

## A4.2x Pontic barren circalittoral rock

### Summary

The habitat is present in the Black Sea and perhaps in the Sea of Marmara. The circalittoral rock starts at the lower limit of the distribution of photophilic algae and ends where the circalittoral rocky substrate gives way to sediments. This habitat is characterised by a complete lack of algal and faunal species. No pressures or threats have been identified for this habitat. No current conservation measures have been identified for this habitat. Conservation and management measures which would benefit this habitat concern maintaining physical integrity, including pollution control and regulation.

### Synthesis

Detailed information on the abundance and extent of this habitat is lacking. Information on the quantity and quality of this habitat including historical or recent trends is unknown. For the purposes of Red List assessment this habitat is considered to be Data Deficient.

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Data Deficient	-	Data Deficient	-

### Sub-habitat types that may require further examination

None

### Habitat Type

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#### Code and name

A4.2x Pontic barren circalittoral rock

There are currently no photographs of this habitat available.

#### Habitat description

Circalittoral rock starts at the lower limit of distribution of photophilic algae (which may be as shallow a 10 m on the north-western Black Sea shelf and much deeper in Crimea or Turkey) and ends where the circalittoral rocky substrate gives way to sediments. This habitat is characterised by a complete lack of algal and faunal species.

Indicators of quality:

There are no commonly agreed indicators of quality for this habitat.

Characteristic species:

As this is a barren habitat, there are no characteristic species.

#### Classification

This habitat may be equivalent to, or broader than, or narrower than the habitats or ecosystems in the following typologies.

EUNIS (v1405):

Level 4. A sub-habitat of 'Circalittoral rock' (A4)

Annex 1:

1170 Reefs

8330 Submerged or partially submerged sea caves

MAES:

Marine - Coastal

Marine - Marine inlets and transitional waters

Marine - Shelf

MSFD:

Shelf sublittoral rock and biogenic reef

EUSeaMap:

Shelf rock or biogenic reefs

IUCN:

9.2 Subtidal rock and rocky reefs

**Does the habitat type present an outstanding example of typical characteristics of one or more biogeographic regions?**

Unknown

Justification

There is insufficient knowledge and information on this habitat to state whether it is an outstanding example of this biogeographic region.

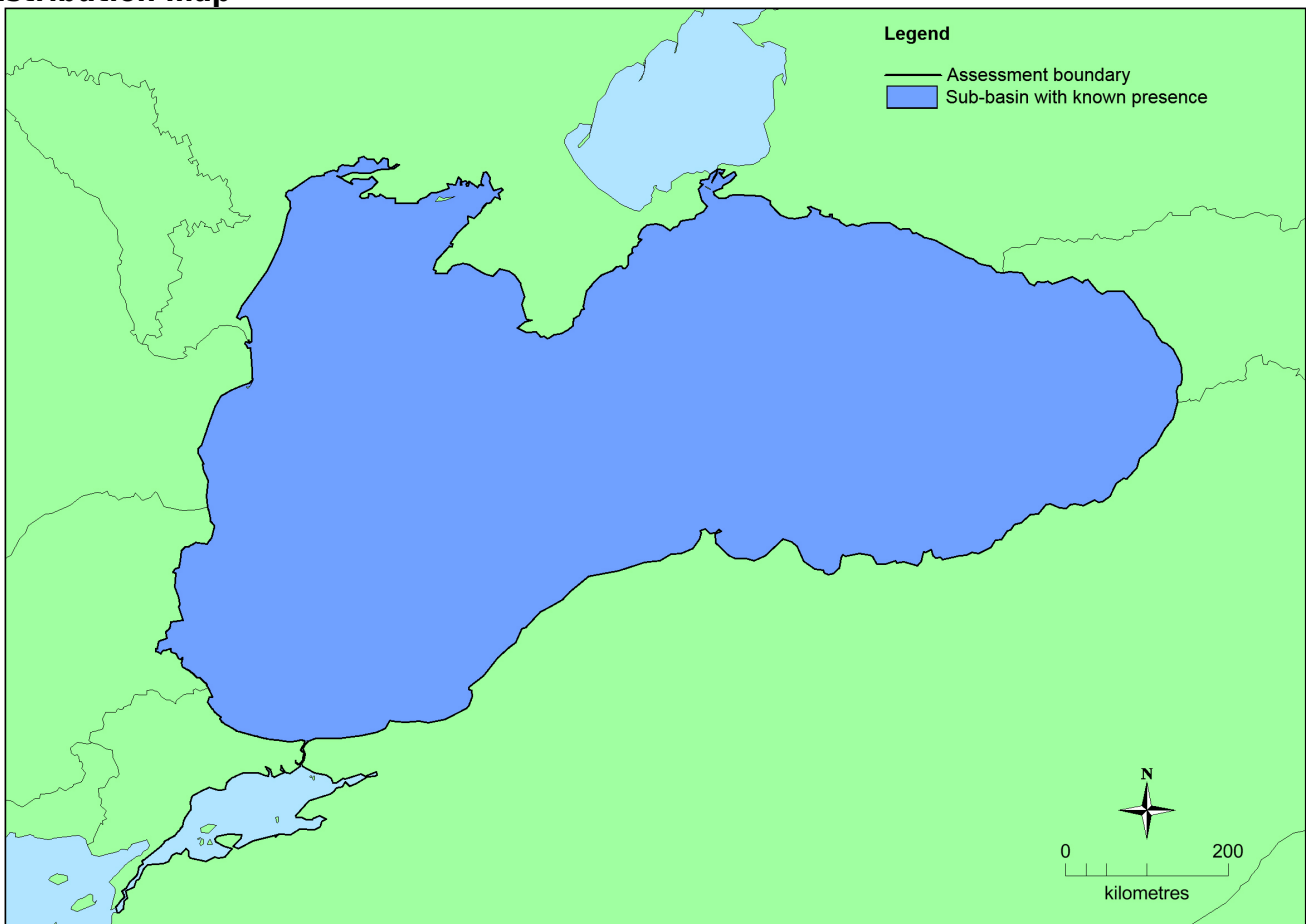
### **Geographic occurrence and trends**

Region	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
<i>Black Sea</i>	Black Sea: Present	Unknown Km <sup>2</sup>	Unknown	Unknown

### **Extent of Occurrence, Area of Occupancy and habitat area**

	Extent of Occurrence (EOO)	Area of Occupancy (AOO)	Current estimated Total Area	Comment
<i>EU 28</i>	Unknown Km <sup>2</sup>	Unknown	Unknown Km <sup>2</sup>	The habitat is known to occur in the Black Sea but there is insufficient data to accurately calculate EOO and AOO.
<i>EU 28+</i>	Unknown Km <sup>2</sup>	Unknown	Unknown Km <sup>2</sup>	The habitat is known to occur in the Black Sea but there is insufficient data to accurately calculate EOO and AOO.

## Distribution map



There is insufficient data to produce a map of the distribution of this habitat. However the sub-basins of which this habitat is likely to occur in have been indicated.

## How much of the current distribution of the habitat type lies within the EU 28?

It is unknown how much of this habitat is hosted by the EU28 in the Black Sea.

## Trends in quantity

There is insufficient data to accurately assess changes in quantity of the habitat

- Average current trend in quantity (extent)

EU 28: Unknown

EU 28+: Unknown

- Does the habitat type have a small natural range following regression?

Unknown

*Justification*

The habitat is known to occur in the Black Sea but there is insufficient data to accurately calculate EOO and AOO. There is insufficient data to accurately assess whether the habitat has undergone a significant decline (>25% of extent) in the last 50 years.

- Does the habitat have a small natural range by reason of its intrinsically restricted area?

Unknown

*Justification*

There is insufficient data and knowledge on this habitat to state whether it has a small natural range by reason of an intrinsically restricted area.

## Trends in quality

There is insufficient data to accurately assess changes in quality of the habitat

- Average current trend in quality

EU 28: Unknown

EU 28+: Unknown

## Pressures and threats

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No pressures or threats have been identified for this habitat.

### List of pressures and threats

#### No threats or pressures

No threats or pressures

## Conservation and management

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Conservation and management measures which would benefit this habitat concern maintaining physical integrity, including pollution control and regulation.

### List of conservation and management needs

#### Measures related to marine habitats

Other marine-related measures

### Conservation status

Annex 1:

1170: MBLS U1

### When severely damaged, does the habitat retain the capacity to recover its typical character and functionality?

Given its nature, this habitat is unlikely to suffer severe damage except by removal or smothering. In either case, prospects for recovery are either impossible or difficult to predict.

### Effort required

10 years
Unknown

## Red List Assessment

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### Criterion A: Reduction in quantity

Criterion A	A1	A2a	A2b	A3
EU 28	unknown %	unknown %	unknown %	unknown %
EU 28+	unknown %	unknown %	unknown %	unknown %

There is insufficient data on changes in quantity of this habitat to undertake an assessment using criterion A.

### Criterion B: Restricted geographic distribution

Criterion B	B1				B2				B3
	EOO	a	b	c	AOO	a	b	c	
EU 28	unknown Km <sup>2</sup>	Unknown	Unknown	unknown	unknown	Unknown	Unknown	unknown	unknown
EU 28+	unknown Km <sup>2</sup>	Unknown	Unknown	unknown	unknown	Unknown	Unknown	unknown	unknown

The precise extent of the habitat is unknown. Therefore there is insufficient data to produce EOO and AOO figures.

### Criterion C and D: Reduction in abiotic and/or biotic quality

Criteria C/D	C/D1		C/D2		C/D3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	unknown %	unknown %	unknown %	unknown %	unknown %	unknown %
EU 28+	unknown %	unknown %	unknown %	unknown %	unknown %	unknown %

Criterion C	C1		C2		C3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	unknown %	unknown %	unknown %	unknown %	unknown %	unknown %
EU 28+	unknown %	unknown %	unknown %	unknown %	unknown %	unknown %

Criterion D	D1		D2		D3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	unknown %	unknown%	unknown %	unknown%	unknown %	unknown%
EU 28+	unknown %	unknown%	unknown %	unknown%	unknown %	unknown%

Experts consider there to be insufficient data to conduct an assessment using criteria C/D.

### Criterion E: Quantitative analysis to evaluate risk of habitat collapse

Criterion E	Probability of collapse
EU 28	unknown
EU 28+	unknown

There is no quantitative analysis available to estimate the probability of collapse of this habitat type.

### Overall assessment "Balance sheet" for EU 28 and EU 28+

	A1	A2a	A2b	A3	B1	B2	B3	C/D1	C/D2	C/D3	C1	C2	C3	D1	D2	D3	E
EU28	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD
EU28+	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Data Deficient	-	Data Deficient	-

## Confidence in the assessment

Low (mainly based on uncertain or indirect information, inferred and suspected data values, and/or limited expert knowledge)

## Assessors

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## Reviewers

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## References

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Afanasiev D. F., Korpakova I. G. 2008. Macrophytobenthos Russian Azov-Black Sea., Rostov-on-Don: FGUP AzNIIRH.

Anon. 2006. *The northwestern part of the Black Sea: biology and ecology*. Kiev: Naukova Dumka. 701pp.

Arnoldi, L. V. 1949. Materials on the quantitative study of the Black Sea zoobenthos. II Karkinitzky Bay (in Russian). *Proceedings of the Sevastopol Biological Station*: 8.

Bacescu, M. C., Muller G. I., Gomoiu, M-T. 1971. . Cercetari de ecologie bentica in Marea Neagra (analiza cantitativa, calitativa si comparata a faunei bentice pontice). *Ecologie Marina* vol. IV. Editura Academiei R.S.R., Bucuresti, 357 pp..

Bacescu M., 1977. Les biocenoses benthiques de la Mer Noire. *Biologie des eaux saumâtres de la Mer Noire, Première partie*: 128-134.

Bezuglova M. A. 2012. Seasonal changes in shellfish species of the storm emission of Odessa Bay. *Scientific notes of the Ternopil National Pedagogical University. Series Biology* 2(51): 33-36.

Borisenko A. M. 1946. *Quantitative accounting of benthic fauna of the Tendra Bay, Kara Dag*. 201p

Chernyakov D. A. 1995. Natural-aquatic landscape complexes of the Tendra and Egorlyk bays and monitoring of their state in Black Sea Biosphere Reserve.

Culha, M. & Bat, L. 2010. Visible decline of limpet *Patella caerulea* Linnaeus, 1758, a biomonitor species, at the sinop peninsula and vicinity (the southern Black sea, Turkey). *Journal of Environmental Protection and Ecology* 11(3): 1024-1029.

Çulha, M., Bat, L., Türk Çulha, S. & Çelik, M.Y. 2010. Benthic mollusk composition of some facies in the upper-infralittoral zone of the southern Black Sea, Turkey. *Turkish Journal of Zoology* 34: 523-532.

Dimitrova-Konaklieva, S. 2000. *Flora of the Marine Algae of Bulgaria (Rhodophyta, Phaeophyta, Chlorophyta)*. Pensoft, Sofia, Bulgaria.

Gönlügür Demirci, G. 2005. Sinop Yarımadasının (Orta Karadeniz) Mollusca Faunası. *Science and Engineering Journal of Firat University*17(3): 565-572.

Kalugina-Gutnik A.A. 1970. *The composition and distribution of benthic vegetation in the south-eastern*

- part of the Black Sea. Ecological and morphological studies of benthic organisms. Kiev: Naukova Dumka, p. 185- 202.
- Kalugina-Gutnik A.A. 1975. *Phytobenthos of Black Sea*, Kiev: Naukova Dumka, 275 p.
- Kiseleva, M. I. 1981. *Benthos of Black Sea mobile substrates*. Naukova dumka, Kiev, pp 165.
- Konsulov, A. 1998. *Black Sea Biological Diversity: Bulgaria. Volume 5 of Black Sea environmental series*. United Nations Publications, New York, USA.
- Kopiy, V. G, Bondarenko, L. V. 2009. Benthos of sand habitat near splash zone of Karadag. *Proc. of the V Intern. scient-pract. conf. (Simferopol)*: 294-298.
- Kopiy, V. G. Bondarenko, L. V. 2012. The community of the macrozoobenthos of mediolittoral zone of Western Crimea. Biodiversity and sustainable development: Abstracts of the II Intern. scientific and practic Conf., Simferopol: 189-192.
- Kostenko, N. S. 2003. Some trends of the succsecion of bottom vegetation in the Karadag area. *Proc. Sciences. Rec. NaUKMA, Ser. "Biologiya and ekologiya"*: 429-432.
- Lisovskaya O.A., Stepanyan O.V. 2009. A variety of coastal macroalgae Taman Peninsula (Russia) in summer., *Algology* 19(4): 341-348.
- Marinov, T. 1990. *The zoobenthos from the Bulgarian Sector of the Black Sea*. Publishing house of the Bulgarian Academy of Sciences, Sofia, pp 195 (in Bulgarian).
- Micu, D., Micu, S. 2006. *Recent records and proposed IUCN status of Donacilla cornea (Poli, 1795) (Bivalvia: Veneroidea: Mesodesmatidae) in the Romanian Black Sea*. *Cercet Mar* 36: 117-132.
- Micu D, Todorova V., 2007. A fresh look at the western Black Sea biodiversity. *MarBEF Newsletter* 7:26-28.
- Micu, D., Zaharia, T., Todorova, V., Niță, V. 2007. *Romanian Marine Habitats of European Interest*. Punct Ochit Publishers, Constanța, Romania.
- Micu, D. 2008. Open Sea and Tidal Areas. In: Gafta D. and Mountford J.O. (eds.) *Natura 2000 Habitat Interpretation Manual for Romania*. EU publication no. EuropeAid/121260/D/SV/RO, 101pp. ISBN 978-973-751-697-8.
- Micu, D., Zaharia, T., Todorova, V. 2008. Natura 2000 habitat types from the Romanian Black Sea. In: Zaharia T, Micu D, Todorova V, Maximov V, Niță V. *The development of an indicative ecologically coherent network of marine protected areas in Romania*. Romart Design Publishing, Constanta, Romania.
- Mokievskiy, O.B. 1949. Flora of the soil littoral substrate of the west coast of Crimea. *Proceedings of the Institute of Oceanology*: 124-159.
- Moncheva. S., Todorova, V., (eds). 2013. *Initial assessment of the marine environment*. Article 8, MSFD 2008/56/EC and NOOSMV (2010). 500p
- Morozova-Vodyanitskaya N. V. 1959. Bottom vegetation of the Black Sea. *Proceedings of the Sevastopol Biological Station* 11: 3 - 28.
- Pereladov M.V., 2005. Modern status of the Black Sea Oyster population. Coastal hydrobiological investigations. *VNIRO Proceedings*, 144: 254-273.
- Petranu, A. 1997. *Black Sea Biological Diversity: Romania. Volume 4 of the Black Sea Environmental Series*. United Nations Publications, New York, USA.
- Prodanov, B., Kotsev, I., Keremedichiev, S., Todorova, V., Dimitrov, L. 2013. *Initial assessment of the technogenic pressure in the mediolittoral zone of the bulgarian black sea coast*. Second European SCGIS

Conference "Conservation of Natural and Cultural Heritage for Sustainable Development: GIS-Based Approach", 2013: 4-13.

Salomidi, M., Katsanevakis, S., Damalas, D., Mifsud, R., Todorova, V., Pipitone, C., Fernandez, T. V., Mirto, S., Galparsoro, I., Pascual, M., Borja, Á., Rabaut, M., Braeckman, U. 2010. Monitoring and Evaluation of Spatially Managed Areas. Catalogue of European seabed biotopes. Deliverable 1.2. Available at: <http://www.mesma.org/default.asp?ZNT=S0T1O-1P24>. (Accessed: 19/08/2015).

Terentyev, A. S. 2002. State of of the bottom community of the sandy bottom in Opuksky Nature Reserve. *Reserves of Crimea. Biodiversity in the priority areas: 5 years after Gurzuf. / Materials of II scientific conference*: 250-253.

Terentyev, A. S. 2011. Macrozoobenthos of coastal part of the Kerch Bay (summer, 2009). Ecology of cities and recreational areas. / *All\_Ukrainian Scientific Conference Proceedings of articles*: 261-263.

Teyubova V. F. 2005. Features interannual dynamics species composition and structure macrophytobenthos in the Bay of Novorossiysk (Black sea). *Ekologiya Morya* 69: 53 - 57.

Teyubova V.F. 2012. *The diversity and ecological features macrophytobenthos the Russian sector of the Black Sea.*, Dissertation on competition degree of candidate of biological sciences, 280 pp.

Tkachenko, F. P., Kovtun O. O. 2014. Contemporary condition of seaweeds flora of Zmeiny island costal zone (Black Sea). *Chornomors'k. bot. z.* 10(1): 37-47.

Todorova, V., Panayotova, M. 2011. *Black mussels and/or barnacle communities on mediolittoral rocks.* Red book of Republic of Bulgaria, Vol. III, Natural habitats, Eds. BAS & MOEW. [ISBN 978-9549746-23-5].

Vershinin, A. 2007. *Life in the Black Sea.* Maccentr, Moscow, Russia.

Zaika V. E., Boltachev A. R., Zuev G. V., Kovalev A. V., Milchakova N. A., Sergeeva N. G. 2004. Floristic and faunistic changes in the Crimean Black Sea shelf after 1995 - 1998, *Marine Ecological Journal*, 3(2), p. 37-44.

Zaitsev, Y. P., Alexandrov, B. G. 1998. *Black Sea Biological Diversity: Ukraine. Volume 7 of the Black Sea Environmental Series.* United Nations Publications, New York, USA.