Additional information

Justification for the application of each Criterion

Criterion 3

The complex is a "hotspot" of biological diversity and is evidently species-rich. The different types of wetlands and the surrounding barren rocky ridges sustain rich biological diversity, mainly in terms of various habitat types, plant and bird species.

256 species of birds have been recorded so far in the area, which forms about 61% of the Bulgarian avifauna. Of these 148 are ever-recorded as breeding (Please see Annex 1).

Up to date 9 species of amphibians, 9 reptiles, 23 mammals and 180 vascular plants are recorded in the area. After the restoration of the Dragoman Marsh an amazing increase of breeding water-related birds was observed. In 1996 only 70 breeding pairs of non-passerines from 11 species were recorded, in 2007 about 900 pairs of non-passerines from 21 species were recorded. (Please see Annex 2).

Similar trend is observed at the Aldomirovtsi Marsh.

In the surrounding karst area of the wetlands, the huge variety of habitats determines lots of species of breeding passerines too, many of which of conservation concern – 5 species of larks (*Lullula arborea*, *Calandrella brachydactyla* and *Melanocorypha calandra* in Annex I of Birds Directive2009/147/EC), 3 species of shrikes (*Lanius collurio* and *L. minor* in Annex I of Birds Directive2009/147/EC), 5 species of buntings (*Emberiza hortulana* in Annex I of Birds Directive2009/147/EC), etc. See also point 22.

The wetlands and the surrounding limestone hills have a very rich flora. The meadows preserve the localities of many relicts and very rare in Bulgaria plant species, whose main ranges are north from the Balkan Peninsula: *Plantago maxima, Salix rosmarinifolia, Pedicularis palustris, Lathyrus palustris, Viola pumila, Fritillaria meleagroides*. Their extinction will reduce their range of distribution in Europe and will move it in Western and Northern direction.

The low-altitudinal mountain regions in Western Bulgaria (including the region of Dragoman) are relict for the localities of many steppe species, which have survived there during the Holocene invasion of the forests in most parts of Bulgaria. As a result of their long isolation, some of them are endemics on the species or subspecies level. There are more than 10 species, which occur on the Dragoman Marsh Karst Complex, which are endemics for Western Bulgaria and Easter Serbia. Some of them are *Tulipa urumoffii* Hayek., *Erysimum comatum* Panč., *Astragalus wilmotianus* Stoj., *Edraianthus serbicus* (Kern.) Petr., *Jurinea tzar-ferdinandii* Dav., etc. See also point 21.

After its restoration the Dragoman Marsh features the special ecological characteristics to sustain the population of *Aldrovanda vesiculosa* in the medium or long term. It has been successfully re-introduced in 2008 and the marsh is the only locality in Bulgaria and the second known on the Balkan Peninsula. As all other wetlands suitable for *Aldrovanda* have been destroyed or their ecological conditions have changed substantially (Srebarna Lake) the Dragoman Marsh Karst Complex is for now the only hope for the survival of the species in the country.

Ecosystem services

Hydrological values:

The wetlands in the site play an important role for ensuring good water quality to the people from the 4 municipalities. Karst spring in the area provide potable water to more than 10 villages. The Dragoman Marsh partially cleans the untreated wastewater of Dragoman town (3600 inhabitants), but the construction of a wastewater treatment plant is urgent.

The area around the upper course of river Blato takes up the high waters and plays an important role in flood control downstream (Petarch village and Kostinbrod town).

Current scientific research and facilities

The following groups are very well studied:

- Birds
- Otter and suslik
- Butterflies
- Endemic plants of the Chepan Mountain

Ramsar Site: 1970 – Dragoman Marsh Karst Complex

- Wetland-related plants
- Forests
- Other natural habitats

The following monitoring activities are carried out:

- Bird monitoring monthly bird counting in the whole area is conducted by scientists from Institute of zoology and environmentalists from "Balkani wildlife society".
- Bird ringing conducted by scientists from Institute of zoology;
- In spring and autumn months, bird migrations researches have been conducted for the last 10 years.
- Bat and butterfly monitoring conducted by scientists from Institute of zoology and the National museum of natural history.

A Wetland Conservation Centre is constructed by Balkani Wildlife Society in Dragoman town.

Social and cultural values

The proposed area is a place of archeological, historical and social value.

The history of civilized inhabitants in the region dates back from the 3rd century BC. The stone cravings, old bricks, clay pots and other different materials can be still found in the region. They testify the spiritual culture of the Thrace. The highest peak of Chepan Mountain - Petrovski Krast (1206 m) was a Thracian rock sanctuary. Here first the Thracians then the Slavs and the Bulgarians worshipped their gods and made sacrifices for their war victories. The establishment of a permanent settlement during the during the Roman times is connected primarily with the construction of "Via Militaris", a military road. Marked by milestones, it passes at the foothills of the Chepan and leads to the town of Sofia. From the 12th to the 14th century AD, a lot of churches and monasteries have been built in the nowadays Dragoman municipality. The region possesses one of the oldest well decorated Bulgarian churches. Their murals are true masterpieces of art, which signify the importance of these holy monuments for the Christian cultural and spiritual life.

Due to the development of this area close to the capital the local communities have almost completely lost their link to the wetlands, except for their use for sports fishing. The Petarch Fishponds, once a model for extensive fisheries, is in very bad condition and restoration of the traditional practices is needed. Lately the development of nature-friendly tourism linked to the wetlands is starting and could be an important income to local people.

Current recreation and tourism

Currently the site is well-known among birdwatchers, scientist and students. They are the main visitors of the area. The Dragoman marsh and its surroundings are used for summer volunteer camps and different education purposes.

Frequency of tourists is much lower than the carrying capacity of the area, which is not developed yet as a tourist destination. The opening of the Wetland conservation centre in addition to the available infrastructure at the Dragoman Marsh will facilitate further effort in tourism development of the entire Ramsar area.

Current communications, education and public awareness (CEPA) activities related to or benefiting the site

Facilities accessible from the road between the town of Dragoman and Golemo malovo village provide opportunity for recreational activities at the Dragoman marsh. Two nature trails (500 m), a bird hide and a watchtower have been constructed to provide visitors access and a good view of the marsh. Information plates are positioned along the path, designating different species in the area.

A tourist trail at Chepan Mountain has been marked, and two information plates are placed. Different information booklets about the importance of wetlands and its protection have been published annually since 2003 and distributed among locals, students, volunteers and other target groups.

A 20 minute documentary film about the Dragoman marsh has also been produced and disseminated.

"Dragoman marsh" Wetland Conservation Centre opened in 2009. Currently the building is reconstructed and has an interactive exhibition. The visitors centre will be the first one in Bulgaria which will be intended for wetlands protection.

A website with information and coordination purpose is being prepared: www.balkani.org/wetlands.

Bibliographical references

The Biogeographical Regions Map of Europe, The European Topic Centre on Nature Protection and Biodiversity, 2008, http://biodiversity.eionet.europa.eu/

DELOV, V., P. IANKOV, N. PETKOV, P. SHURULINKOV, S. VELKOV. 2007. Rayanovtsi. – In:

Kostadinova, I., M. Gramatikov (eds.) 2007. *Important Bird Areas in Bulgaria and Natura 2000*. Bulgarian Society for the Protection of Birds, Conservation Series, Book 11. Sofia. Pp. 120-122. [Bilingual: Bulgarian-English]

HRISTOV, K., P. SHURULINKOV, A. RALEV, I. ZAFIROV. 2008. Great White Egret – A New

Breeding Species of a Mixed Heronry at Dragoman Marsh, Western Bulgaria. Acta zool. bulg. 60, 2: 209-212.

IANKOV, P. (ed.) 2008. *Atlas of Breeding Birds in Bulgaria*. Bulgarian Society for the Protection of Birds, Conservation Series, Book 10. Sofia. 679 pp.

MIRKOV, I. 1984. Breeding of the Woodchat Shrike (*Lanius senator* L.) in Sofia region. *Orn. Inf. Bull.* 15/16: 70-74. [In Bulgarian]

NANKINOV, D. 1982. The Birds in Sofia. Orn. Inf. Bull. 12: 1-386. [In Bulgarian]

NANKINOV, D., P. SHURULINKOV, B. NIKOLOV, I. NIKOLOV, I. HRISTOV, R. STANCHEV, S.

DALAKCHIEVA, A. DUTSOV, M. SAROV, A. ROGEV. 2004. Waterfowl birds *Anseriformes*) on the wetlands around Sofia. Bulgarian Ornithological Centre, Inst. Zool., BAS, Sofia. 136 pp. [Bilingual: Bulgarian-English]

NANKINOV, D., P. SHURULINKOV, I. NIKOLOV, B. NIKOLOV, S. DALAKTCHIEVA, I. HRISTOV, R. STANCHEV, A. ROGEV, A. DUTSOV, M. SAROV. 1998. Studies of the waders

(Charadriiformes) on the wetlands around Sofia (Bulgaria). Riv. ital. Orn. 68, 1: 63-83.

NIKOLOV, B. P. 2000. An investigation of nest building and nests of the Red-backed Shrike (*Lanius collurio*) in Bulgaria. *Ring* 22, 1: 133-146.

NIKOLOV, B. 2004. Reproductive Rates of the Red-backed Shrike (*Lanius collurio*) (Aves: Laniidae) in the Sofia Region, Western Bulgaria. *Acta zool. bulg.* 56, 1: 75-82.

NIKOLOV, B. 2005. Reproductive success of the Woodchat Shrike (*Lanius senator*) in Western Bulgaria. *Ornis Fennica* 82: 73-80.

NIKOLOV, I., S. VELKOV, R. STANCHEV, I. HRISTOV, P. SHURULINKOV, H. DINKOV. 2004.

Moustached Warbler Acrocephalus melanopogon. Acrocephalus 25, 123: 235-236.

NIKOLOV, S. 2006. New data on the Birds of Ponor Mountains, (W Bulgaria). *Acrocephalus* 27, 128/129: 301-302.

NIKOLOV, S., I. IVANOV, I. ANGELOV. 2007. New data on roosting sites of the Raven *Corvus corax* in Bulgaria. *Acrocephalus* 28, 135: 168-169.

- NIKOLOV, S., V. VASSILEV. 2004. Breeding bird atlas of the Ponor Mountains, western Bulgaria. *Sandgrouse* 26, 1: 7-22.
- SHURULINKOV, P., N. CHAKAROV. 2007. Blood Parasite Infections of Some Passerine Migratory Birds during Autumn Migration through West Bulgaria. *Acta zool. bulg.* 59, 3: 301-308.
- SHURULINKOV, P., I. HRISTOV, K. HRISTOV, I. NIKOLOV, B. NIKOLOV, S. VELKOV, H. DINKOV,
 - A. RALEV, N. CHAKAROV, D. RAGYOV, R. STANCHEV, L. SPASSOV, I. HRISTOVA. 2007. Birds of Dragoman Marsh and Chepun hills, Western Bulgaria List, Status and Recent Development of Water Birds Populations. *J. Balkan Ecol.* 10, 3: 251-264.
- SHURULINKOV, P., I. NIKOLOV, G. DASKALOVA, B. NIKOLOV, G. STOYANOV. 2008. Further range expansion of the Isabelline Wheatear *Oenanthe isabellina* in Bulgaria. *Ciconia* 16: 49-56.
- SHURULINKOV, P., B. NIKOLOV, P. STATKOV, I. HRISTOVA, A. RALEV, H. DINKOV, K. HRISTOV,
- I. HRISTOV. 2006. Erster sicherer Brutnachweis des Schwarzhalstauchers nach über einem Jahrhunder in der Sofia-Ebene, Bulgarien. *Orn. Mitt.* 58, 11: 376-379.
- STOYANOV, G. 2001. The Birds of Ponor Mountain. Forestry ideas 7, 1/4: 100-125. [In Bulgarian]
- БОНДЕВ, И., 1991. РАСТИТЕЛНОСТТА НА БЪЛГАРИЯ. КАРТА В М 1:600 000 С ОБЯСНИТЕЛЕН ТЕКСТ. С.
- БОНЧЕВ, Г., 1929. БЛАТАТА В БЪЛГАРИЯ. МИН. НА ЗЕМЕДЕЛИЕТО И ДЪРЖАВНИТЕ ИМОТИ, С.:26-75
- ВЕЛЧЕВ, В., /ОТГ. РЕД./, 1984. ЧЕРВЕНА КНИГА НА Н Р БЪЛГАРИЯ, ТОМ 1, РАСТЕНИЯ., С., БАН
- ЙОРДАНОВ, Д., 1931. ФИТОГЕОГРАФСКИ ИЗУЧАВАНИЯ НА БЛАТАТА В БЪЛГАРИЯ ВЪВ ВРЪЗКА С ВИСШАТА ИМ РАСТИТЕЛНОСТ. ЧАСТ І ВЪТРЕШНИ БЛАТА. ГОД. СУ (ФИЗ.-МАТ. ФАК.), 27, 3,: 75-156
- КОЧЕВ, Х., Д. ЙОРДАНОВ, 1981. РАСТИТЕЛНОСТТА НА ВОДОЕМИТЕ В БЪЛГАРИЯ. ЕКОЛОГИЯ,
- ОХРАНА И СТОПАНСКО ЗНАЧЕНИЕ, С.
- ПЕТРОВА, А. 2005. ЧЕРВЕНИ СПИСЪЦИ НА ФЛОРАТА НА БЪЛГАРИЯ. ФИНАЛЕН ДОКЛАД В МОСВ.
- TZONEV, R., KARAKIEV, T. 2007. PLANTAGO MAXIMA (PLANTAGINACEAE): A RELICT SPECIES NEW FOR THE BULGARIAN FLORA. PHYTOLOGIA BALCANICA 13(3): 347-350.