns of the parts in Dupnisa Cave System by the bats are completely preserved in periods of before and after tourist mobility (Figure 8). The authors also emphasized that there is no decrease in the total number of the bats in Dupnisa Cave System following the opening period tourist mobility. Moreover, they found a statistically significant increase after the tourist mobility only in Kız Cave, which is closed to tourism and ungated. This increase may indicate that the bats prefer to use the caves which are not visited by humans and tourist mobility. It seems as if Kız Cave, which is closed to tourism and ungated in Dupnisa Cave System, is a good opportunity to minimize the potential negative effects of the tourism activities in Sulu Cave and Kuru Cave on the bats. These results show that the protection program prepared for the protection of Dupnisa Cave System and bats is sustainable and must be applied meticulously.

Name:

Link:

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No, but in preparation

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No

6.3. Conservation measures (optional)

Dupnisa Cave System is the first cave in the Thrace region that was opened to visitors in July 2003. This cave is also the first cave in Turkey to be opened to visitors with a program and gate construction according to the seasonal use of the cave by bats based on long-term monitoring program [38]. Tourist circuits were constructed with the first 200 m of Sulu Cave and the first 230 m of Kuru Cave. However, Kız Cave is closed to visitors (Figure 2).

The cave system has been visited by about 35,000 visitors each year after it was opened to visitors.

The cave system has four entrances and two of these entrances, which are located on the tourist area, are closed to control human entry (Figure 3). Gates are constructed with a design of the horizontal angle iron bars that have 200-mm spacing between bars. The other entrances of the cave system, outside of the tourist area, where human entry is difficult, have been left to the natural state to minimize the negative effects of the two doors on the bats (Figure 3) [38].

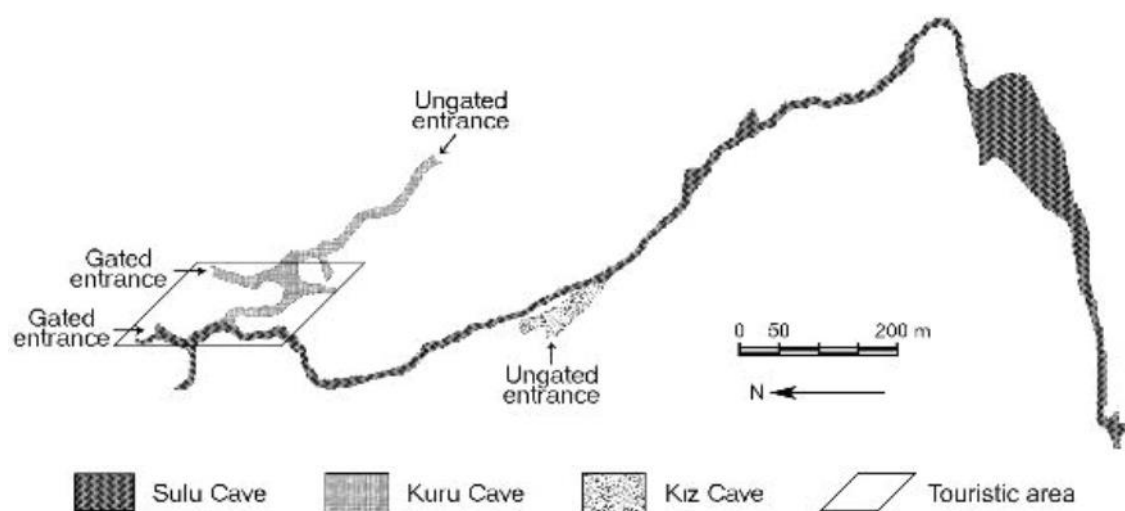


Figure 2. Dupnisa Cave System: the location of the three main caves, the areas open to tourists, and the gated and ungated entrances [38]. Adapted from Ref. [31].

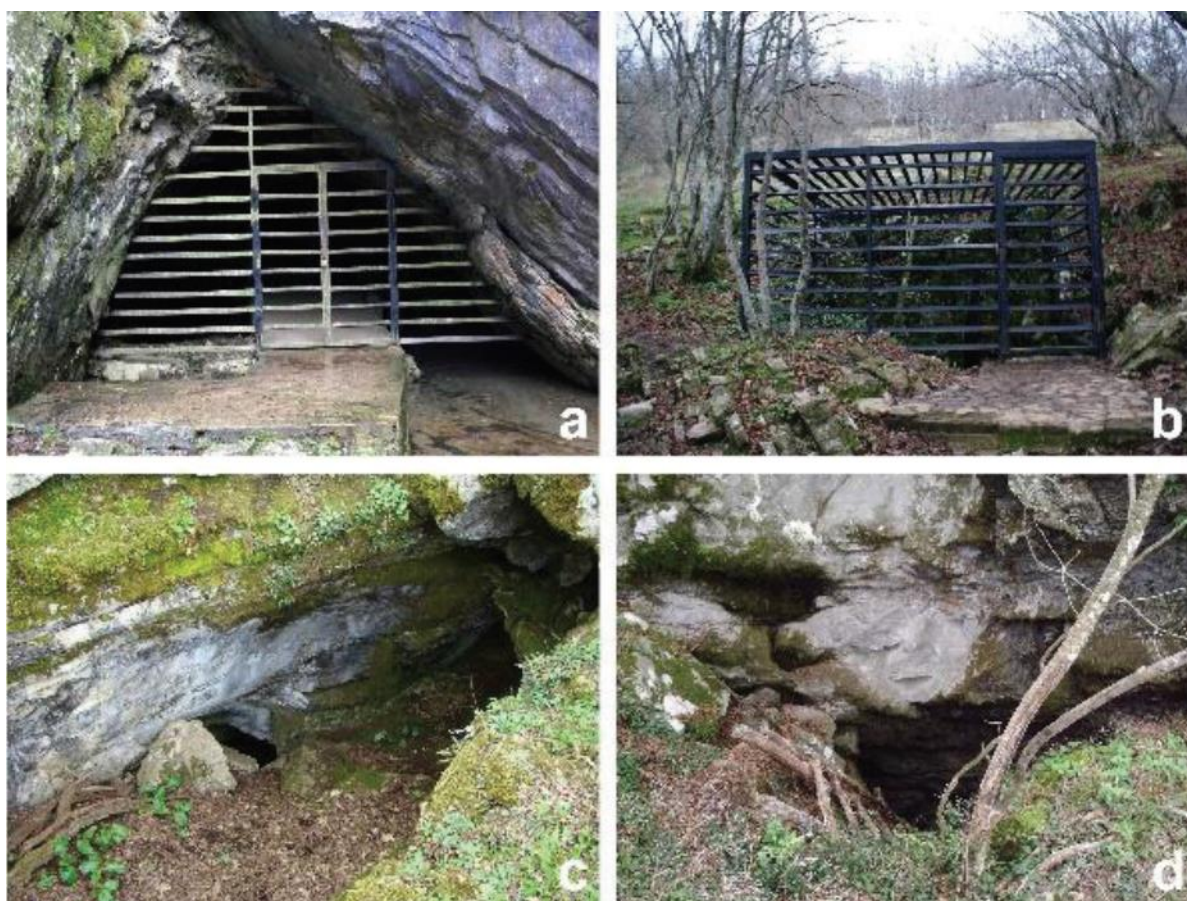


Figure 3. The gated entrances of Sulu Cave (a) and Kuru Cave (b), used to control the entry of tourists. The ungated entrances of Kuru Cave (c) and Kiz Cave (d), remained to minimize the negative effects of the gates on the bats.

7. MAP OF THE SITE

INSPIRE ID:

Map delivered as PDF in electronic format (optional)

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Yes

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No

Reference(s) to the original map used for the digitization of the electronic boundaries (optional)

<https://www.google.bg/maps/place/Dupnisa+Cave/@41.840875,27.5522131,1468m/data=!3m1!1e3!4m2!1m6!3m5!1s0x40a0c83815555555:0xbe2b973eee7330e7!2sDupnisa+Cave!8m2!3d41.8406536!4d27.5554688!3m4!1s0x40a0c83815555555:0xbe2b973eee7330e7!8m2!3d41.8406536!4d27.5554688>

