

**2019** # 117

TEN SPECIES BROUGHT BACK FROM THE BRINK OF EXTINCTION!

> 25 YEARS OF CONSERVATION FROM CANARY ISLANDS TO THE WORLD

> > BYE BYE, PLASTIC







#### Cyanopsitta # 117 - 2019

A message from the President of	
Loro Parque Fundación	
When the world's largest tropical forest burns.	
Rosemary Low	3
Federica the turtle finds a new lease of life	
at Loro Parque	4
The world's birds are disappearing:	
modern zoos are crucial for their recovery	
A resounding success in Ecuador	5
Loro Parque Fundación in Pakistan	6
More than 40 years of veterinary training	
at Loro Parque	6
400 blue-throated macaws hatch in Tenerife	
Ten species brought back from the brink	
of extinction!	8-9
Children's activities	. 10-11
Women in power!	12
25 years of Wildlife Conservation from	
Canary Islands to the World	13
Poema del Mar hosts a conference on the	
conservation of the angel shark	14
BYE BYE, PLASTIC. Loro Parque Fundación	
and the University of La Laguna unite in the	
fight against plastic	15
Climate change and similar species	15
Back cover	16

#### COVER:

Grey-breasted Parakeet (Pyrrhura griseipectus)

#### EDITORIAL OFFICE:

Avda. Loro Parque s/r 38400 Puerto de la Cruz, Tenerife, Canary Islands, Spain Tel.<u>:</u> +34 922 373 841 (ext.: 281) E-mail: lpf@loroparque-fundacion.org

**EDITORIAL BOARD:** 

Javier Almunia Christoph Kiessling Rafael Zamora Padrói

El Día

**VISIT OUR WEBSITES:** 

facebook.com/loroparque

#### **MEMBERSHIP:**

help with our activities. As a member you will receive Loro Parque for free as well as providing othe contact telephone numbe

PAYEE ACCOUNTS: ACCOUNT: 0061 0168 81 0050340118 IBAN: ES40 0061 0168 8100 5034 0118 BIC: BMARES2M

IBAN: ES46 0049 0290 37 2113529526 BIC: BSCHESMM

BBVA, Puerto de la Cruz IBAN: ES85 0182 5310 6100 1635 6158 BIC: BBVAESMM

CaixaBank, Santa Cruz ACCOUNT: 2100 8602 18 02 00075369



#### Dear friends,

Another year has gone by. And as this new year, imbued with love and encouragement, begins, we hope that once you hold this edition in your hands, the wildfires that are ravaging the Amazon rainforest and Australia will have been completely extinguished. It is horrific to imagine the millions of living beings that are disappearing in the path of the flames, from fires set deliberately by human beings, and which we are unable to bring under control. Accordingly, we have decided to share some of the images of destruction that have reached us from Bolivia, although we should not forget that Africa has also seen terrible fires this year, in some cases even more devastating than those of South America, even though they have received less media coverage.

Standing as a counterweight to this sad situation, our Foundation is celebrating its 25th ANNIVERSARY!!! To honour this special occasion, we have brought the grey-breasted parakeet back from the brink of extinction, making a total of 10 species saved by Loro Parque Fundación. This is a significant figure that evidences our contribution as an effective tool in the conservation of biodiversity, providing a ray of hope for the multiple species that are critically endangered and in whose protection we continue to work tirelessly. This year, we are also celebrating the 47th anniversary of Loro Parque, without whose firm commitment, covering all the costs of our foundation, this species would not have been possible to save. And this is the reason why our foundation bears the name of Loro Parque, and why our foundation can guarantee that 100% of its donor's money is dedicated to the animals.

Our roots are getting stronger and deeper, which has been possible thanks to your support by visiting Loro Parque, since part of the entrance fee goes to the commitment of Loro Parque Fundación. Also, thanks to the support of LPF sponsors and members, we can continue our commitment by dedicating almost \$2 million to 50 projects in 2020. The \$1 million that LPF has been allocating to psittacides, cetaceans, turtles and sharks, will be increased by a large project in Bolivia. The Canary Islands Government will continue collaborating with LPF for the second year on the CanBIO project that aims the protection of the marine species of the Macaronesia from climate change. We will keep you informed in detail about these new projects, as well as the ongoing projects in future editions.

In this edition, we also discuss the consequences of climate change for the survival of endangered species, such as military macaws in Mexico, one of the parrot populations that has been most decimated over the decades as a result of poaching and deforestation, and which are now considerably more vulnerable in a context of global change. This is why in the next few years research into the effects of climate change on these species will be critical to their survival.

Lastly, we would like to tell you about a meeting of scientists hosted at Poema del Mar, involving various entities working on the conservation of the angel shark, a species that is critically endangered globally, and whose last bastion is the Canary Islands. This meeting laid the groundwork for research and conservation projects to prevent the angel shark from disappearing from our waters altogether in the future.

I would like to wish you a prosperous 2020, in which we very much hope to enjoy your continued support in our work to preserve the planet's nature.

WE CARE

V. Mullan

Christoph Kiessling. President of Loro Parque Fundación



In Bolivia, thousands of hectares of palm forests have been ravaged by fire. Photo: Marcelo Pareja

## When the world's largest tropical forest burns

The aftermath of the Amazon fires, by Rosemary Low



Red-and-green macaws (Ara chloropterus) will be one of the species hurt by the fires. Photo. A. Azcárate/ LPF

This year the eyes of the world were on the Amazon Rainforest in Bolivia and Brazil, as it burned out of control. The emphasis has typically been laid on the Amazon's importance in regulating the global climate. Rainforests will need thousands of years to recover their current

*Capacity* to store carbon. And of course, the fires themselves release even more carbon into the atmosphere. The Amazon is said to absorb two billion tonnes of carbon dioxide every year, which is approximately 5 percent of global emissions, and this capacity is diminished every year through deforestation.

For those people concerned for the region's biodiversity, the worry focused primarily on the countless life forms existing nowhere else on the planet, many of which are

endemic to small areas. These prolonged and frequent fires will inevitably cause extinctions. The deaths of a large number of birds and animals due

to starvation in the wake of the fires are tragedies that make those of us who are so far away feel powerless. The response and the solution is not as simple as planting trees, as the authorities appear to think. Rainforests are not just trees — they are vital ecosystems whose lifeforms sustain each other. The Amazon region is rich in species of parrots, and now much of their breeding habitat has been ravaged. The parrots that are confined to the Amazon and are not to be found in large numbers, such as the golden parakeet (Guaruba guarouba) and the pearly parakeet (Pyrrhura lepida) could lose sizeable swathes of their habitat.

Unfortunately, landowners set fires every year to clear new areas in order to obtain more land for planting crops and grazing stock. In Bolivia, this practice is known as "chaqueo" and, although it is banned, these fires commonly blaze out of control and often burn areas of forest. The fires were especially devastating in 2005, 2010 and 2015, due to the severe drought. In August 2019, Brazil's National Institute

#### for Space Research detected **30,901** fires in

#### the Amazon region,

almost three times the previous year's number, according to a report published in Scientific American on 13 September 2019.

In September, the smoke from these fires covered almost half of Brazil, darkening the skies above Sao Paulo, some 2,700 km (1,700 miles) away, and extending into Peru, Bolivia and Paraguay.

#### The destruction caused by fire in an ecosystem that is vital both locally and globally is huge.

Tropical rainforests generate rain, and this has a cooling effect.

What does this mean for the parrots that inhabit these areas ravaged by fire? The largest trees provide nesting sites for large macaws such as the red-and-green, or green-winged, macaw (Ara chloropterus). Without trees of that size, they simply cannot

breed. They might survive, but the population will age and it could suddenly collapse. Local populations will be wiped out. Many other species of parrot will lose nesting sites, but large trees take decades to grow to a size that serves as a nesting site for large macaws.

The catastrophe affects millions of living beings, for whose populations recovery is increasingly difficult, which is why we need to raise people's awareness through knowledge.



Access to information on this QR code.



# Federica the turtle finds a new lease of life at Loro Parque

Loro Parque has welcomed a new resident, Federica, a loggerhead sea turtle (Caretta caretta) from Italy, another of the many victims of human action.

This turtle presented

irreversible chronic spinal injuries compatible with a wound caused by the propeller of a boat, when she was rescued off the Italian coast. Federica's shell was deformed, and she has difficulty

floating, as well as potentially irreversible damage to her spine. These grave injuries mean she can never be returned to the wild and, since the rescue centre in Italy where she was saved needed the





A system of counterweights stabilises her as she swims, helping to keep her afloat Photo: LP space for other patients, she was to be put down. Loro Parque, with its high quality aquatic systems, has developed a plan for handling this turtle in a way that guarantees her welfare over the coming years.

The possibility of swimming in sea water, in an environment controlled by the aquarium experts, laboratory biologists and vets, is enabling Federica to make great progress. Thanks to her strength, turtles' capacity to learn new skills and despite her difficulties floating, her condition has improved considerably.



Use this QR code to see images of Federica.

## The world's birds are disappearing: modern zoos are crucial for their recovery

Recent scientific research on avian populations in America and Europe have yielded alarming figures on the disappearance of millions of birds over the last 50 years.

This implies a massive reduction in the number of individuals from each species. Birds resident in the world's great pastures have seen their numbers more than

halved. This is both extraordinary and worrying. The research that can be carried out using new technologies has enabled more diverse data to be compiled, including satellite images of migrations, which have thinned down notably.

The reduction in the number of individuals is just as important as the



disappearance of entire species. In this regard, as much knowledge as possible about species of birds is needed, which is why zoos and their scientists play a pivotal role, not only in maintaining gene banks for the various species, but also in making key contributions to research relating to birds. Blood chemistry parameters alone, data that are obtained regularly at zoos, may be crucial to research into what is happening in

the wild. 🔳



Team of biologists at the Loro Parque laboratory. Dr. Mª José Bernal and Rocío Quílez. Photo: LPF



skilfullv.



First offspring of one of the released individuals, photographed in the entrance to the nest. Photo: E.Jocotoco





# A resounding success in Ecuador

The process of introducing animals born in controlled environments into the wild involves a number of different factors and requires the intervention of numerous professionals if success is to be guaranteed to any degree. In the case of the **14** great green macaws that have been released into the wild thanks to the support of Loro Parque Fundación, we now know that they are surviving

Nevertheless, thanks to their ability to fly, which enables them to move out of sight of researchers in a matter of seconds, their monitoring and observation still requires a huge effort. Despite having the most modern technology, it is often difficult to follow the birds into inaccessible areas due to the rugged terrain. However, sometimes, the cooperation of local people, who in recent years have been suitably trained, enables us to discover what in the past might have remained shrouded in mystery. In this project, tracking collars provide very accurate information on movement, and the distance individual birds can cover in a single day is extraordinary. It is worth noting that in this case they do not return to the area immediately surrounding the release sanctuary, which is a good



#### Fundación Jocotoco recently gave us the important news that One of the macaws released in previous years was already flying together with individuals bred in the wild, a great success, considering this was a bird born in a rescue centre.

For a wild flock to accept one of these macaws means that a good portion of the process is working as planned. However, the researchers' monitoring and tenacity goes much further: that individual was spotted roosting inside a hole in a tree! Not only had it been accepted into a flock, but it had managed to find a partner.

This is exciting news for any field scientist who devotes his or her life to studying a species. Although the greatest excitement would come some weeks later, when a fullyfeathered chick peaked out of the entrance to the nest. And according to the field researchers, there were more surprises inside the nest.

Before sending this edition of Cyanopsitta to press, we received a photo of a second chick checking out the jungle environment along with its elder sibling.

The great green Guayaquil macaws are doing well!



Access to the pictures on this QR code



The Jocotoco team, led by Michäel Moens, locating nests at the Ayampe Reserve Photo: F.Jocotoco



One of the released individuals occupying a nest.

Photo: B.Delgado / F.Jocotoco



# Loro Parque Fundación in Pakistan

The development of aviculture in the world has become increasingly varied. Some years ago, when Loro Parque Fundación first worked in India, the pooling of knowledge and concepts had a real impact. This mutually enriching experience served to boost involvement in advanced international aviculture. Since then, the culture of psittacines in India has increased exponentially, opening up to the world, contributing experiences and significantly improving the areas of avian handling and veterinarian medicine.

This time, our veterinarian Nuhacet Fernández took part as guest speaker at the

## first congress on psittacines held in

Pakistan, where local enthusiasts were able to access shared global knowledge of this group of birds for the first time. The prestigious international speakers contributed their experience and communication capacity.

#### The meeting brought together leading breeders and professionals from

the sector, who will join this platform for accessing the latest worldwide advances in handling parrots.



The veterinarian Nuhacet Fernández and prestigious speaker Tony Silva pictured in one of Photo: F. Ahmed the interventions

## More than 40 years of veterinary training at Loro Parque them an understanding of the day-to-day operations, based on

As every year, final-year students from the Faculty of Veterinary Medicine of Giessen University (Germany) came over to Loro Parque to supplement their training.

Alongside the team of professionals that takes care of the animals on a daily basis, the students received theoretical and practical training.

Over the years, this partnership, which has proved to be highly efficient, has given students a real and highly varied perspective of advanced zoological handling and animal welfare.

For the first week, future veterinary professionals receive theoretical training, and in the second week they gain practical experience. The practical training is provided in various departments so as to afford

the specific protocols for each controlled environment.

Hundreds of students have become veterinarians of worldwide prestige, benefiting from this training that broadens their perspective as highly accomplished professionals in dealing with animals.

Applied laboratory techniques are taught by our ambassador Bärbel Köhler, whose experience in the clinical diagnosis of animals in various parts of the world gives students a broad overview of what their work might be like in a nottoo-distant future.

The mammal's enclosures, clinic, penguin enclosure, aquarium and bird conservation department afforded them the chance to be involved at crucial stages of daily handling, such as food preparation, cleaning and the development of behavioural protocols in the various facilities.

Our scientific director Rafael Zamora, representing the institution as a tutor and associate professor of the German university, gave various lectures linking the importance of the foundations of knowledge with direct experience, which must continuously be strengthened to remain abreast with the latest advances 🔳



Marcia Weinzettl (biologist) and Jorge Soares (veterinarian) taught the students about the different perspectives of working with animals at Loro Parque.



The future veterinarians received information on the Photo: LPF implementation of the Foundation's field projects. Photo:LPF













# 400 blue-throated macaws hatch in Tenerife

In Loro Parque Fundación this species has been bred 11 times more than the one living in nature in Bolivia during the 90s. Chick number 400 of the endangered blue-throated macaw, Ara glaucogularis, a species native to Bolivia, has hatched in Loro Parque Fundación.

The very first bluethroated macaw chick to be hatched in a controlled environment did so at Loro Parque. which was awarded the gold medal in recognition of the first successful such reproduction of this species.

This figure is symbolically highly significant because in their native country, Bolivia, there have been no official scientific census records of more than four hundred specimens.

Advances in handling protocols in relation to this species have made it among the most common at the Loro Parque Fundación facilities, and individuals have been sent from here to other worldwide breeding centres to continue increasing the population

in controlled environments, thereby helping to prevent the capture of wild birds for illegal trade.

#### Chick number 400 is the sibling of another 20 chicks hatched this year, in which the threshold of 400

individuals will be surpassed. These hatchings are important because it takes these macaws at least 8 years to start breeding. A compatible partner, able to feed the chicks on its own, tends to be aged over 15 and must have experience to complete the task successfully. Consequently, these are long-term, ex situ projects in which time plays a pivotal

role. The knowledge amassed clearly explains just how hard it is for these birds to recover their populations in the wild, since they must contend with the threats of deforestation, the transformation of their habitat, poaching for their meat and feathers, or simply the presence of natural predators.

Loro Parque Fundación conducts various simultaneous missions with this species:

#### maintaining it ex situ, so as to apply advanced

*research* including at cognitive level at the Max Planck Institute. as well as breeding and handling at the breeding facilities, in Situ

#### conservation in Bolivia — where Loro Parque Fundación has invested 1.945.000 USD in the

conservation of the species for more than 20 years, achieving a profound effect deep and demonstrating, once again, that the combination of actions through the modern zoo and direct action in the field, are the ultimate solution to save the species.

The combination of in situ and ex situ knowledge has been essential to the success of this project. The biologist, Mauricio Herrera (left), is the leading expert in the field of this macaw species, and Gustavo Sánchez (below) has been developing scientific work with the species Photo: Aves Bolivianas/LPF for vears.



Chick No. 400 hatched at Loro Parque Fundación. Photo: LP



vast area in which it must cover long distances over large flooded plains. Photo: LPF





# Ten species brought back from the brink of extinction!

### Loro Parque Fundación has saved another species from

extinction. Nine species had already managed to come back from the brink of obliteration, and thanks to a long and tenacious effort, the desired outcome has been achieved for species that, left to their own devices, had no hope.

Brazil is, once again, the scenario for a plan to monitor and help nesting for one of nature's tiny treasures:

## the grey-breasted parakeet (Pyrrhura

griseipectus). Located in the Baturité mountains, this species has managed to overcome projections of a stark future due to the hunting of wild individuals for use as pets, as well as the lack of suitable places in which to nest.

The partnership between Loro Parque Fundación and Aquasis has tirelessly underpinned the work of prestigious biologist Fabio Nunes and his team, who have not stopped over the years until they managed to count more than

#### 1.000 chicks hatched in artificial nests

regularly monitored as part of the project, in which the Foundation has invested US\$400,000 since 2007 to help this species.

The placement of artificial nests and their monitoring from 2010 onwards has resulted in more than 800 chicks being successfully hatched.

It has not been an easy journey, since the teams have had to prevent predators from reaching the nests, reducing the points of entry or otherwise increasing other options to help the birds survive.

Having an active in-field presence has been one of the ways to observe and learn the habits of this previously largely unknown species, about which a large amount of



for other projects of similar characteristics. Marking work has been crucial. Ringing of individual birds provides information on the movement and distribution of the little greybreasted macaws, who are

vegetation. The creation of protected areas recognised as such by the local residents is one of the many factors contributing to saving a species of which, barely a decade ago, there were no more than 100 individuals left.

Another era now begins for this species, in which an *ex situ* programme will play a part in its reintroduction into historical sites from which it has disappeared.

Thanks to birds that have been confiscated or rescued individuals that cannot be released back into the wild, a breeding

highly valuable scientific information has been obtained, potentially useful Cuban amazon Cuba Grey-breasted Parakee 2005 Brazi kemplars 2010 -2019 -2019 -0-1000 xemplars Tanimbar corella Indonesia very good at concealing 2004 - 1 00.000 Ejemplare themselves among the 2019 - 400.000 Exemplars SAVED FROM Anodorhynchus lear EXTINCTION Lear's macaw Brazil 1999 -22 Ejemplares 2018 - 1.200 Exemplars LORO PARQUE **FUNDACIÓN** WE CARE gapornis Black- cheeked lovebird Sambia 2018 - 10.000 ognorhynchus icterotis Eunymph cornutus Exemplar Yellow-eared parrot Horned parakeet Kolumhien New Caledonia 1999 -82 Exemplar 2018 -3.790 Exemplars



A pair defending its artificial nest, in which the female hatched 7 years ago. Photo: Aquasis



Grey-breasted parakeet chick (Pyrrhura griseipectus)





stock can be developed. At Loro Parque Fundación alone,

more than 60 individuals of this species have hatched in the last few years. Back in 2005, we already paid particular attention to greybreasted parakeets, knowing of their precarious situation in the

wild. The experience accumulated with the species and the fact that we can show them to visitors at Loro Parque, raising awareness about the dangers facing them. their habitat and the road to their

recovery, is a way to generate a safety net for any species that is in danger of disappearing.

It is further evidence of the importance of combining science in situ and ex situ.





The biologist **Fabio Nunes** has been participating from the beginning with passion and efficiency in the protection of this species. For his efforts and his expertise in many areas, he has received important recognition in the conservation of species.

Loro Parque Fundación would like to congratulate Fabio for his commitment to endangered species, for his loyalty and the successful alliance he has maintained with us. A fruitful union that thanks to knowledge has managed to save another species from extinction.





**№**9 | Growing, caring, creating

#### LORO PARC FUNDACIÓ

11



DO YOU KNOW WHICH ARE THE LUNGS OF OUR PLANET?

Plants are very important because they produce the oxygen that we and all living creatures breathe. This is why areas with a lot of vegetation like forests and jungles are known as the "Lungs of the Earth".

#### CURRENTLY, THOSE LUNGS ARE IN DANGER. WILL YOU HELP US SAVE THEM?

Fill the empty branches with leaves and paint them all green.

## ARSON CAN DESTROY OUR FORESTS

Help the forest guard to find the fire so that he can extinguish it. Paint blue the path that the water should travel to turn off the fire.





Fires can be natural, accidental or provoked, and may havemany different causes. Color those items you think can cause a fire.



#### DO YOU DARE TO PLANT YOUR OWN GREEN LUNG? IT'S VERY SIMPLE!

- L. Take a glass or glass jar
- Fill the bottom with natural cotton
- **3.** Add some legumes (lentils, beans...)
- **L** Sprinkle with water until cotton is moist
- 5. When dry, water again

In a few days you will be able to see how they grow!

DO YOU WANT TO SHOW US HOW YOUR GREEN LUNG GROWS? TAG US AND FOLLOW US IN OUR SOCIAL NETWORKS!

@loroparque\_fundacion

@loroparquefundacion





# Women in power!



Male eclectus parrots (green parrots, on the right) must share with many other males to obtain offspring with a single female.

With respect to the eclectus parrots, it is peculiar that the females, with its red plumage, are able to dominate several males,

with its less showy green plumage, during the breeding season. Something unusual, since in the world of parrots, it is normal for



The biologist of Max Planck Institut, Luisana Carvallo, during the research proceeding.

Photo: M.Planck

couples to remain united for life. The Max Planck Institute for Animal Cognition, based in Loro Parque, has been able to investigate details of reproduction in several parrot species, obtaining evidence that every year more valuable scientific data is obtained thanks to the work of the modern zoo.

Recently, the researcher Luisana Carvallo, who worked alongside our conservation staff for months. published, together with the team from the Max Planck Institute, a paper on the morphology and competitiveness of parrots' sperm cells. Aware that some species of psittacine are not monogamous throughout their lifetime, it has

been possible to see how the different sperm species vary in shape or are more or less mobile, depending on the competition they face.

In eclectus parrots, sperm cells have very long tails, indicating that they must be highly mobile in order to compete. And this actually makes

sense because the females

Photos: M.Pérez / LPF

### of this species in nature, once in the nest, receive the attention of

various males who bring them food at different times of day. The females also mate with all the

#### males, but none will never know if they fathered the chicks or not. This is

an evolutionary adaptation to help genetic variability and ensure a life strategy that will optimise the breeding results for this species.

Females avoid the risks of having to leave the nest to feed and ensure that their offspring thrive thanks to various consorts who spend a long time finding food over an extensive territory. If one fails, there will always be another one to take its place.

The paper can be accessed using the following QR code:



https://onlinelibrary.wiley.com/doi/ full/10.1111/jeb.13487

include the acquisition





## **25 years of Wildlife Conservation** from Canary Islands to the World

At the annual meeting of the Loro Parque Fundación Advisory Committee, held at Puerto de la Cruz (Tenerife), the decision was made to allocate US\$2 million to nature conservation projects that will be executed over the next year in all five continents. This figure brings the total sum Loro Parque Fundación has allocated to nature conservation projects to US\$21.2 million.

#### Projects focusing mainly on the Canary Islands and the rest of Macaronesia (Cape Verde, Madeira and the Azores) will receive 37% of the

funds (more than US\$706,000), followed by projects involving endangered species and ecosystems in the American continent, which this year will receive US\$667,000. Other projects in Spain and the rest of Europe amount to US\$233,000 and African projects are set to receive US\$128,000. Asia, with more than US\$79,000 and Australia-Oceania, with more than US\$45,000, completes the financing which affects all five continents, and will be distributed over 50 conservation and research projects that will be executed by 34 NGOs and universities worldwide. By country, Bolivia leads the field with a budget of US\$300.000, followed by Ecuador, with over US\$118,000 and Brazil with US\$78,000. Investment in Bolivia is especially significant, and will

of a 650-hectare estate that will be made into a Biological Reserve for the *blue-throated macaw* and

run as a biological outpost for a local university. But the list of benefiting countries is much longer, and this year the Foundation will also carry out projects in Mexico, Ecuador, Nicaragua, Guatemala, Cuba, Belize, Costa Rica, Zimbabwe, Ethiopia, Cape Verde, New Zealand and French Polynesia. Some of these projects are transnational, so their benefits will reach endangered species and ecosystems from many other bordering countries.

From the ecological standpoint, terrestrial ecosystems and species are set to receive the bulk of the funding from Loro Parque Fundación (almost US\$1,145,000), most notably for the Philippine cockatoo (critically endangered and featured on the IUCN Red List), whose project is slated to receive almost US\$80,000 to continue to safeguard populations on the island of Rasa and try to ensure that the breeding success achieved in the area can be extended to other locations in the region. Other notable projects involving terrestrial species

and ecosystems are aimed at protecting lions in Hwange National Park in Zimbabwe, the great green macaw and the lilacine amazon in Ecuador, all of which will receive more than US\$60,000 for 2020.

But we must not overlook the work

The directors at the annual meeting. From left to right: Rafael Zamora, Christoph Kiessling, Povl Joergensen, Isabel Kiessling, Juan Villalba, Roland Wirth, Nigel Collar, René Wüst, Rosemary Low and Javier Almunia. Photo: LPF

on conservation of marine species and ecosystems, to which Loro Parque Fundación will allocate more than US\$711,000 next year. Of this amount, almost three quarters will be used for the "canBIO" project co-funded by the Canary Islands Government, which was launched in 2019 with the installation of systems to control and monitor climate change in Macaronesia and its effects on marine fauna. Between 2020 and 2021, the project will install two control beacons, one on the island of Gran Canaria and the other on the island of El Hierro. These beacons will check the pace of ocean acidification rising temperature and underwater

#### noise levels. Autonomous marine vehicles will also be deployed to make measurements throughout the archipelago, to be extended to all Macaronesia by 2023.

The remainder of marine project financing will be used in the conservation of various critically endangered species such as the angel shark or butterfly ray, as well as sea turtles, orcas, dolphins, humpbacked whales and pilot whales.



## Poema del Mar hosts a conference on the conservation of the angel shark

#### Thus, the centre strengthens its commitment to the projection of endangered species

Poema del Mar recently hosted a conference on the conservation of the angel shark in the Canary Islands. The event, organised by Loro Parque Fundación, further evidences the aquarium's commitment to protecting endangered species.

The activities were open to any member of the public interested in attending, and participants included Dr. Rogelio Herrera, from the Canary Island Government's Department of Ecological Transition, and from Dr. Krupskaya Narváez and Dr. Filip Osaer, from Elasmocan; Dr. David Jiménez, from Universidad de las Palmas de Gran Canaria, and Dr. Jacobo Marrero, from Asociación Tonina

Among other topics, the experts explained the process of monitoring angel sharks in the Canary Islands via photo-

identification, acoustic telemetry and genetic and trophic monitoring, and showcased breeding areas for this species, which are vital to its conservation

This professional seminar debated on the future of angel shark conservation in the Canary Islands, by means of an analysis of the perspectives and lines of work.

#### Loro Parque Fundación: committed to the conservation of the angel shark

Since its creation in 1994, the Foundation has allocated more than US\$21,200,000 to research and conservation projects in relation to endangered species, and it has implemented more than 180 in situ and ex situ projects all over the world. Marine protection and biodiversity projects are currently being carried out in the Canary Islands, including one targeting the angel shark, in partnership with Elasmocan, and also linked to the Poema del Mar aquarium.



Dr. Javier Almunia, director of Loro Parque Fundación, chaired the session which brought together the top experts in the conservation of this species Photo: LPF



For four years, Loro Parque Fundación has been financing one of the research projects that seeks to compile a census in the Canary Islands for this critically endangered species. Photos: ELASMOCAN



Angel shark (Squatina squatina). Photo: Krupskaya Narváez (ElasmoCan)







both species.

# BYE BYE, PLASTIC

## Loro Parque Fundación and the University of La Laguna unite in the fight against plastic

#### Loro Parque Fundación presented a sculpture made from

recycled objects that shows the serious problem generated by plastic in the environment. The inauguration took place in the Paraninfo of the University of La Laguna (ULL) and was attended by more than 500 people

Present were the Rector of the ULL, Rosa María Aguilar; Professor Victoria Martín Osorio; the First Vice President of the Cabildo of Tenerife, Enrique Arriaga; the Mayor of San Cristóbal de La Laguna, Luis Yeray Gutiérrez; the General Director of Centres, Infrastructure and Educational Promotion of the Government of the Canary Islands,

María Candelaria González Morales; the President of the Loro Parque Company, Wolfgang Kiessling; the vice president of the Company and president of Loro Parque Fundación. Christoph Kiesslina: in addition to other authorities and associations collaborators.

This sculpture is part of the numerous actions against the

The director of educational promotion of the Canary Islands Government, María Candelaria González Morales, the mayor of La Laguna, Luis Yeray Gutierrez, the rector of the ULL, Rosa Maria Aguilar together with the Kiessling family during the event. Photo: M.Pérez/ LPF



Loro Parque Fundación has carried out successive plastic collection campaigns on the beaches with children. Photo: LPF



#### more than 30 tons of this material have been eliminated.

The creator of this awareness sculpture, Paolo Bonano, was inspired by the Gran Canarian artist Néstor Martín-Fernández de la Torre. For the creation of this sculpture he mostly used bottles, containers and caps of plastic. With this sculpture,

#### Loro Parque Fundación aims to raise awareness of plastic pollution in the oceans and of the terrible way it affects marine biodiversity.

The president of the foundation informed that, according to figures provided by the United Nations, 13 million tons of plastic leak into the ocean each year, causing, among other damages, the death of 100.000 marine species each year. 🔳

## Climate change and similar species

The military macaws of Mexico are very similar to the great green macaw (Ara ambiguus). They look alike in shape and colour, although the first one is smaller. It is remarkable that the largest species lives in rainforest ecosystems where there is greater availability of food, whereas the smaller one lives in semi-arid areas where it is more difficult to find food. This could be the reason for the size difference of

We know from data that the arid areas used to be more wooded and wet in the past, influencing the size of many animals depending on the availability of food. Today's climate change is occurring more rapidly and more evident. In the protected area of the Biosphere Reserve of Sierra Gorda in Mexico, Loro Parque Fundación is supporting a specific population of *military* macaws, which began their *migration three months* earlier than expected.

Normally, they migrate at the end of the year, but this time they commenced their journey earlier. The impact of the scarcity of fruit and the absence of other signals characteristic of the environment determine their movements. This has come as a surprise to scientists, since the birds are leaving their usual breeding sites, where they were afforded safety

and food for their offspring, sooner than expected.

Researchers are discovering that these macaws now consume fruits and leaves of plants that were not previously included *in their diet.* This is probably a consequence of these birds'

considerable capacity for adaptation to change. This does not guarantee the survival of the species, but it does afford some scope to scientists helping the birds in the field, and gives an opportunity to all of us who care and who make any contribution we can to curb the huge threat from climate change.



The great green macaw Militar (left). Military macaw of Mexico (right) eating fruits that do not belong to its regular diet. Photo: M.Pérez/ LPF

