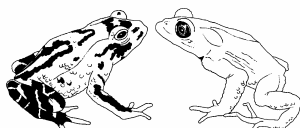


CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA



Eighteenth meeting of the Animals Committee
San José (Costa Rica), 8-12 April 2002

Trade in *Tursiops truncatus ponticus*

PROGRESS ON THE IMPLEMENTATION OF DECISIONS 11.91 AND 11.139

This document has been prepared by the United States of America.

Background

1. Georgia and the United States of America submitted for consideration at the 11th meeting of the Conference of the Parties, Proposal 11.14 to transfer *Tursiops truncatus ponticus* from Appendix II to Appendix I. During the discussion of the proposal in Committee I, it became clear that the lack of information on this subspecies was preventing the Parties from a full discussion of conservation options. The proposal was withdrawn and a working group of Committee I drafted decisions calling for the Animals Committee to evaluate the biological status of and trade in this species using range State data gathered by the CITES Secretariat. These decisions were adopted by the Conference of the Parties as Decisions 11.91 and 11.139. This document reports progress to date in implementing these Decisions.

Decisions 11.91 and 11.139

2. Decision 11.91, directed to the Animals Committee, states that the Animals Committee shall:
 - a) *review the issues pertaining to the conservation and trade in *Tursiops truncatus ponticus*;*
 - b) *evaluate the information received by the Secretariat in response to its request under Decision 11.139; and*
 - c) *request range States to cooperate with experts to examine the genetics of this population and evaluate its distinctiveness, through the collection and analysis of tissue samples.*
3. Decision 11.139, directed to the Secretariat, states that the Secretariat shall:
 - a) *request that range States for Black Sea bottlenose dolphin, *Tursiops truncatus ponticus*, provide the following information, to assist the Animals Committee in its work:*

- i) *the number of dolphins taken from the wild each year (including age, sex, capture methods and capture mortality);*
 - ii) *the number of dolphins exported each year;*
 - iii) *the population status, if available;*
 - iv) *any non-detriment findings issued by Scientific Authorities for this subspecies; and*
 - v) *if available, the number of dolphins killed incidental to fishing operations, if any;*
- b) *request that Parties that have authorized import of these dolphins provide details of the imported animals (numbers, sex, holding facilities and mortalities);*
 - c) *urge Parties not to allow any export (or re-export) of live dolphins without evidence from the Management Authority of the country of destination that the animals will be received and maintained in proper facilities; and*
 - d) *coordinate measures with the relevant international organization on these matters, specifically the Bern Convention, the Bucharest Convention, the Bonn Convention and ACCOBAMS.*

Activities to date

4. On 18 May 2001, the Secretariat sent out Notification to the Parties No. 2001/32 requesting the information specified in Decision 11.91. (As information, range States for this subspecies include Bulgaria, Georgia, Romania, the Russian Federation, Turkey and Ukraine). The Secretariat has received information from the Management Authorities of Bulgaria and the Russian Federation, as summarized below. In addition, the Secretariat received information from the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and ACCOBAMS (the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area (ACCOBAMS) of the Convention on Migratory Species).
5. Bulgaria and the Russian Federation responded as indicated below under each category of information requested:
 - a) Bulgaria
 - i) *number of dolphins taken from the wild per year (including age, sex, capture methods, capture mortality)* The Management Authority of Bulgaria reported that *T. t. ponticus* is strictly protected in Bulgaria and that no specimens have been taken from the wild in recent years.
 - ii) *number of dolphins exported per year*. Three captive-bred animals were exported to India in 1998.
 - iii) *population status, if available*: Bulgaria stated that according to available data, the number of animals had increased since 1992. Schools of 46 to 25 individuals were reported in areas 10 miles offshore, although there was no estimate of the number of schools.
 - iv) *any non-detriment findings issued by Scientific Authorities for these dolphins*: No.
 - v) *number of dolphins killed incidental to fishing operations, if any, and if available*. The amount of incidental take was estimated at 10 per year for the Bulgarian Black Sea coast.

b) Russian Federation

- i) *number of dolphins taken from the wild per year (including age, sex, capture methods, capture mortality)*: The Management Authority of the Russian Federation reported the following live captures of *T. t. ponticus* from the wild: 1999: 19 (10 males, nine females); 2000: 16 (seven males, nine females); 2001: 28 (16 males, 12 females). Capture mortality was reported to be less than two percent.
- ii) *number of dolphins exported per year*: The following sales were reported: 1999: four to Argentina (two died in transit); 2000: two to Lithuania; six to Canada; 2001: no sales. Additionally the following temporary exports were reported: 1999: one to Bahrain (alive); five to Ukraine (all alive); two to Syria (one died, one returned); 2000: three to Viet Nam (all alive); 2001: six to United Arab Emirates (all returned); two to Saudi Arabia (all alive).
- iii) *population status, if available*: No exact data on the number of *Tursiops truncatus ponticus* in the Black Sea are available. However, according to expert estimations, the number of animals is approximately 30,000. Systematic questioning of fishermen in 1995, 1996, 1999 and 2001 indicated that the number of *Tursiops truncatus ponticus* off the Caucasus coast of the Russian Federation and the Crimea coast of Ukraine has increased during the last 10 years.
- iv) *any non-detriment findings issued by scientific authorities for these dolphins*: No response.
- v) *number of dolphins killed incidental to fishing operations, if any, and if available*: No statistics are available for incidental take of *T. t. ponticus* in the Russian Federation, although the take of this species is thought to be small, while incidental take of harbour porpoises is large.

Actions of international organizations

6. Bern Convention The Bern Convention submitted a document entitled "Conservation of *Tursiops truncatus ponticus* (Black Sea bottlenose dolphin) and its possible listing in Appendix I of CITES", which had been discussed at a meeting of the Bureau of the Standing Committee of the Bern Convention, 26-30 November 2001. The document informed CITES that the Bern Convention gives full protection from capture, keeping and deliberate killing to *T. truncatus* and thus to all its subspecies. Of the six range States, four have ratified this treaty.
7. At its meeting, the Committee passed Resolution No. 86 (2001) which recommends to the Contracting Parties to:
 - a) *Strictly enforce the prohibition of capture and keeping of Tursiops truncatus ponticus and avoid as far as possible the use of exceptions in Article 9 of the Convention on this subspecies, unless for conservation reasons;*
 - b) *Support efforts of other States to provide an improved protection of this subspecies from international trade in the framework of the Convention on International Trade of Endangered Species and other relevant treaties and agreements;*
 - c) *Support regional coordination of efforts on the conservation of this subspecies.*
8. ACCOBAMS Of the six range States for *T. t. ponticus*, two have ratified this Agreement. ACCOBAMS provided the Animals Committee with a report of the current status of bottlenose dolphins in the Black Sea, produced with the financial support of the Principality of Monaco. This document will be discussed at the First Meeting of the Parties of ACCOBAMS in Monaco, 28 February - 2 March 2002 (see document AC18 Inf. 2).

9. A draft resolution will be tabled at the ACCOBAMS meeting, which contains the following operative paragraphs:
- a) “*Decides* to strictly enforce the prohibition of deliberate taking and keeping of Black Sea *Tursiops truncatus*;
 - b) *Decides also* to ban importation of *Tursiops truncatus* from the ACCOBAMS area range States and particularly Black Sea riparian countries;
 - c) *Calls* upon other countries and especially other range States of *Tursiops truncatus* to implement the same measures;
 - d) *Supports*:
 - i) CITES Secretariat, and Parties to CITES that have not yet done so, to ensure the full implementation of CITES Decision 11.139;
 - ii) CITES Animals Committee, and Parties to CITES that have not yet done so, to ensure the full implementation of Decision 11.91;
 - e) *Calls* upon the CITES Parties to provide a better protection to this population by *inter alia* upgrading it to Appendix I;
 - f) *Requests* the Scientific Committee to advise on further research to be carried out on this topic;
 - g) *Looks forward* to the status review of *Tursiops truncatus* by the International Whaling Commission’s Small Cetaceans Subcommittee of the Scientific Committee in 2002 and *urges* the Subcommittee to consider the status of *Tursiops truncatus ponticus* at this time, rather than in 2003.”

Genetic analysis

10. The Southwest Fisheries Science Center (SWFSC) of the National Marine Fisheries Service and San Diego State University are working together to undertake genetic analysis from tissue samples from Black Sea bottlenose dolphins. Assistance from range States in the collection of samples has been solicited from cetacean biologists and through the European regional meeting of the Animals Committee. The results from this work will then be compared with the extensive collection of bottlenose dolphin samples from other parts of the world housed at SWFSC. The objective of this study is to understand better the relationship of Black Sea bottlenose dolphins to populations outside of the Black Sea. Additional efforts toward this end are taking place at universities in Monaco and the United Kingdom.

Trade data

11. Trade data were provided by UNEP-WCMC for evaluation at AC18 (see Annex 1).

Conclusions

12. The limited response to Decision 11.91 and to the request for tissue samples has hampered progress on this issue. Additional effort should be expended to gather this information.
13. If the ACCOBAMS resolution is adopted, CITES might consider supporting the resolution by adopting a zero quota for export.

Comments from the Secretariat

14. Regarding the trade data provided in Annex 1, the Secretariat notes that relatively few transactions have been recorded at the sub-specific level. The great majority of the reported transactions originated from countries that are not range States of *T. t. ponticus*, or refer to other subspecies. The reported trade in *T. t. ponticus* over the past decade presented in the Annex (15 in 1991, 13 in 1992, 10 in 1993, four in 1994, 10 in 1995, zero in 1996, 14 in 1997, 27 in 1998, 19 in 1999, zero in 2000) amounts to 112 specimens [including a total of nine captive-bred individuals (codes F and C)], with a further eight specimens in 2000 mentioned in paragraph 5 b) ii) but not yet recorded in the annual report of the Russian Federation for the year 2000. This total represents an average of 12 specimens per year, and is possibly overshadowed by other forms of mortality such as incidental catch in fishing nets, although quantitative information on incidental catch has not been collected by all range States (see document AC18 Inf. 2). Furthermore it can not be assumed that all exports from the former Soviet Union (code SU) and the Russian Federation (code RU) would have been of *T. t. ponticus*, as another subspecies occurs in other parts of the Russian Federation (and other States of the former Soviet Union).
15. Regarding the conclusions reached by the United States of America, the Secretariat will continue to encourage the collection of samples for genetic analysis. It will be helpful if the institutions requesting the samples would indicate to the countries from which samples are not available: the exact purpose of the analysis; how many samples have already been collected from this subspecies in the Black Sea; how many more are needed; any reason for obtaining samples from all range States rather than merely a representative sample from the Black Sea; and any assistance or funding that may be provided to collect such samples. The Secretariat remains available to assist with the dissemination of such information to the range States.
16. Secondly, the Secretariat is not convinced that a zero export quota for this subspecies, if such a proposal is made at a meeting of the Conference of the Parties, is necessarily justified or appropriate. It notes that the two range States referred to in paragraph 5 reported that the number of sightings of bottlenose dolphins has increased over the past decade. A further response to the questionnaire from Ukraine (provided as Annex 2), confirms this trend and states that trade does not pose a significant threat to this subspecies. Most range States do not seem to authorize the harvesting of this subspecies from the wild for international trade, and those that do seem to have authorized only limited harvests (compared e.g. to the scale of mortalities from other sources). If the number of specimens harvested for international trade is considered to be unsustainable, the Animals Committee should include this subspecies in its Review of Significant Trade. Through such a review, the Committee might be able to encourage collaboration with other bodies engaged in scientific work on the status of this taxon, and for instance request the Scientific Committee of the International Convention for the Regulation of Whaling to provide recommendations on appropriate survey techniques for this species if currently used techniques are considered to be inadequate (see document AC18 Inf. 2).

Trade data on live *Tursiops truncatus* provided by UNEP-WCMC

(Note from Secretariat: Entries in bold reflect exports from range States of *T. t. ponticus*)

Year	Taxon	Imp.	Exp.	Origin	Imports reported			Exports reported		
					Quantity	P	S	Quantity	P	S
1979	<i>T. truncatus</i>	DE	CH	ES				2		
1979	<i>T. truncatus</i>	DE	CH	XX				1		
1979	<i>T. truncatus</i>	NL	DE	JP				2		
1979	<i>T. truncatus</i>	SE	US					3	Z	
1980	<i>T. t. aduncus</i>	PG	AU					2		
1980	<i>T. truncatus</i>	GB	HK		1	T				
1980	<i>T. truncatus</i>	ES	US					2	T	
1980	<i>T. truncatus</i>	GB	US		4	T		4	T	
1980	<i>T. truncatus</i>	MX	US					5	U	
1981	<i>T. truncatus</i>	CH	BE	XX	1					
1981	<i>T. truncatus</i>	US	CA	US	8	T				
1981	<i>T. truncatus</i>	FR	CH	US				1		
1981	<i>T. t. gilli</i>	GB	JP		2	T				
1981	<i>T. truncatus</i>	DE	MX		1	Z				
1981	<i>T. truncatus</i>	CA	US		4			4	Z	
1981	<i>T. truncatus</i>	CH	US		1			2	Z	
1981	<i>T. truncatus</i>	DE	US		2	T		2	S	
1981	<i>T. truncatus</i>	MX	US					1	Z	
1981	<i>T. truncatus</i>	NL	US					1	S	
1982	<i>T. truncatus</i>	DE	AT	XX	1	Z				
1982	<i>T. truncatus</i>	US	CA					4		
1982	<i>T. t. gilli</i>	HK	JP		4	Z				
1982	<i>T. truncatus</i>	DE	MX		6	Z				
1982	<i>T. truncatus</i>	CH	NL	US	2	Z				
1982	<i>T. spp.</i>	CA	US					4	T	
1982	<i>T. spp.</i>	CA	US					4	T	C
1982	<i>T. truncatus</i>	DE	US		1	Z		1	T	
1982	<i>T. spp.</i>	ES	US					3	T	
1982	<i>T. truncatus</i>	IT	US		2			2	T	
1983	<i>T. truncatus</i>	US	CA					3	Q	
1983	<i>T. truncatus</i>	US	CA	US	3	T				
1983	<i>T. truncatus</i>	US	CA	US	3	Z				
1983	<i>T. truncatus</i>	US	CA	US	3	T	C			
1983	<i>T. truncatus</i>	CS	CH	MX				2		
1983	<i>T. truncatus</i>	NL	DE	FR				1	T	
1983	<i>T. truncatus</i>	NL	DE	US				2	T	
1983	<i>T. t. duncus</i>	NL	DE	HK				1	T	

Year	Taxon	Imp.	Exp.	Origin	Imports reported Quantity	P	S	Exports reported Quantity	P	S
1983	<i>T. t. gilli</i>	KR	JP					3	T	
1983	<i>T. truncatus</i>	DE	MX		1	Z				
1983	<i>T. truncatus</i>	US	MX	US	3	T				
1983	<i>T. truncatus</i>	DE	NL	US	1	Z				
1983	<i>T. truncatus</i>	ES	US					3	Z	
1984	<i>T. truncatus</i>	DE	AT	US	2	Z		2		
1984	<i>T. truncatus</i>	CH	BE	GT	2	U				
1984	<i>T. truncatus</i>	CH	BE	MX	2	U				
1984	<i>T. truncatus</i>	US	CA	US	3	T				
1984	<i>T. truncatus</i>	CH	FR	BE	1	U				
1984	<i>T. truncatus</i>	DE	GT					10	T	
1984	<i>T. truncatus</i>	FR	GT		1					
1984	<i>T. truncatus</i>	AT	NL	US				2		
1984	<i>T. truncatus</i>	CH	US		2	Q		2	T	
1984	<i>T. truncatus</i>	ES	US					3	T	
1985	<i>T. truncatus</i>	US	CA	US	3					
1985	<i>T. truncatus</i>	US	CA	US	3	T				
1985	<i>T. truncatus</i>	DE	GT					10	T	
1985	<i>T. t. aduncus</i>	CN	HK		5	Q				
1985	<i>T. truncatus</i>	CA	US					7	T	
1985	<i>T. truncatus</i>	FR	US		3	Z		3	T	
1985	<i>T. truncatus</i>	NL	US		1			7	T	
1986	<i>T. truncatus</i>	CH	BE	GT				2	T	
1986	<i>T. truncatus</i>	CH	BE	MX				2	T	
1986	<i>T. truncatus</i>	CA	CU		8	Z				
1986	<i>T. t. aduncus</i>	CN	HK		1					
1986	<i>T. t. aduncus</i>	HK	ID					3		
1986	<i>T. truncatus</i>	CH	IL	US	2	Z				
1986	<i>T. t. gilli</i>	KR	JP					7	T	
1986	<i>T. t. aduncus</i>	CN	MC		1					
1986	<i>T. truncatus</i>	CA	US					3		C
1986	<i>T. truncatus</i>	SE	US					3	T	C
1987	<i>T. truncatus</i>	US	CA	US	3					
1987	<i>T. truncatus</i>	EG	CH	GT				2		
1987	<i>T. truncatus</i>	IT	CH	XX	2	E		2		
1987	<i>T. truncatus</i>	IT	CU		3	E				
1987	<i>T. t. aduncus</i>	HK	ID		9	Z		9		
1987	<i>T. t. aduncus</i>	XS	ID					7		
1987	<i>T. t. gilli</i>	HK	JP		3	Z		4	B	
1987	<i>T. t. gilli</i>	KR	JP					2	T	
1987	<i>T. truncatus</i>	BS	MX		6	Z				
1987	<i>T. truncatus</i>	US	MX		2	T	C			

Year	Taxon	Imp.	Exp.	Origin	Imports reported Quantity	P	S	Exports reported Quantity	P	S
1987	<i>T.t. aduncus</i>	ID	MY		1					
1987	<i>T.truncatus</i>	CH	US		4	Z				
1987	<i>T.truncatus</i>	ES	US		3	T		6	S	
1987	<i>T.truncatus</i>	MX	US	MX				1		
1988	<i>T.truncatus</i>	CH	AT	MX				1		
1988	<i>T.truncatus</i>	PT	BR	US	3	Z				
1988	<i>T.truncatus</i>	US	CA	US				3	Z	C
1988	<i>T.truncatus</i>	AT	CH	MX	1	Z				
1988	<i>T.truncatus</i>	ES	CU		1	Z				
1988	<i>T.truncatus</i>	FR	CU		6	Z				
1988	<i>T.truncatus</i>	IT	CU		4	E				
1988	<i>T. truncatus</i>	FR	EG	GT	2	S				
1988	<i>T.t.aduncus</i>	CN	HK		3					
1988	<i>T.t. gilli</i>	KR	JP					3	T	
1988	<i>T. truncatus</i>	ES	MX		1	Z				
1988	<i>T. truncatus</i>	BE	US		4	Z		4		
1988	<i>T. truncatus</i>	CA	US					3		C
1989	<i>T. truncatus</i>	ES	BR	US	2		C			
1989	<i>T. truncatus</i>	PT	BR	US	2	Z		1		C
1989	<i>T. truncatus</i>	US	CA	US				3	Z	C
1989	<i>T. truncatus</i>	IT	CH	MX				1		
1989	<i>T. truncatus</i>	IT	CU		2	E				
1989	<i>T. truncatus</i>	SU	JP	SU	3	Q				
1989	<i>T.t. gilli</i>	US	JP		2	T		2	B	
1989	<i>T. truncatus</i>	YU	SU					3	Q	
1989	<i>T. truncatus</i>	CA	US					3		
1989	<i>T. truncatus</i>	DE	US		2	Z		2		
1989	<i>T. truncatus</i>	SU	YU	SU	3	Q				
1990	<i>T. truncatus</i>	AT	BR					1	T	C
1990	<i>T. truncatus</i>	ES	BR		2	Z	C			
1990	<i>T. truncatus</i>	IT	BR					1	T	
1990	<i>T. truncatus</i>	US	CA	US				3	Z	
1990	<i>T. truncatus</i>	CH	CU		6	Z				
1990	<i>T. truncatus</i>	ES	CU		6	Z				
1990	<i>T. t. aduncus</i>	CN	HK		8	Q				
1990	<i>T.t. aduncus</i>	HK	ID					8		
1990	<i>T.t. gilli</i>	IL	JP					3	E	
1990	<i>T.t. gilli</i>	KR	JP					1	T	
1990	<i>T. t. gilli</i>	TH	JP					4	E	
1990	<i>T.t. aduncus</i>	CN	PH					2	Q	
1990	<i>T. truncatus</i>	CA	US					5		W
1991	<i>T. truncatus</i>	US	CA	US				3	Z	W

Year	Taxon	Imp.	Exp.	Origin	Imports reported Quantity	P	S	Exports reported Quantity	P	S
1991	<i>T. truncatus</i>	DE	CH	CU		2Z		2		W
1991	<i>T. truncatus</i>	CH	CU			2Q	W			
1991	<i>T. truncatus</i>	TC	GB	TW				1		W
1991	<i>T. truncatus</i>	TC	GB	US				1	S	O
1991	<i>T. truncatus</i>	TC	GB	US				1		W
1991	<i>T.t. aduncus</i>	PH	ID			2Q		2Q		
1991	<i>T.t. aduncus</i>	TH	ID					6		
1991	<i>T. truncatus</i>	SU	IL	SU		4S				
1991	<i>T.t. gilli</i>	KP	JP					1	T	
1991	<i>T.t. aduncus</i>	MY	PH	ID				2	Q	
1991	<i>T. truncatus</i>	VN	SU					3Z		
1991	<i>T. truncatus</i>	YU	SU					8S		
1991	<i>T. truncatus</i>	CA	US					6		W
1992	<i>T. truncatus</i>	US	CA	US				3	Z	U
1992	<i>T.t. aduncus</i>	PH	CN	ID				2	Q	W
1992	<i>T.t. aduncus</i>	CN	HK	ID		4Q	W			
1992	<i>T.t. aduncus</i>	CN	HK	XX		2Q	U			
1992	<i>T. truncatus</i>	UA	HU	UA				3		W
1992	<i>T.t. aduncus</i>	PH	ID			2Q				
1992	<i>T. truncatus</i>	CL	MX					2	Q	
1992	<i>T. truncatus</i>	AR	RU					7S		
1992	<i>T. truncatus</i>	CL	RU					3S		
1992	<i>T. truncatus</i>	CA	US			2Z	W	3		W
1992	<i>T. truncatus</i>	CA	US			1Z	C	3		U
1993	<i>T. truncatus</i>	CO	AR			1S	W			
1993	<i>T. truncatus</i>	TN	BG	CU		3Q	C	3	Q	C
1993	<i>T. truncatus</i>	US	CA	US				3	T	C
1993	<i>T. truncatus</i>	IT	CH	CU				2		W
1993	<i>T. truncatus</i>	ES	CU			4E	W			
1993	<i>T. truncatus</i>	SE	GB	US		3Z	W	3	B	W
1993	<i>T. truncatus</i>	CN	ID					2		
1993	<i>T. t. aduncus</i>	CN	ID			2Q	W	4		
1993	<i>T. t. aduncus</i>	PH	ID			2Q		2		
1993	<i>T. t. aduncus</i>	TH	ID					10		
1993	<i>T. t. aduncus</i>	ID	PH					2	Q	
1993	<i>T. truncatus</i>	BE	RU					1	T	
1993	<i>T. truncatus</i>	CL	RU					1	T	
1993	<i>T. truncatus</i>	IL	RU					3	S	
1993	<i>T. truncatus</i>	LT	RU					5	Q	
1993	<i>T. truncatus</i>	CA	US					3		U
1993	<i>T. truncatus</i>	CA	US					2		W
1993	<i>T. truncatus</i>	CA	US					1		C

Year	Taxon	Imp.	Exp.	Origin	Imports reported Quantity	P	S	Exports reported Quantity	P	S
1994	<i>T. truncatus</i>	CO	AR		1	Q	W	1	Z	W
1994	<i>T. truncatus</i>	MX	CL	MX	2	Q	W			
1994	<i>T. truncatus</i>	CO	CU		3	Q	W			
1994	<i>T. truncatus</i>	MX	CU		8	Z	W			
1994	<i>T. truncatus</i>	SE	DE	US	2	Z	W	2	Z	
1994	<i>T. t. aduncus</i>	CN	ID		12	Z	W	12		
1994	<i>T. t. aduncus</i>	CN	ID		2	Q	W	8		
1994	<i>T. truncatus</i>	PH	ID		2	Q	O			
1994	<i>T. truncatus</i>	CN	JP	CN				2	Z	W
1994	<i>T. truncatus</i>	PE	MX					2	Q	W
1994	<i>T. truncatus</i>	ID	PH					2	Q	C
1994	<i>T. truncatus</i>	CY	RU		4	E	W	4	E	W
1994	<i>T. truncatus</i>	HN	US					12	T	U
1995	<i>T. truncatus</i>	GR	BG					6	Q	C
1995	<i>T. truncatus</i>	CL	BO	MX				2	Q	W
1995	<i>T. truncatus</i>	CL	CU					2	Z	W
1995	<i>T. truncatus</i>	ES	CU		6	S	W	6	E	W
1995	<i>T. truncatus</i>	MX	CU		7	Q	W	3	T	W
1995	<i>T. t. aduncus</i>	CN	ID		8	Z	C	7		W
1995	<i>T. t. aduncus</i>	PH	ID					2	Q	W
1995	<i>T. truncatus</i>	CN	JP					2	Z	W
1995	<i>T. truncatus</i>	CR	MX					4	Q	W
1995	<i>T. truncatus</i>	CL	PE	MX				2	Q	W
1995	<i>T. truncatus</i>	UA	RU					4	Q	W
1995	<i>T. truncatus</i>	PT	US		4	Z	W	8		W
1996	<i>T. truncatus</i>	VE	AN	CU	3	Q	W			
1996	<i>T. truncatus</i>	PA	CO	AR				1	Q	
1996	<i>T. truncatus</i>	PA	CO	CU				1	Q	
1996	<i>T. truncatus</i>	NI	CR	AR				1		W
1996	<i>T. truncatus</i>	NI	CR	CU				1		W
1996	<i>T. truncatus</i>	SV	CR	MX				2	T	W
1996	<i>T. truncatus</i>	AR	CU					3	T	W
1996	<i>T. truncatus</i>	DO	CU		4	E		4	T	W
1996	<i>T. truncatus</i>	MX	CU		4	Q	W	4	T	W
1996	<i>T. truncatus</i>	CR	ES	CU				4	S	W
1996	<i>T. truncatus</i>	CL	GT	MX				2	Q	W
1996	<i>T. t. aduncus</i>	CN	HK		4	Q	C			
1996	<i>T. truncatus</i>	DO	HN		2	E				
1996	<i>T. truncatus</i>	US	HN	XX				2	T	W
1996	<i>T. t. aduncus</i>	CN	ID		8	Z	C			
1996	<i>T. truncatus</i>	MY	ID		2	Q	C			
1996	<i>T. truncatus</i>	CL	MX					4	Q	W

Year	Taxon	Imp.	Exp.	Origin	Imports reported Quantity	P	S	Exports reported Quantity	P	S
1996	<i>T. truncatus</i>	PN	MX					2	Q	W
1996	<i>T. t. aduncus</i>	ID	MY		1	Q	C			
1996	<i>T. truncatus</i>	SV	NI					2	Q	W
1996	<i>T. truncatus</i>	CR	PA	AR	1	T	W			
1996	<i>T. truncatus</i>	CR	PA	CU	1		W			
1996	<i>T. truncatus</i>	GT	SV					2	Q	W
1996	<i>T. truncatus</i>	MX	SV	MX	2	Q	W	2	Q	W
1996	<i>T. truncatus</i>	BM	US					6	T	W
1996	<i>T. truncatus</i>	BM	US					1		W
1996	<i>T. truncatus</i>	PF	US					4		W
1996	<i>T. truncatus</i>	PT	US		1	E	F			
1996	<i>T. truncatus</i>	PT	US		1	E	W	2		W
1996	<i>T. truncatus</i>	AW	VE					3	Q	W
1997	<i>T. truncatus</i>	ES	CU		2	E	W	2	T	W
1997	<i>T. truncatus</i>	MX	CU		13	Z	W	13	T	W
1997	<i>T. truncatus</i>	PR	DO	AR				2	Q	W
1997	<i>T. truncatus</i>	CR	ES	CU				3	E	W
1997	<i>T. t. aduncus</i>	HK	ID		6	T	W	6	S	C
1997	<i>T. t. aduncus</i>	MY	ID		2	Q	C	2	Q	C
1997	<i>T. t. aduncus</i>	MY	ID		2	T	W			
1997	<i>T. truncatus</i>	PH	ID					2	Q	C
1997	<i>T. truncatus</i>	VN	ID					2	Q	C
1997	<i>T. truncatus</i>	CN	JP		8	Z	W	2	Z	W
1997	<i>T. t. gilli</i>	KR	JP		1	T	W	1	Z	W
1997	<i>T. truncatus</i>	PE	MX	CU				6	Z	W
1997	<i>T. truncatus</i>	GB	MY	ID				2	Q	O
1997	<i>T. t. aduncus</i>	ID	MY	ID	4	Q	C	4	Q	C
1997	<i>T. t. aduncus</i>	ID	PH		2	Q	W			
1997	<i>T. truncatus</i>	UY	PY	UY				2	Q	W
1997	<i>T. truncatus</i>	AR	RU					2	T	W
1997	<i>T. truncatus</i>	KW	RU					3	Q	W
1997	<i>T. truncatus</i>	LT	RU					3	T	W
1997	<i>T. truncatus</i>	UA	RU					6	T	W
1997	<i>T. truncatus</i>	CN	US		2	Z	W	2	T	W
1997	<i>T. truncatus</i>	PF	US					2	T	O
1997	<i>T. truncatus</i>	PY	UY					2		
1997	<i>T. truncatus</i>	BR	VE					3	Q	W
1998	<i>T. truncatus</i>	IN	BG		3	Q	W	3	Q	F
1998	<i>T. truncatus</i>	ES	CH	CU	1	E	W	1		W
1998	<i>T. truncatus</i>	ES	CH	US	1	E	W	1		W
1998	<i>T. truncatus</i>	MX	CL	MX	1	Q	W			
1998	<i>T. truncatus</i>	ID	CN	ID				2	Q	W

Year	Taxon	Imp.	Exp.	Origin	Imports reported Quantity	P	S	Exports reported Quantity	P	S
1998	<i>T. truncatus</i>	MX	CR	CU	1	Q	W	1	E	W
1998	<i>T. truncatus</i>	AR	CU					2	Z	W
1998	<i>T. truncatus</i>	MX	CU		10	Q	W	10	T	W
1998	<i>T. truncatus</i>	VE	CU		2	P	W	2	Z	W
1998	<i>T. truncatus</i>	CR	ES	CU	5	E	W	1	E	W
1998	<i>T. t. aduncus</i>	CN	ID		4	Q	W	6	Q	W
1998	<i>T. t. aduncus</i>	PH	ID					4	Q	W
1998	<i>T. t. aduncus</i>	SA	ID					2	Q	W
1998	<i>T. truncatus</i>	CN	JP		7	Z	W			
1998	<i>T. truncatus</i>	KR	JP		1	Z	W			
1998	<i>T. t. aduncus</i>	ID	PH		2	Q	W	2		
1998	<i>T. truncatus</i>	UY	PY	UY				2	Q	W
1998	<i>T. truncatus</i>	AE	RU					3	Q	W
1998	<i>T. truncatus</i>	AR	RU					2	T	W
1998	<i>T. truncatus</i>	BH	RU					3	Q	W
1998	<i>T. truncatus</i>	EG	RU					4	Q	W
1998	<i>T. truncatus</i>	KW	RU	UA				2	Q	W
1998	<i>T. truncatus</i>	KW	RU	UA				1	Q	F
1998	<i>T. truncatus</i>	RO	RU					3	T	W
1998	<i>T. truncatus</i>	SY	RU					4	Q	W
1998	<i>T. truncatus</i>	UA	RU					5	T	W
1999	<i>T. truncatus</i>	ID	CN		2	Q	C			
1999	<i>T. truncatus</i>	PA	CR	MX	2	T		2	Z	W
1999	<i>T. truncatus</i>	DO	CU		2	T	W	2	T	W
1999	<i>T. truncatus</i>	ES	CU		2	E	W	2	T	W
1999	<i>T. truncatus</i>	IL	CU					6	T	W
1999	<i>T. truncatus</i>	MX	CU		8	Q	W	8	T	W
1999	<i>T. truncatus</i>	PT	CU		6	Z	W	4	T	W
1999	<i>T. truncatus</i>	US	GT	XX				2	Q	W
1999	<i>T. truncatus</i>	MX	HN	MX	2	T	W			
1999	<i>T. truncatus</i>	US	HN					2	T	W
1999	<i>T. t. aduncus</i>	CN	ID					4	Q	W
1999	<i>T. t. aduncus</i>	TH	ID					8	Z	C
1999	<i>T. truncatus</i>	CN	JP		4	Z	W			
1999	<i>T. truncatus</i>	CR	MX		2	Q	W			
1999	<i>T. truncatus</i>	GT	MX		2	Q	W	2	Z	W
1999	<i>T. truncatus</i>	PA	MX					2	Z	W
1999	<i>T. truncatus</i>	HN	PA	MX				2	T	
1999	<i>T. truncatus</i>	AR	RU					4	T	W
1999	<i>T. truncatus</i>	BH	RU					2	Q	W
1999	<i>T. truncatus</i>	EG	RU					7	Q	W
1999	<i>T. truncatus</i>	KW	RU	UA				2	Q	W

Year	Taxon	Imp.	Exp.	Origin	Imports reported Quantity	P	S	Exports reported Quantity	P	S
1999	<i>T. truncatus</i>	SA	RU	UA				3	Q	W
1999	<i>T. truncatus</i>	UA	RU					3	Q	W
1999	<i>T. truncatus</i>	VN	RU					3	Q	W
1999	<i>T. truncatus</i>	CR	SV	XX				2	Q	W
2000	<i>T. truncatus</i>	GT	HN					2	T	W

Information on the state of the Black Sea bottlenose dolphin in Ukraine¹

Current state

Bottlenose dolphin is a single representative of the genera *Tursiops* and one of two representatives of family Delphinidae in the fauna of the Black Sea. In Ukraine and other states of the former USSR the synonym *Tursiops truncatus ponticus* Barabash-Nikiforov is used, although there are no certain evidences to classify the species as the Black Sea subspecies and to refer it as endemic (Geptner et al., 1976; Tomilin, 1957, Klinowska, 1991). At the same time, there are no direct evidences on inter-population relations between the Black Sea dolphins and those in the Mediterranean, although the individuals of the species have being recorded in adjacent waters, i. e. Bosphorus, Dardanelles, Sea of Marmara and Aegean Sea, for a long time (Kleinenberg, 1956; Androukaki, Tounta, 1994; Ozturk B., Ozturk A.A., 1997).

Distribution

Bottlenose dolphins occur mainly in the Black Sea coastal area, they are common in Kerch Strait and adjacent areas (Arsenyev, 1980; Geptner et al., 1976; Kleinberg, 1956) and were occasionally recorded in the Sea of Azov (Tsalkin, 1940; Birkun et al., 1997). According to the census data of 1985–1987, the majority of individuals of this species are concentrated in the shelf zone of the Black Sea (Yaskin, Yukhv, 1997).

In June 1995, four almost isolated shoals of dolphins were observed near Crimea coastline: northern-western – near Tarkhankut peninsula, western – between Lukull and Kherstones capes, southern – between Sarych and Ayudag capes, and southern-eastern – between Megan and Illi bays (Birkun, Krivokhizhin, 2000). In June – September 1997–1998 these dolphins mainly occurred in water areas of the Southern and Southern-Eastern Crimea, their presence declined towards the western-northern-western direction from Aya Cape to Tarkhankut Cape as well as towards the eastern-northern-eastern direction – from Koktebel to Chauda Cape. In Kerch Strait the dolphins can appeared during the whole year, but mainly they occur in June-July that coincide with mass migration of mullet. According to the same data, dolphins occur in the northern-western Black Sea shelf up to 56 km seaward.

Population number

Population of bottlenose dolphin is always considered to be the less abundant one as compared with other two species of the Black Sea cetaceans (Geptner et al., 1976; Kleynberg, 1956; Tomilin, 1957). Up to the middle of the 1980s the population number of the species were largely reduced (probably, to the critical level) because of whaling, in which all countries of the region were involved. Total number of animals caught in that period is unknown. Until now, there are no reliable information on the stock of bottlenose dolphin in both territorial waters of Ukraine and the Black Sea as the whole. Censuses conducted in USSR (1967–1987) and Turkey were recognized by International Whaling Commission as unreliable due to errors in methods of observation and calculations (Buckland et al., 1992; Klinowska, 1991).

In the second half of the 1990s the dolphin numbers tended to increase in the coastal waters of Crimea. In 1997–1998, the dolphin numbers in the waters of that peninsula were probably increased as much as almost five and more times as compared with 1995. Bottlenose dolphin has become

¹ Review is compiled by Dr. A. Birkun, BREMA Laboratory, Simpheropol. Some amendments and additions were made by Dr. V. Domashlinets, Ministry of the Environment and Natural Resources of Ukraine, Kiev.

certainly the dominant coastal cetacean species (Birkun, Krivokhizhin, 2000) whereas earlier it was far second to numbers of *Phocaena phocaena* (Yaskin, Yukhov, 1997).

Mass migration southward of the shoals of dolphins composed of tens and hundred animals are observed annually along the Crimean coastline. The most numbers of the animals was recorded in September – October in the vicinity of Fiolent Cape – Sarych Cape (Birkun, Krivokhizhin, 2000). Small groups of 2–10 individuals frequently occur also in other seasons. Possibly, there were displacement of dolphins from Karkinitzka Bay due to pollution and intensive rice production in the Northern Crimea (Birkun, Krivokhizhin, 1996).

Biology and ecology

Bottlenose dolphin is a largest cetacean in the Black Sea (its length reaches up to 3.3 m). The species is of low fertility. Lifespan is up to 30 years (Tomilin, 1957) or maybe more (Klinowska, 1991). According to different estimations, females reach their maturity when they are 5–12, males – 8–15. Mating is during the whole year but mating peak is observed in spring and in early summer. Pregnancies (12 months, 1 dolphin-calf) alternate with long barrenness (2–6 years) (Tomilin, 1957), and lactation lasts 4–18 months. According to recent data (Ozharovskaya, 1997), ovulation continues from March to October and coincides with active spermatogenesis of males.

Adult animals feed with bottom and pelagic fishes including horse-mackerel, herring, khamsa, mullet, whiting, flatfish, *Mullus barbatus ponticus* (Kleinenberg, 1956). Last years their ration have been supplemented with grey mullet (*Mugil so-iuy*) (Birkun, Krivokhizhin, 1996; Krivokhizhin et al., 2000), Far East fish acclimated in the Black Sea and Sea of Azov.

Threats

As it was noted earlier, before 1980s the dolphin populations were largely declined due to purposeful whaling involving all countries of the region.

Last decade, among main threats causing a decline of the animals, antropic ones are dominant. The most essential threat comes from by-catch (Birkun et al., 1999, Ozturk, 1999) and troubling in the sea areas of intensive human activities, especially in Kerch Strait, Bosphorus and adjacent water areas (Birkun, 1999; Birkun et al., 1999). In 1990, mass mortality of bottlenose dolphin had been recorded, reasons for that were not specified (Krivokhizhin, Birkun, 1999).

As compared to above factors, trade itself is not affect significantly on the wild population of the bottlenose dolphin. It is unlikely to expect increase of threat to this cetacean because of trade in the near future, taking into account the protection status given to the species in the most Black Sea countries and its listing in appendices of various biodiversity related international treaties (Bonn, Bern conventions, CITES, & ACCOBAMS) and relevant on-going stricter measures.

Keeping in captivity and transboundary transport

In former USSR, during 1960–1980s several hundred bottlenose dolphins had been caught near Crimean shoreline and in Taman Bay for military, scientific and commercial dolphinaria. In Ukraine, according to special permits of Ministry of the Environment and Natural Resources, in 1995–2000 about 40 individuals had been caught including 3 of them within the framework of Programme for Rescue and Rehabilitation of Diseased and Injured Dolphins, one of them was released into the wild. Now 5 dolphinaria in Ukraine keep in captivity about 45 dolphins. Stationary and temporary facilities for dolphin maintenance are located in Sevastopol (two), Yevpatoria, Novoozerne (Donuzlav), Yalta, Gurzuf, Partenit, Naukove (Karadag) and Odesa (in summer).

In 1991–2000 import of live dolphins was from Russia, and export of them to Lithuania, Turkey, Iran and other. In 1997–1998 specimens of tissues from four dead dolphins were transported to Belgium and Germany for scientific purposes.

Starting from the 1st of November 2000 the CITES Management Authority of Ukraine, when it has become operating, has issued the following export permits or re-export certificates for bottlenose dolphins:

Permit/Certificate No.	Country of export (re-export)	Type of operation	Purpose	Number of specimens	Source
00UA000042	Byelorussia	Export	E	2 (male & female)	W
01UA000056	Georgia	Export	S, E	3 (males)	W
01UA000117	Turkey	Export	S, E	4 (2 males, 2 females)	W
01UA000197	Lebanon	Export	S, E	1 (female)	W
01UA000219	Saudi Arabia	Re-export	S, E	2	W
01UA000252	Russia	Re-export	S	3 (1 male, 2 females)	W

Conservation measures

Available scattered data and essential gaps in knowledge on the Black Sea marine mammals show the necessity and expedience for complex monitoring of both mammals themselves and human impact on the state of its populations. Let us take note that the research conducted on high level methodical level can only provide a good basis for development and implementation of reliable strategy for conservation and management of population of the Black Sea mammals.

Bottlenose dolphin together with other Black Sea mammals are protected by Bern, Bonn conventions and CITES to which Ukraine is a Party. ACCOBAMS is a special regional tool aimed at conservation of cetaceans in the Black and Mediterranean regions to which Ukraine is preparing to accede. This species included into Directive No. 92/43/EEC, the IUCN Red Data Book, Red Data Book of Ukraine, Black Sea Red Data Book other international and regional red lists. Other international organizations such as IWC, SSC/IUCN, UNEP pay their attention to the species. Conservation of marine mammals is one of the priorities of the Black Sea Environment Programme.

In Ukraine the species is strictly protected according to the Law on Fauna, Regulation on Red Data Book of Ukraine. National Programme “Dolphin” aimed at research and conservation of marine mammals has been developed by the Ministry of the Environment and Natural Resources in co-operation with scientists and approved in August 1999 by an Order of the Minister.

Ukraine is expected to accede to the ACCOBAMS in 2002. The country is involved in drafting of the Protocol on Conservation of Biodiversity in the framework of Bucharest Convention and elaboration of the Convention on Fishery and Conservation of Living Resources in the Black Sea in which particular attention is paid to the conservation of marine mammals.

References

1. Arsenyev, V. A. *Atlas morskikh mlekopitayushchikh SSSR*. (Atlas of marine mammals of USSR.) Moscow, Pishch. prom., 1980. – 183 pp.
2. Birkun, O., Jr. & S. Krivokhizhin. Bern species [listed in the appendices to Bern Convention] of cetaceans in Red Data Book of Ukraine. In: Ssavtsi Ukrainy pid okhoronoyu Bernskoi konventsii: Pratsi Teriologichnoi Shkoly. (Mammals under protection of Bern Convention.) / Ed. I. V. Zagorodniuk. Issue 2. – Kiev. – 1999. – Pp. 171–177.
3. Birkun, O., Jr. & S. Krivokhizhin. *Zveri Chornogo moria*. (Beasts of the Black Sea.) Simpheropol: Tavria, 1996. – 95 pp.

4. Birkun, A.A., Jr., S. Krivokhizhin. Distribution and tendencies in dynamics of number of cetaceans near Black Sea coastline in Crimea. In: Morskiye mlekopitayushchiye Golarktiki: Materialy Mezhdunar. konf. (Arkhangelsk, 21–23 sent. 2000 g. (Marine mammals of Holarctic: Proceedings of Intern. Conf. (Arkhangelsk, 21–23 September, 2000.) Arkhangelsk: Pravda Severa, 2000. – Pp. 23–27.
5. Geptner, V. G., K. K. Chapskiy, V. A. Arsenyev & V. Ye. Sokolov. Mlekopitayushchiye Sovetskogo Soyuza. Ch. 3: Lastonogiye i zubatye kity. (Mammals of the Soviet Union. Part 3: Pinnipeds and toothed whales.) – Moscow, Vysch. Schkola, 1976. – 718 pp.
6. Kleinenberg, S. Ye. Mlekopitayushchiye Chornogo i Azovskogo morey: Opyt biologo-promyslovogo issledovaniya. (Mammals of the Black Sea and Sea of Azov: Experience of biological-trade study.) Moscow: AH SSSR Press. 1956. – 288 pp.
7. Ozharovskaya, L. V. Reproduction of the Black Sea bottlenose dolphin. In: *Chernomorskaya afalina Tursiops truncatus ponticus: morfologiya, fiziologiya, akustika, gidrodinamika* (Black Sea bottlenose dolphin *Tursiops truncatus ponticus*: morphology, physiology, acoustics, hydrodynamics.) / Ed. by V. Ye. Sokolov & Ye. V. Romanenko. – Moscow: Nauka, 1977. – Pp. 114–145.
8. Seliunina, Z. Animal kingdom of the Black Sea reserve. *Zhiva Ukraina*. – 1999, ? 3–4. – ? 6.
9. Tomilin, A. G. Zveri SSSR i prilezhashchikh stran: T. IV: Kitoobraznye. (Beasts of USSR and adjacent countries: Vol. IV. Cetaceans.) Moscow: AN SSSR Press, 1957. – 717 pp.
10. Tsalkin, V. I. Some observations of dolphin biology of Azov and Black seas. Bull. Mosk. ob-va isp. prirody, Otd. biologii. – 1940. – 49, No. 1. – Pp. 61–70.
11. Yaskin, V. A. & V. L. Yukhov. Number and distribution of the Black Sea bottlenose dolphin. In: *Chernomorskaya afalina Tursiops truncatus ponticus: morfologiya, fiziologiya, akustika, gidrodinamika* (Black Sea bottlenose dolphin *Tursiops truncatus ponticus*: morphology, physiology, acoustics, hydrodynamics.) / Ed. by V. Ye. Sokolov & Ye. V. Romanenko. – Moscow: Nauka, 1977. – Pp. 19–26.
12. Androukaki, E. & E. Tounta. A study of the distribution and pathology of cetaceans in Greece. European research on cetaceans. – Lugano, 1994. – 8. – Pp. 203–206.
13. Birkun A., Jr., S. Krivokhizhin, E. Goldin, V. Pavlov, A. Artov, A. Suremkina, O. Shibanova, P. Goldin, T. Stanev, K. Mikhailov, M. Petrov, A. Komakhidze, N. Mazmanidi, M. Burchuladze, I. Goradze, G. Komakhidze, W. Baumgaertner, U. Siebert, A. Wuenschmann, L. Holsbeek, B. Ali & C. Joiris. Cetacean by catch and strandings along the North, West, and East coasts of the Black Sea in 1997–1998 // European research on cetaceans. – Valencia, 1999. – 13. – P. 81.
14. Birkun A., Jr., S. Krivokhizhin & V. Pavlov. New data on the existance of bottlenose dolphin in the Sea of Azov. // European research on cetaceans. – Kiel, 1977. – 10. – Pp. 200–203.
15. Birkun, A., Jr., M. Moldoveanu, M. Stanciu, T. Stanev, B. Ozturk & A. Komakhidze. *Tursiops truncatus* Montagu, 1821 // Black Sea Red Data Book (Ed. by H. J. Dumont, V. O. Mamaev, Yu. P. Zaitsev). – UNOPS, GEF, UNDP. – 1999. – Pp. 375–378.
16. Birkun, A., Jr. & N. Stetsenko. The Ukrainian National Programme for Black Sea dolphin populations conservation (review of directions) // European research on cetaceans. – Lugano, 1994. – 8. – Pp. 22–23.
17. Birkun, A., Jr. & N. Stetsenko. The Ukrainian National Programme for Black Sea dolphin populations conservation // Proc. 1st International Symp. on Marine Mammals of the Black Sea (Istanbul, Turkey, 27–30 June 1994). – Istanbul, 1996. – Pp. 104–107.
18. Buckland, S. T., T. Smith & K. L. Cattanach. Status of small cetacean populations in the Black Sea: a review of current information and suggestions for future research // Rep. Int. Whale Comm. – 1992. – 42. – Pp. 513–516.
19. Klinowska M. Dolphins, porpoises and whales of the World: the IUCN Red Data Book. – Gland. Cambridge: IUCN, 1991. – viii + 429 pp.
20. Krivokhizhin, S. V. & A. A. Birkun, Jr. Stranding of setaceans along the coasts of Crimean peninsula in 1989–1996 // European research on cetaceans. – Valencia, 1999. – 12. – Pp. 59–62.
21. Krivokhizhin, S. V., A. A. Birkun, Jr. & J. V. Nessonova. Prey species of Black Sea cetaceans // Abstr. 14th Ann. Conf. Europ. Cetacean Soc. (Cork, Ireland, 2–5 Apr. 2000). – Cork. – 2000. – Pp. 59–62.
22. Ozturk, B. Cetaceans and the impact of fisheries in the Black Sea // Bull. ACCOBAMS. – 1999. – No. 2. – Pp. 11–12.
23. Ozturk, B. & A. A. Ozturk. Preliminary study of dolphin occurrence in Turkish straits system // European research on cetaceans. – Kiel, 1977. – 10. – Pp. 79–82.