

Joan Gonzalvo is a Catalan biologist whose main research interest is the conservation of the marine environment and, more specifically, the study and conservation of cetaceans. He has participated in diverse dolphin research projects across the Mediterranean involving primarily work on fisheries interactions, population estimates and behavioural studies. During the last 15 years, he has spent over 1,000 hours observing dolphin groups in their natural environment and he has designed and executed numerous public education and awareness campaigns. Joan has worked as consultant of the UNEP's Regional Activity Centre for Specially Protected Areas (RAC/SPA) and for the Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS). Since 2006, his research activities are conducted mainly in Greece, where he leads the Ionian Dolphin Project, run by Tethys Research Institute, with the aim of ensuring the long-term viability of dolphin species living in coastal waters of the eastern Ionian Sea. Tethys Research Institute ([www.tethys.org](http://www.tethys.org)) is an Italian non-profit research organisation supporting marine conservation through science and public awareness, founded in 1986.

*August 2015*

## **What about Dolphins in Captivity? Five Main Reasons not to Keep Dolphins in a Pool.**

*By Joan Gonzalvo*

At least nineteen cetacean (whales, dolphins and porpoises) species are currently held in captivity around the world. In the EU, from 300+ captive cetaceans, the most commonly exhibited at dolphinariums are bottlenose dolphins; a species which has been the main subject of my work on dolphin research and conservation for over 15 years. During this time, I spent hundreds of hours in company of wild dolphins observing their behaviours and how they interact with each other as well as a rapidly changing environment. An important part of my work at sea involves photo-identification; a method that allows us to identify each single member of a dolphin group based on natural marks, such as nicks and notches, primarily present in their dorsal fins. Over these years, by regularly observing them, these dolphins became a significant part of my life; as such, I learnt to recognise some of them at first sight by immediately identifying their uniquely marked dorsal fins, but also I was able to identify them as individuals with their very own personalities, emotions and occasionally changing moods.

I have serious difficulties to come to terms with the idea of these magnificent creatures being held captive and seeing how dramatically different their lives are in marine parks and dolphinariums. For years the public display industry is trying to give us justifications for keeping dolphins confined, the most frequent being education, conservation, and research.

Here, I will try to argue why captivity and dolphins are incompatible by providing five main reasons:

### ○ **Dolphins are intelligent, cognitive animals.**

If we define animal intelligence as the degree of mental or behavioural flexibility resulting in novel solutions, either in the wild or in the laboratory, the intelligence of dolphins is certainly out of discussion. The behavioural and psychological literature abounds with examples of the sophisticated cognition of dolphins. They have a good memory, self-awareness, are capable of problem-solving and have many other abilities that provide evidence of their capacity to process information and deal with it accordingly. The complexity of cetacean communication has often been used as another potential indicator of their intelligence; indeed the communication capacity, or the ability to carry information, of dolphin whistles is similar to many human languages.

With their large complex brains, dolphins have fascinated all of us, scientists and general public. Their intelligence appears to at least match that of great apes and perhaps of human toddlers.

Paradoxically, it is precisely their intelligence what has made dolphins very desirable for public display, because of their ability to understand human commands and learn tricks with the sole purpose of providing entertainment to the public.

- **Cetaceans are highly mobile, fast-moving and deep-diving predators that use their three-dimensional world in fascinating ways.**

Dolphins in the wild are exposed to a rich, ever-changing environment. At sea, dolphins are always on the move, often traveling hundreds, sometimes thousands of miles. Bottlenose dolphins, for instance, in Mediterranean waters often display a high degree of site fidelity by remaining within the same archipelago or embayment year-round, but in any case, those areas extend over hundreds of square kilometres. Nevertheless, movements across distant areas can also occur; for instance, in western Greece, where bottlenose dolphins are considered to be quite strongly resident, we observed movements of nine individuals photo-identified up to 265 km apart.

Dolphins' movements and activities are largely driven by prey availability. Public display facilities argue that captivity, with its reliable and plentiful food supply, eliminates cetaceans' need to range over large distances daily. No matter what is behind their ranging patterns, the only thing guaranteed by confining dolphins in a pool, at best only six or seven times their body length, is a lack of aerobic conditioning and endless circling dolphins. Cetaceans explore their environment using eco-location, an especially adapted sonar. Their perception of the world is largely acoustic, a difference in mode of perception that makes it virtually impossible for us to picture what they see. In captivity, dolphins do not echolocate as much as they do in the wild; why should they? Dolphins in captivity have no need to do so because the surrounding environment is monotonous, predictable, and clear shallow water with good light penetration allows a very high visibility.

Dolphinaria and aquaria cannot even begin to simulate the natural habitats of these species. The natural activity levels, sociality, hunting behaviours, acoustic perceptions, and indeed their *nature*, the very essence of those creatures that I have been privileged to observe over the years in their natural environment, are all severely compromised by the circumstances of captivity (i.e., small and sterile environments).

As I am writing these lines, people are out there enjoying their summer holidays under the sunny Mediterranean weather; many of them playing in a pool. To us, humans, a pool is associated to fun, to leisure time; for some of us is even a valve to escape, by swimming away from our headaches, after a long day at work. However, those pools would certainly lose their fun and comforting properties if one was a creature perfectly adapted (through millions of years of evolution) to a limitless and constantly changing three-dimensional aquatic environment but constrained to stay there and perform regularly tricks in order to get fed or overcome the boredom and the stress of being surrounded by concrete material.

- **Social relationships play a critical role in the lives and well-being of dolphins and whales.**

Dolphins form complex societies with varying social roles in intricate social networks. In the case of bottlenose dolphins long-term field research has shown that they are characterized by a fission-fusion grouping pattern, in which individuals associate in very dynamic groups that change in size and composition, often on a daily or hourly basis. Such cooperative networks rely on learning and memory. Culture, understood as the transmission of learned behaviour, is one of the attributes of cetaceans that most sets them apart from the majority of other non-human species and is likely based on advanced social learning abilities.

When some kind of conflict within the members of the dolphin group arises in the wild, the situation is easily resolved by dispersion (one of the members in conflict will move away from the group

temporarily or permanently) and by shifting alliances; these strategies are not an option in a captivity context. Captive animals are in artificial social groupings determined by humans, in small restricted areas, and the social pressures they experience can escalate when they have no way to escape, frequently giving rise to increasingly aggressive behaviours. The resulting extreme stress suffered by dolphins in captivity can easily cause them a decline in fitness, reproductive and physiological problems or even death.

- **Dolphins have psychological and emotional sensitivity.**

As has been shown through decades of cumulative results from both captive and field studies, dolphins have spindle neurons – specialised brain cells that are involved in processing emotions and helping us interact socially. These are cells that are credited with allowing us to feel love and to suffer emotionally. That dolphins have emotions and have the capacity to grieve, supposing I had any doubt about it, is something that I witnessed some years back, in 2007, when in the Gulf of Ambracia (Greece) I came across an adult female bottlenose dolphin, who kept interacting with her recently dead newborn for at least two days. While as a researcher I must avoid being driven by my own feelings and make arbitrary interpretations, in this case I had no doubt that what I witnessed was a mother mourning the loss of her offspring. During the two days that we were able to observe her, she did never separate from her baby. She kept touching him with her rostrum and pectoral fins, occasionally lifting the little corpse above the surface, in seemingly desperate attempts to help her baby breathe. Throughout these observations our research crew could hear what somebody on board described as heart-breaking cries.

Similar observations on what is known as *epimeletic* (care or attention-giving) behaviour, involving dead or injured individuals in distress, have been shared by other colleagues working with cetaceans. Dolphin females are care-takers of the young and during the long-period of infant dependency in cetaceans, which in bottlenose dolphins can easily reach about three years, the mother will devote most of her energies to look after and to train her offspring, in what is considered an intense learning period for the calf. Hence, it has been suggested that the loss of a calf may leave the mother with a strong drive to attempt to aid her baby even if it is dead.

We should not allow dolphins' omnipresent smiles to deceive us about their true feelings, especially when they are being held captive. Let's do not forget their smile is simply an anatomical illusion arising from the configuration of their jaws; they will also die with that very same "smile".

- **For many years the public display industry has defended the idea that they serve a necessary educational purpose and have increasingly promoted themselves as conservation centres.**

I recently produced a paper entitled '*Review of dolphin shows at Italian dolphinarium*<sup>1</sup> to examine if they were effectively reflecting any dolphin's natural behaviour, as requested by the Italian legislation and, based on my own experience, how accurate and valuable was the information provided to visitors in order to increase their awareness and interest in cetaceans and their conservation. My conclusion is that virtually nothing was taught at dolphinarium during dolphin shows about natural behaviours, ecology and cetacean conservation issues. Dolphins were exhibited performing rather clownish behaviours and were presented to the public as some kind of entertainment objects rather than wild complex social mammals. The claim most commonly brandished by dolphinarium that their dolphin shows, considered for most visitors the peak of their trip, provide a great educational experience, is simply not true. The main purpose of these performances is to display dolphins for human

---

<sup>1</sup> *Review of Dolphin Shows at Italian Dolphinarium* available in pdf from the following links in English and Italian, respectively on the following websites: [www.lav.org](http://www.lav.org) ; [www.bornfree.org.uk](http://www.bornfree.org.uk)

entertainment and amusement, rather than to convey any information on the real nature of these fascinating sea creatures, while obscuring the cruelty of the obvious fact that the “performers” are captive animals exhibited for the ultimate purpose of making money.

### **So, where do we go from here?**

Considering everything said above, we must recognize dolphin complexity and sentience and protect their physical, physiological and behavioural needs. To hold dolphins in captivity is contrary to even the most basic elements of compassion and humanity and as such is to be rejected. Therefore, we should consider unacceptable for cetaceans to be held in captivity for the purpose of public display.

Far more educational alternatives to dolphinarium’s visits include, not only responsible and regulated dolphin watching activities, but also an increasing number of citizen science programs, which provide opportunities to amateurs and non-professional scientist to participate and get hands-on experience in dolphin research and conservation projects. The latter does not only provide an enriching experience to project participants but also helps scientist to have extra help in the field and additional sources of funding, which in the case of long-term projects is particularly key. Moreover, there are other valid and more affordable options for informal learning such as museums, documentaries, virtual reality exhibits, and books which, particularly nowadays with the technology and multimedia resources available, may be highly effective at teaching people about cetaceans and cetacean conservation needs.

We cannot deny that captive studies have contributed substantially to the knowledge gained over the years about these creatures. However, maintaining cetaceans in captivity for research is, at least, difficult to defend ethically. Based on everything we know now, it is imperative for us to revise our approaches to studying them. Another option, gathering momentum during the past few years, is interspecies collaborative research (ICR). This innovative approach aims at developing novel ways to address research questions under natural conditions and respecting the individual cetacean’s autonomy. ICR focuses on free-ranging cetaceans that have initiated, or chosen to participate in, sociable interactions with humans in the wild. This may result on methodological innovation and provide invaluable new insights, by developing novel ways to address research questions under natural conditions and respecting the individual cetacean’s autonomy.

Finally, if cetaceans are in all ways severely compromised by captivity, where neither their physical nor their social environment can be simulated or re-created causing boredom and inducing frustration to say the least, should all captive dolphins be released? In the event of the closure of a dolphinarium, or a live-stranded dolphin for which immediate rescue and release back into the wild is not an option, finding an adequate solution to host those animals away from their native homes is difficult. In both cases, the rehabilitation and reintroduction to the wild would be the ideal option; however, if for a number of reasons reintroduction is deemed unfeasible, those dolphins are left in the limbo of captive live. To deal with those increasingly common situations, it is of vital importance the creation of dolphin sanctuaries established solely to provide refuge and care for those individuals in conditions as close as possible to their natural habitats, where appropriate rehabilitation procedures can be implemented when needed and the culture of public viewing and entertainment do not compete with animal welfare.

Commissioned by the not-for-profit organisations LAV ([www.lav.it](http://www.lav.it)) and Born Free Foundation ([www.bornfree.org.uk](http://www.bornfree.org.uk))