



ISSN 1330-0520

UDK 599.53:591.512(262+262.4)

## UNUSUAL SIGHTING OF A STRIPED DOLPHIN (*Stenella coeruleoalba*) IN THE KVARNERIĆ, NORTHERN ADRIATIC SEA

GIOVANNI BEARZI, CATERINA MARIA FORTUNA  
& GIUSEPPE NOTABARTOLO DI SCIARA

Tethys Research Institute, viale G.B. Gadio 2, 20121 Milano, Italy

**Bearzi, G., Fortuna, C. M. & Notabartolo di Sciara, G.: Unusual sighting of a striped dolphin (*Stenella coeruleoalba*) in the Kvarnerić, Northern Adriatic sea, Nat. Croat., Vol. 7, No. 3., 169–176, 1998, Zagreb**

An adult striped dolphin, *Stenella coeruleoalba*, was encountered east of the island of Lošinj on 6 May 1996, and observed from a small inflatable boat for 5 hours. The only cetacean species that has been consistently observed in the Northern Adriatic Sea in the last decades is the bottlenose dolphin, *Tursiops truncatus*.

Occasional reports of striped dolphins in the Central and Northern Adriatic Sea may simply reflect the occurrence of stray individuals, but the fact that such observations have only occurred recently might be indicative of a progressive extension of the striped dolphin's range, as has been reported for other Mediterranean areas.

**Key words:** Striped dolphin, *Stenella coeruleoalba*, Mediterranean Sea, Adriatic Sea, ecology, behaviour.

**Bearzi, G., Fortuna, C. M. & Notabartolo di Sciara, G.: Neuobičajeno opažanje prugastog dupina (*Stenella coeruleoalba*) u Kvarneriću, Sjeverni Jadran, Nat. Croat., Vol. 7, No. 3., 169–176, 1998, Zagreb**

Odrasli prugasti dupin, *Stenella coeruleoalba*, opažen je istočno od otoka Lošinja 6. svibnja 1996. godine i promatran tijekom pet sati iz malog gumenog čamca. Jedina vrsta reda Cetacea (kitovi) koja je redovito viđana u Sjevernom Jadranu posljednjih desetljeća, bio je dobri dupin, *Tursiops truncatus*.

Povremena opažanja prugastog dupina u Srednjem i Sjevernom Jadranu možda su samo pojave zalutalih jedinki, ali činjenica da su se ta opažanja zbila nedavno možda su indikacija progresivnog širenja areala prugastog dupina, a zabilježena su i u drugim dijelovima Sredozemlja.

**Ključne riječi:** Prugasti dupin, *Stenella coeruleoalba*, Sredozemno more, Jadransko more, ekologija, ponašanje.

## INTRODUCTION

An adult striped dolphin, *Stenella coeruleoalba* (Fig. 1), was encountered east of the island of Lošinj (Fig. 2) on 6 May 1996. A description of the sighting is provided here for the following reasons: 1) this appears to be the first well-documented observation of a striped dolphin in this area; 2) it relates to a single individual of a gregarious species that is commonly found in aggregations numbering a few hundred, and sometimes thousands of individuals (LEATHERWOOD & REEVES, 1983; KLINOWSKA, 1991), although Mediterranean groups are usually smaller (NOTARBARTOLO DI SCIARA *et al.*, 1993); 3) the observation took place in a relatively shallow marine area, near to the coast, whilst the species is typically found in deep offshore waters, where it may feed at depths extending well below 200 m (KLINOWSKA, 1991, NOTARBARTOLO DI SCIARA *et al.*, 1993, NOTARBARTOLO DI SCIARA & DEMMA, 1994); 4) the specimen, actively feeding and playfully interacting with the research boat, appeared to be in good health based on its behaviour and external appearance. The dolphin was observed from a small inflatable boat (Novamarine 4.60 m) powered by a Honda 50 HP four stroke engine, for a total of almost 5 hours, from 14:17 till 19:20. Position data were recorded at 3-min intervals by means of a global positioning system (GPS Magellan Nav 1000 plus). Additional observations were made from a vantage point on the coast, by means of a tripod-mounted 31x magnification monocular. The striped dolphin was alone,



Fig. 1. *Stenella coeruleoalba* (Photo by Caterina M. Fortuna)



Fig. 2. Unusual sighting of striped dolphin (*Stenella coeruleoalba*) in the Kvarnerić, Northern Adriatic Sea.

with no other dolphins sighted in the area on that day (the sea was flat and visibility was good). When first observed, the dolphin was moving south along the coast, over a muddy bottom about 65 m deep. After about 3 hours it turned around northwards at a slightly higher speed, following approximately the same path, and was left to the north of the initial position of the sighting. The behaviour of the dolphin was recorded by using a 3-min behavioural sampling technique adopted for bottlenose dolphins (BEARZI, 1994). *Ad libitum* notes were also taken throughout the sighting, together with data including respiration intervals, speed and pattern of movement, and behavioural events (terminology based on WEAVER (1987); here reported in quotes). The sounds produced by the dolphin

were opportunistically heard through a simple hydrophone set. A total of 80 slides (Ektachrome EPR 64) were taken with a Minolta dynax 8000i reflex camera equipped with 28 to 200 mm autofocus lenses. At the beginning of the sighting, the dolphin alternated ventilation sequences with long dives. It showed no initial interest in the boat, which remained 50–100 m away, with the engine off or at minimum speed. After about 15 min, the animal approached the boat by choice, positioning itself in front, and as soon as the speed increased (up to about 9 km h<sup>-1</sup>) started to »bowride«, showing signs of excitement and performing »leaps« and »skimmings«. After a short period spent bowriding the dolphin resumed diving activities. Throughout the duration of the sighting, the striped dolphin alternated behaviour patterns such as Dive and Surface Feeding (BEARZI, 1994) with interactions with the boat that the dolphin itself appeared to be actively encouraging. Two kinds of such interactions were observed: a playful one, characterized by frantic body movements, active bowriding, »breaching«, »leaps«, »scouting«, and »skimming«; and a kind of quiet bowriding during which the dolphin seemed to take advantage of the slight pressure wave generated by the boat, while positioning itself in its front and slightly on the sun side, possibly to avoid reflection on the water surface and have a better view of the boat, which was moving at a speed of 5–9 km h<sup>-1</sup>. During these displacements the dolphin breathed very regularly, performing dives of about 38 sec (from 20 to 60 sec). »Diving« behaviour was characterized by ventilation sequences and long dives lasting approximately 1 min (max recorded: 1 min 25 sec); single clicks and click trains were heard during this activity. »Dive-Travelling« (BEARZI, 1994) was also observed, in which the dolphin alternated clustered sequences of ventilations with dives averaging 1 min. On three occasions the striped dolphin engaged in obvious surface feeding activities, while irregularly moving in areas where schools of unidentified fish species (estimated to be approximately 20 cm long) were concentrated near the surface. On one occasion the dolphin was seen kicking a fish out of the water with its rostrum.

## CONCLUSIONS

In recent times, the only cetacean species that has been consistently observed in the Northern Adriatic Sea is the bottlenose dolphin (NOTARBARTOLO DI SCIARA & BEARZI, 1992; NOTARBARTOLO DI SCIARA *et al.*, 1993; KRYŠTUFEK & LIPEJ, 1993; NOTARBARTOLO DI SCIARA *et al.*, 1994; BEARZI & NOTARBARTOLO DI SCIARA, 1995). An extensive research effort focusing on bottlenose dolphin social ecology and behaviour has been conducted in the Kvarnerić since 1987 (BEARZI *et al.*, 1997). In the course of 402 surveys conducted from September 1987 to October 1996, bottlenose dolphin groups of different size and composition were observed and followed for a total of 986 hours. The only other cetacean species found during the study, the common dolphin (*Delphinus delphis*), was encountered on three different occasions, two relating to the same individual common dolphin associated with bottlenose dolphin groups (BEARZI, 1996). Erratic individuals of other cetacean

species, rarely observed in the Northern Adriatic Sea, include the fin whale, *Balaenoptera physalus*, the sperm whale, *Physeter catodon*, Cuvier's beaked whale, *Ziphius cavirostris*, the false killer whale, *Pseudorca crassidens*, the long-finned pilot whale, *Globicephala melas*, and Risso's dolphin, *Grampus griseus* (NOTARBARTOLO DI SCIARA & BEARZI, 1992; KRYŠTUFEK & LIPEJ, 1993; NOTARBARTOLO DI SCIARA *et al.*, 1994). The occurrence of free-ranging striped dolphins has been never documented in the shallow Northern Adriatic until recent times, when a few strandings and sightings have been reported near Trieste and Venice (Centro Studi Cetacei, 1990, 1992, 1997a, 1997b; LAPINI *et al.*, 1995; RALLO, 1996). More records relating to either living or stranded specimens exist for the deeper Central Adriatic (Centro Studi Cetacei, 1988, 1990, 1991, 1992, 1994, 1995, 1997a, 1997b; NOTARBARTOLO DI SCIARA *et al.* 1993; DI NATALE, 1981; GOMERČIĆ *et al.* 1994). Reports of striped dolphins in the Northern Adriatic may simply reflect the occasional occurrence of stray individuals, but the fact that such observations have only occurred in recent times might be indicative of a progressive extension of the striped dolphin's range, as has been reported for other Mediterranean areas (NOTARBARTOLO DI SCIARA & DEMMA, 1994). However, the increased interest in cetaceans in recent years may contribute to a higher number of reports and therefore to a higher chance of documenting the occurrence of stray individuals.

## ACKNOWLEDGEMENTS

We are grateful to Frans Verduin and Massimiliano Fontana for their assistance on board and for contributing to the sighting report. The dolphin research conducted at Lošinj since 1987 («Adriatic Dolphin Project») was largely founded by Europe Conservation and the Whale & Dolphin Conservation Society. The inflatable boat was provided by Novamarine.

## REFERENCES

- BEARZI, G., 1994: Behavioural states: terminology and definitions. In: G. Notarbartolo di Sciarra, P.G.H. Evans e E. Politi (eds.), «Methods for the study of bottlenose dolphins in the wild». European Cetacean Society Newsletter 23 (Special Issue), 9–12.
- BEARZI, G., 1996: A »remnant« common dolphin observed in association with bottlenose dolphins in the Kvarnerić (Northern Adriatic Sea). – European Research on Cetaceans 10.
- BEARZI, G. & NOTARBARTOLO DI SCIARA, G., 1995: A comparison of the present occurrence of bottlenose dolphins, *Tursiops truncatus*, and common dolphins, *Delphinus delphis*, in the Kvarnerić (Northern Adriatic Sea). – Annales (Annals for Istrian and Mediterranean Studies), 7, 61–68.
- BEARZI, G., NOTARBARTOLO DI SCIARA, G. & POLITI, E., 1997: Social ecology of bottlenose dolphins in the Kvarnerić (Northern Adriatic Sea). Marine Mammal Science, 13(4), 650–668.
- LAPINI, L., DALL'ASTA, A., DUBLO, L., SPOTO, M., VERNIER in GORTANIA, E., 1995: Materiali per una teriofauna dell'Italia nord-orientale (Mammalia, Friuli Venezia Giulia). Atti del Museo Friulano di Storia Naturale, 17, 216.

- CENTRO STUDI CETACEI, 1988: Cetacei spiaggiati lungo le coste italiane. II. Rendiconto 1987 (*Mammalia*). Atti. Soc. Ital. Sci. Nat. Museo civ. St. Nat. Milano, **129**(4), 411–423.
- CENTRO STUDI CETACEI, 1990: Cetacei spiaggiati lungo le coste italiane. III. Rendiconto 1988 (*Mammalia*). Atti. Soc. Ital. Sci. Nat. Museo civ. St. Nat. Milano, **130**(21), 269–287.
- CENTRO STUDI CETACEI, 1991: Cetacei spiaggiati lungo le coste italiane. IV. Rendiconto 1989 (*Mammalia*). Atti. Soc. Ital. Sci. Nat. Museo civ. St. Nat. Milano, **131**(27), 413–432.
- CENTRO STUDI CETACEI, 1992: Cetacei spiaggiati lungo le coste italiane. V. Rendiconto 1990 (*Mammalia*). Atti. Soc. Ital. Sci. Nat. Museo civ. St. Nat. Milano, **132**(25), 337–355.
- CENTRO STUDI CETACEI, 1994: Cetacei spiaggiati lungo le coste italiane. VI. Rendiconto 1991 (*Mammalia*). Atti. Soc. Ital. Sci. Nat. Museo civ. St. Nat. Milano, **133**(19), 261–291.
- CENTRO STUDI CETACEI, 1995: Cetacei spiaggiati lungo le coste italiane. VII. Rendiconto 1992 (*Mammalia*). Atti. Soc. Ital. Sci. Nat. Museo civ. St. Nat. Milano, **134**(11), 285–298.
- CENTRO STUDI CETACEI, 1997a: Cetacei spiaggiati lungo le coste italiane. X. Rendiconto 1995 (*Mammalia*). Atti. Soc. Ital. Sci. Nat. Museo civ. St. Nat. Milano, **136**(11), 205–216.
- CENTRO STUDI CETACEI 1997b: Cetacei spiaggiati lungo le coste italiane. XI. Rendiconto 1996 (*Mammalia*). Atti. Soc. Ital. Sci. Nat. Museo civ. St. Nat. Milano, **137**(1–2), 135–147.
- DI NATALE, A. & MANGANO, A., 1981: Report on the progress of Project Cetacea. VI) July 1978 – October 1981. Mem. Biol. Mar. Ocean. N.S., 11(special. issue), 1–49.
- GOMERČIĆ, H., HUBER, D., GOMERČIĆ, T., GOMERČIĆ, A., ŠKRTIĆ, D. & VUKOVIĆ, S., 1994: The striped dolphin (*Stenella coeruleoalba*, Meyen 1833) for the first time found in the Adriatic Sea in 1991. In: Proceedings of Fifth Congress of Croatian Biologists. Hrvatsko biološko društvo. Pula, 3–7 October 1994, p.340–341.
- KLINOWSKA, M., 1991: Dolphins, porpoises and whales of the world. The IUCN Red Data Book. 429 pp.
- KRYŠTUFEK, B. & LIPEJ, L., 1993: Kiti (*Cetacea*) v severnem Jadranu. Anali Koprškega primorja in bliūnjih pokrajin, 3, 9–20.
- LEATHERWOOD, S., REEVES, R. R., 1983: The Sierra Club handbook of whales and dolphins. Sierra Club Books, San Francisco. 302 pp.
- NOTARBARTOLO DI SCIARA, G., & BEARZI, G., 1992: Cetaceans in the Northern Adriatic Sea: past, present, and future. Rapp. Comm. Int. Mer Medit., **33**, 303.
- NOTARBARTOLO DI SCIARA, G., & DEMMA, M., 1994: Guida dei mammiferi marini del Mediterraneo. Franco Muzzio Editore, Padova. 262 p.
- NOTARBARTOLO DI SCIARA, G., HOLCER, D., & BEARZI, G., 1994: Past and present status of cetaceans in the Northern and Central Adriatic Sea. Abstract, 5th Conference of the Croatian Biological Society. Pula, 3–7 October 1994.
- NOTARBARTOLO DI SCIARA, G., VENTURINO, M. C., ZANARDELLI, M., BEARZI, G., BORSANI, F. J., & CAVALLONI, B., 1993: Cetaceans in the Central Mediterranean Sea: distribution and sighting frequencies. Boll. Zool., **60**, 131–138.
- RALLO, G., 1996: Guida alla natura nella laguna di Venezia. F. Muzzio Editore, Padova. 233 p.
- WEAVER, A. C., 1987: An ethogram of naturally occurring behavior of bottlenose dolphins, *Tursiops truncatus*, in Southern California waters. Master's thesis, San Diego State University, San Diego, CA. 180 pp.

## Summary

### Unusual sighting of a striped dolphin (*Stenella coeruleoalba*) in the Kvarnerić, Northern Adriatic sea

G. Bearzi, C. M. Fortuna & G. Notabartolo di Sciara

An adult striped dolphin, *Stenella coeruleoalba*, was encountered east of the island of Lošinj on 6 May 1996, and observed from a small inflatable boat for 5 hours. A description of the sighting is provided for the following reasons: 1) this appears to be the first well-documented observation of a striped dolphin in this area; 2) it relates to a single individual of a gregarious species that is commonly found in aggregations numbering a few hundred, and sometimes thousands of individuals, although Mediterranean groups are usually smaller; 3) the observation took place in a relatively shallow marine area, near to the coast, whilst the species is typically found in deep offshore waters; 4) the specimen, actively feeding and playfully interacting with the research boat, appeared to be in good health, according to its behaviour and external appearance. The only cetacean species that has been consistently observed in the Northern Adriatic Sea in the last decades is the bottlenose dolphin, *Tursiops truncatus*.

Occasional reports of striped dolphins in the Central and Northern Adriatic Sea may simply reflect the occurrence of stray individuals, but the fact that such observations have only occurred recently might be indicative of a progressive extension of the striped dolphin's range, as has been reported for other Mediterranean areas. However, the increased interest in cetaceans in recent years may contribute to a higher number of reports and therefore to a higher chance of documenting the occurrence of stray individuals.

## Sažetak

### Neuobičajeno opažanje prugastog dupina (*Stenella coeruleoalba*) u Kvarneriću, Sjeverni Jadran

G. Bearzi, C. M. Fortuna & G. Notabartolo di Sciara

Odrasli prugasti dupin, *Stenella coeruleoalba*, opažen je istočno od otoka Lošinja 6. svibnja 1996. godine i promatran tijekom pet sati iz malog gumenog čamca. Opis opažanja daje se zbog sljedećih razloga: 1) čini se da je to prvo dobro dokumentirano opažanje prugastog dupina u ovom području; 2) odnosi se na jednu jedinku inače društvene vrste koja se obično nalazi u skupinama od nekoliko stotina, ponekad i tisuća jedinki, iako su u Sredozemlju skupine obično manje; 3) opažanje je vršeno u relativno plitkom moru, blizu obale, dok se vrsta obično može naći u dubokim otvorenim vodama; 4) prema izgledu i ponašanju činilo se da je jedinka, koja se aktivno hranila i zaigrano plivala oko istraživačkog čamca,

bila zdrava. Jedina vrsta reda Cetacea (kitovi) koja je redovito opažana u Sjevernom Jadranu posljednjih desetljeća, bio je dobri dupin, *Tursiops truncatus*.

Povremena opažanja prugastog dupina u Srednjem i Sjevernom Jadranu možda su samo pojave zalutalih jedinki, ali činjenica da su se ta opažanja zbila nedavno možda su indikacija progresivnog širenja areala prugastog dupina, a zabilježena su i u drugim dijelovima Sredozemlja. Povećano zanimanje za kitove posljednjih godina moglo bi rezultirati većim brojem opažanja i dokumentiranja pojave zalutalih jedinki.