

No. 1 / march 2015

zooreport

the magazine for friends of the Brno Zoo

BRNO



special supplement

ZOO REPORT PROFI

The Speech
Myfanwy Griffith

PAGE 3

Our woylies are raising a baby

PAGE 4

The Bohemian Paradise is visited by over a million tourists per year
Zdeněk Mrkáček

PAGE 5

The rescue station is accepting animals from the wild again
Jana Švaříčková

PAGES 6, 7

*A new species in the wader aviary:
the ringed plover*
Petr Suvorov

PAGE 8

Hot News

PAGE 9

*A zebra moray now rules in one of our three
seawater aquariums*
Petr Šrámek

PAGE 10

*Three species of lion fish share the tank
with moray eels*
Petr Šrámek

PAGE 11



Zooreport

the magazine for friends of the Brno Zoo
march 2015
No. 1/15, volume XVII

Editor:

Zoo Brno a stanice zájmových činností, p. o.
U Zoologické zahrady 46, 635 00 Brno,
Czech Republic
tel.: +420 546 432 311
fax: +420 546 210 000
e-mail: zoo@zoobrna.cz

Publisher:

Peleos, spol. s r.o.
e-mail: info.bno@peleos.cz

Editor's office address:

Zoo Brno a stanice zájmových činností, p. o.
redakce Zooreportu
U Zoologické zahrady 46, 635 00 Brno,
Czech Republic
tel.: +420 546 432 370
fax: +420 546 210 000
e-mail: stuchlik@zoobrna.cz

Editor manager:

Bc. Eduard Stuchlík

Specialist readers:

RNDr. Bohumil Král, CSc.
Mgr. Lubomír Selinger

Emendation:

Rosalind Miranda

Distribution:

500 pcs in the English version
1,500 pcs in the Czech version

The author of non-attributed texts is:

Eduard Stuchlík

Photos by:

Eduard Stuchlík

First page:

Red lionfish
Photo: Petr Šrámek

UNSALEABLE

Zoos as centres of conservation?

In the 2012 Zooreport my predecessor, Dr Lesley Dickie, wrote about the contribution zoos can make to the UN Decade of Biodiversity 2011–2020. We are half way through that decade and how have things changed? Whilst it is still true that good zoos have changed substantially in the past 50 years, have we changed enough; are we doing enough to conserve the amazing endangered species and their habitats? Progressive zoos do more than ensure they provide an entertaining and educational day out for their visitors. These institutions also contribute in a significant manner to conservation either *ex situ* or *in situ* or both.

Within the zoo community we are usually good at sharing information about the conservation work we do but, I would argue that we need to do more to publicise this conservation work. Do our visitors, stakeholders, politicians know about and value our contributions to conservation? Reports such as this one are a good start, but how can we do more? One way is to sign up to be partners in the UN Decade of Biodiversity 2011–2020 (<http://www.cbd.int/2011-2020/participate/partner/>). EAZA signed up in 2011 and, so far, five EAZA members are additionally listed. Considering EAZA represents over 345 zoo and aquarium organisations this number has a massive potential to be higher. Signing up is straightforward and becoming a partner means that you can freely publicise your conservation events and activities on the Decade of Biodiversity webpages.

What else are zoos doing to support conservation? Within the EAZA Strategy 2013–2016 there is a strategic aim to 'Maximise the conservation action of our members (*ex situ* and *in situ*)'. One



Myfanwy Griffith

of the sub-objectives within this aim is for EAZA members to contribute information about all their conservation activities to the EAZA Conservation Database. This revised database, launched during the EAZA Annual Conference 2014, provides a fantastic resource for institutions to record and review their conservation activities. In addition, the database will enable overarching analysis and summaries of: the types of conservation work EAZA Members are involved in, where this work takes place, the resources involved, and species and habitats impacted by our work.

Conservation work that zoos are involved in should not only be about *ex situ* breeding programmes and *in situ* projects. It is estimated that 140 million people visit EAZA zoos and aquariums each year. With this level of engagement there is also much we can do to encourage conservation and biodiversity protection activities amongst our visitors. Within the UN Decade

of Biodiversity 2011–2020 there are 20 global 'Aichi' targets. The first of these targets states that: *By 2020, at the latest, people should be aware of the values of biodiversity and of the steps they can take to conserve it and use it sustainably.*

Zoos and aquariums, their visitors and stakeholders, all have the opportunity contribute to conservation of biodiversity in a vast number of ways. From *ex situ* collaborations and breeding programme management, to involvement in *in situ* projects, to encouraging sustainable behaviour by all, zoos truly have the power to be effective centres of conservation. However, doing all this conservation work is not enough; we need to publicise it. I urge all institutions to not only sign up as partners to the UN Decade of Biodiversity but, to also highlight all we do to the widest audience possible.

Myfanwy Griffith,

Executive Director of the European Association of Zoos and Aquariums

Myfanwy Griffith

was educated at the universities of Aberystwyth (BSc (Hons) Zoology) and Manchester Metropolitan (MSc Behavioural Ecology). For her MSc thesis she studied the behaviour and ranging patterns of black-and-white colobus monkeys (Colobus guereza) in Tanzania. She began her career in zoos, firstly as a zookeeper intern, and then in the education department at Chester Zoo. During this time Myfanwy discovered her passion for wildlife education and moved from the world of zoos into that of animal management colleges. She acquired her diploma in post-compulsory education and managed BSc courses in Animal behaviour and training and Animal management and science before taking on the role of departmental manager. She joined the EAZA in 2011 in a new position of EAZA Academy Training Officer. She helped expand the number and range of training events and courses offered by EAZA so that they now reach nearly 400 people per year. As of 1st October 2014 Myfanwy took on her current role as Executive Director of EAZA. EAZA is the world's largest zoo and aquarium association, with over 345 members in 41 countries.



Woylies (female with baby) in their Brno Zoo exhibit

Our woylies are raising a baby

In one of the exhibits in the Exotarium pavilion, where we have been keeping woylies (*Bettongia penicillata*) since 2003, a woylies pair with a baby born on 7th December 2014 can be currently seen. The male, who was born at our zoo in 2005, has a female partner who was born in 2002 at Lodz Zoo in Poland. The first breeding pair came to Brno in 2003 from Ohrada Zoo in Hluboká nad Vltavou. Woylies are one of the 25 species which Brno Zoo keeps as part of the European Rescue Programme.

These small animals from the *Potoroidae* family, which originate from the southern and western parts of Australia, grow to a length of approximately 33 centimetres. The woylie is a loner except during the mating period, building one or more underground nests with the aid of its prehensile tail, which helps it to carry bark and twigs. It also uses its tail in captivity when the keepers throw bits of hay into the run. The woylies carry these to a corner of their sleeping quarters and build a nest there. Woylies rest in the nest during the day, becoming active mainly at night.

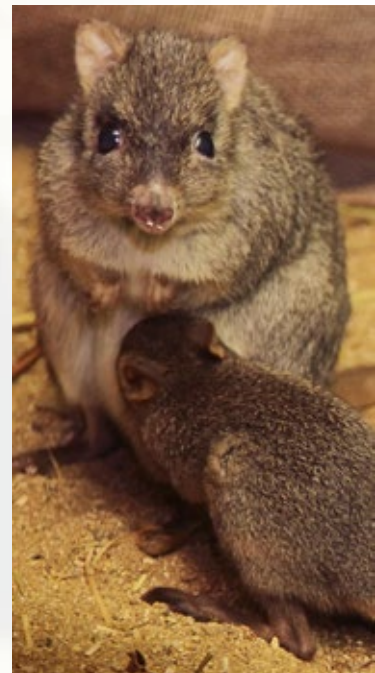
In their natural environment, they feed on insects and non-green parts of plants, enjoying underground mushrooms in the autumn. They hardly ever drink, obtaining all their water from their food.

Woylies – just like other fauna on islands colonized by Europeans – are endangered by introduced non-indigenous animal species, as well as by loss of habitat caused mainly by deforestation. They used to inhabit the whole south, southeast, and west of Australia, with their range stretching up to the Tanami desert in the Northern Territory. They populated various biotopes – deserts, scrubby bushlands, grassy savannahs, and forests. As a result of European colonization, at the beginning of the 20th century bettongs found themselves on the brink of extinction, the nominotypical subspecies from South Australia having been exterminated completely. The current population consists of only one subspecies, *B. p. ogilbyi*, which inhabits a small territory on the southwest coast of the continent. Information about whether any other subspecies existed in the past is lacking.



Photo: Petr Štármek

A female woylie with an enlarged pouch containing a baby. Photo from a fenced reserve, Warrawong Sanctuary, near Adelaide in South Australia.



Woylie female with baby

The 1970s brought the first reintroduction efforts, which involved conservationists placing woylies in many reserves. Even though the conservationists tried to remove the woylies' non-original competitors and predators, viable populations were only established on two small islands, Wedge and Saint Peter, where they are protected by the waters of Adelaide Bay against rabbits, rodents, foxes, cats, and wild dogs. Wedge is inhabited by approximately 1,500 bettongs and Saint Peter by around 2,000. Conservationists have started to release young animals bred on these islands to fenced reserves on the Australian continent.

The woylie is one of the most endangered species in the world: the IUCN red list ranks it in the CR category (critically endangered).



Common kingfisher

Photo: Zdeněk Mrkáček

The Bohemian Paradise is visited by over a million tourists per year

In 1955, the Bohemian Paradise Landscape Park was declared the first large-scale protected area in what was then Czechoslovakia. It extends across 181.5 km², covering nearly 40% of the area of the region of the same name, and is roughly bounded by the towns of Mladá Boleslav, Jičín, and Turnov.

The Bohemian Paradise hasn't always been called by that name. It came over from the neighbouring town of Litoměřicko, which is known as the Garden of Bohemia today. However, its original German-speaking inhabitants called it the Böhmisches Paradies. The oldest record referring to the current area as the Bohemian Paradise is from 1886.

Thanks to its varied geological structure, the Bohemian Paradise contains a mosaic of different environments: 'cities' of natural sandstone rock towers, extinct volcanoes, fishponds, watercourses, other wetlands, various types of forests, and dry, warm meadows. The park has something to offer almost everyone: geologists, botanists, zoologists, archaeologists, historians, photographers, film makers, painters, climbers, and tourists. As such, the Bohemian Paradise sees over a million visitors per year, the most popular locations for trips being the Prachov Rocks, Hruboskalsko, and Kost and Trosky castles.



Hruboskalsko region

The flora and fauna of the Bohemian Paradise are primarily species that inhabit the 'rock cities'. As far as birds are concerned, this means the Eurasian eagle-owl, the common kestrel, the Western jackdaw, the peregrine falcon, and the common raven. Rock-dwelling species of birds nest in natural cavities or half-cavities. Eagle-owls, kestrels, and falcons need a cavity with sand, and don't concern themselves with building any form of nest. In contrast, ravens and jackdaws, which are passerine species, do build real nests, and so are able to use even cavities with bare rock floors. The deep two-syllable hooting of the Eurasian eagle-owl can be heard among the rocks and forests from January. While it is a large owl (with a wingspan that can be more than 160 cm), its nests are not easy to find. Thanks to their protective fragmentary brown and black-shaded colouring, females of the species are very well camouflaged in their surroundings of rocks and pines, light and shadow. In addition, when sitting on their eggs or sheltering their chicks, they deliberately close their large and striking eyes so as not to be spotted.

At the beginning of this millennium, the peregrine falcon returned after an absence of more than 40 years. Today, it regularly nests in the largest groups of rock towers. Although this excellent flier hunts birds of greatly varying size

and species, not even they are successful on every hunt, and they don't always manage to raise chicks, as their eggs and young are threatened by martens. Eagle-owls also sometimes prey on falcon chicks, or even on the adult birds.

The white-tailed eagle and common crane began nesting in the Bohemian Paradise relatively recently, and the common raven also started nesting there in the 1980s. Wetland fauna has been enriched in recent years by the presence of the bluethroat. It doesn't sing as sweetly as its relative, the common nightingale, but it is one of our best imitators of the songs of other birds.

The most common bat found in the Bohemian Paradise is the lesser horseshoe bat.

Many films have been shot in the Bohemian Paradise, including a number of fairy tales. Several illustrated works have been published about the region, as well. All this speaks volumes for an area which is a prime example of the Czech countryside whose value stems from the beauty both of its components and of its atmosphere as a whole. The Bohemian Paradise is a stunning piece of natural heritage and an essential part of our culture.

RNDr. Zdeněk Mrkáček,

Zoologist for the Bohemian Paradise Landscape
Park administration



European hedgehog

The rescue station is accepting animals from the wild again

Brno Zoo reopened its wild animal rescue station on 2nd February 2015. In accordance with veterinary regulations, the facility is located outside the zoo's premises, in the cadastre of the village of Jinačovice .



Dispensary

The mission of the station is to care for animals in need, subsequently returning them to the wild. At the same time, station staff members are trying to educate the public in order to help people realize how they affect the lives of animals, and how to make the animals' lives safer.

Jinačovice station personnel often provide advice. For example, they recommend what food to provide for animals in order to attract them to one's garden, and provide information on how to treat birds which are in shock after flying into glass. Employees do sometimes travel to give aid in less critical cases, but it is often possible for the public to help animals easily themselves after speaking with station staff.



Aviaries

Aside from similar steps in public education, the station is also involved in working with students and their schools. For example, we provided basic information about rescue stations to a student who needed help with her secondary veterinary school; and we also allowed another student, who was mapping the distribution of bats, to use our own records as study material.

During the first two months after its opening, the station accepted approximately fifty animals. The majority of them were from a bat colony found in the hollow of a thick branch of a tree which had been cut down in an avenue near the chateau in Lysice. On 6th March, a vegetation maintenance specialist who works as a contractor for the local municipal authority informed us that bats waking up from their winter sleep could be heard in the hollow. That same day, he helped us break the branch to make it easier for us to take the bats out. We transferred approximately thirty common noctules (*Nyctalus noctula*) and several soprano pipistrelles to Jinačovice in transport boxes and placed them in an aviary at the rescue station building. We provided the bats with water and fed them with mealworms. Most were in good health, with only a few requiring more intensive care. These the vet rehydrated with a subcutaneous injection. Depending on their physical condition, we gradually started releasing them into the wild at the end of March – when the weather was getting warmer and insects had started flying – in a game reserve in Lysice where bats can find enough hiding places. The mayor of Lysice assured us that he would discuss any future tree felling with us so that the wintering of bats or cavity-nesting birds wouldn't be endangered.

We took care of another two common noctules on 20th March. The inhabitants of a flat in an apartment building in Brno told us that they had found them when they were looking for the cause of a noise which they could hear coming from behind their fridge. We informed the animal capture service, which brought the bats to the rescue station. These bats were also healthy, so we will release them, too, when the conditions are good. In the last decades, common noctules – which typically hide in trees – have begun seeking hiding places in the crevices of the outer walls of blocks of flats, so sometimes they fly inside through an open window. We found out while investigating the above-mentioned flat that thermal insulation was being fitted on the building's facade. Together with specialists from the non-profit organization, the Czech Bat Conservation Society, we advised the site manager about how to continue with the construction work in such a manner that more bats won't be trapped in the crevices between panels.

Today, bats are losing many of their traditional hiding places. The measures which can help bats are simple, but they need to be discussed with specialists from the above non-profit organization so that appropriate procedures can be agreed upon. Arriving at a compromise can also be a success. For example, instead of cutting down a whole tree, it is possible to leave the torso with hollows in it. Another measure would be to leave unblocked at least some hollows in buildings which are inhabited by bats. The cutting down of trees or refurbishment of buildings should take place when bats are not hibernating and when no young remain in the hiding places. If it isn't possible to leave the bats where they are, you should contact our station or the Czech Bat Conservation Society, where the resident



Feeding of a common noctule bat

specialists will recommend a way to enable the bats to leave their hiding place safely. The installation of special boxes should also be considered.

Rescue stations commonly accept hedgehogs, and they have also appeared at our station. The vet who works at the veterinary faculty handed over three European hedgehogs to the Jinačovice rescue station on 17th February. He had managed to raise them after finding that they had been abandoned in his garden. They came from a second litter, and weighed approximately 100 grams. We will release them into the wild when they will be able to find enough of their natural food.

The rescue station at Brno Zoological Gardens ceased its activities in 2011 due to a change in veterinary regulations. In order to provide its current service, the zoo rented premises owned by the



Common noctule bat

Brno University of Veterinary and Pharmaceutical Sciences in Jinačovice. In the newly adapted facility, which was originally used as a training centre for students, areas for the provision of intensive care with quarantine quarters, a dispensary, a food preparation room, a room for environmental education, and facilities for employees can all be found. Outdoors, there are fourteen aviaries and runs for follow-up care, and a vehicle with animal capture equipment is also available.

Mgr. Jana Švaříčková,

Head of the Wild Animal Rescue Station in Jinačovice, managed by Brno Zoo



Common noctule bats in a hollow in a fallen tree

Photo: Jana Švaříčková



Ringed plovers in their Brno Zoo exhibit

A new species in the wader aviary: the ringed plover

Last autumn, we released a group of six ringed plovers (*Charadrius hiaticula*) into the wader aviary in the Beringia exhibit complex. They are a new species at Brno Zoo, arriving as a gift from the zoological gardens in Dresden, where they are breeding successfully. The ringed plover isn't very often seen in zoo collections. Outside Germany, where it is kept by approximately ten zoos, the plover can only be found at two Dutch facilities, and at Cañada de los Pájaros in Spain and Plzeň Zoo in the Czech Republic.

Plovers of the *Charadrius* genus are small blackbird-sized birds. The majority of them look similar, with a brown back and head, a white belly, and a black eye mask. Their sex cannot be distinguished from their colour. This bird is excellent at running as well as flying. Even though it cannot perch on trees, it likes elevated places (stones, hills and so on) which it sits on and guards. It emits a piercing "toowi" sound while

running around the ground angrily and "pumping" its whole body. It feeds on small invertebrates, which it seeks in the ground or in shallow water.

The focal point of the nesting area is the far north, with southernmost nesting localities having been recorded in Poland, Ukraine, and Great Britain, for instance. Before winter arrives, plovers fly in large flocks to Africa. The ringed plover builds its nest in tundra areas on bare

ground in a hollow which it pads with small pebbles. The female lays two to four speckled eggs in the hollow. Both parents sit on them for up to 25 days. If there is a good range of food on offer, nesting can be semi-colonial in nature, with nests built with only 5 to 100 metres of distance between them. Plovers defend their nests against enemies very aggressively. The young have protective colouring so that they merge with their surroundings. However, if a predator does appear, the parents try to attract its attention away from their babies by pretending to be injured. When they have lured the intruder to a safe distance from the chicks, they take off.

There are more than 120,000 pairs of ringed plovers in the wild. This population is stable but not completely unendangered due to the drying out of wetlands and to crude oil pollution mainly in places where they rest while migrating (for instance on the Baltic coast). In the southern part of the nesting area, they are also endangered by American minks (*Mustela vison*) which have been imported into the European countryside. The protection of wintering places mainly against pollution from industrial waste plays an important role in the stability of the wild population of ringed plovers.

Our plovers have acclimatized to their new environment very quickly: They are eating well and prospering, living happily in the company of other wader species – ruffs, pied avocets, and Eurasian oystercatchers.

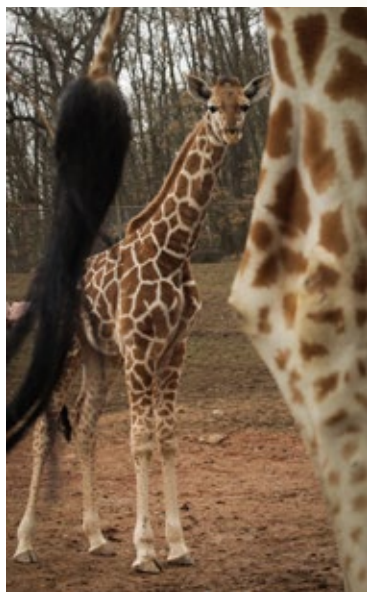
RNDr. Petr Suvorov, Ph.D.

Curator for bird keeping



Ringed plover in its original biotope (northern tundra)

Photo: Petr Suvorov



A young giraffe born in February 2015



A group of giraffes with young born in 2014 and 2013

Our herd of reticulated giraffes is the largest so far in the history of our zoo

The Safari run, which is inhabited by reticulated giraffes, Chapman's zebras, and blue wildebeest, offers an attractive view of a large herd of giraffes that currently includes three young animals. The herd, which is the largest in the history of Brno Zoo to date, consists of eight individuals.

On 13th February this year, Tosha gave birth to her third baby, a female. Due to the cold weather, we had to wait for a month to see the small giraffe in the run together with the other giraffes, among which there are also two other foals: a male born to Tabita on 22nd December 2014; and a female, Naomi, who was born to Janette on 18th June of the same year. (Actress Bara Hrzanova christened this giraffe as Naomi on 4th October 2014 at the inauguration of the African village.)



Bornean river turtle

The herd also contains the already-mentioned Tabita (Tosha's first daughter), who was born in 2010, and Taziyah (Tosha's second daughter), who was born in 2013. The two older females come from Dvůr Králové Zoo: Tosha was born there in 2006, and Janette (Naomi's mother) in 2001. The leader of the herd, the male named M'Toto, was born in Köln am Rhein Zoo in 2009. His first child is Taziyah. M'Toto is also father to three foals born after 2013.

It is clear from the facts above that Tosha became a grandmother shortly before Christmas. Janette is also a grandmother: Her daughter, Julie, and son, Verst, have already moved to a different zoo, where they have their own offspring. Younger members of the herd will also have to leave our zoo soon in order to strengthen the groups at other zoos.

Meetings with northern animals

A guided tour of Brno Zoo focusing on northern species of animals took place on Saturday 24th January 2015. The excursion, which was connected with a special feeding session accompanied by a commentary, started at 10 o'clock near the wolverines before moving on to the polar bears, northern fur seals, and reindeer. Visitors could feel how thick reindeer fur is, and those who were strong enough could try to lift the shed antlers of nine-year-old reindeer, Václav. In the heated lecture room in the administrative building, the frozen guided-walk participants thawed during the showing of the film about the Kamchatka.

The Kura Kura Project enters the second stage

At the end of 2014, Brno Zoo obtained a licence from the Conservation and Natural Resources Authority in Bali, Indonesia for the operation of a turtle rescue station on the Indonesian island of Nusa Penida. The zoo will run the station together with the Indonesian Yayasan Kura Kura Nusa Penida foundation. The first stage of the construction of the station was completed in 2009 with the help of a financial collection organized by our zoo. Another public collection for the completion and equipping of the rehabilitation centre for Indonesian turtles and the commencement of operations there should take place in 2015.



Zebra moray emerging from its hiding place under an overhang



Zebra moray with prey

A zebra moray now rules in one of our three seawater aquariums

Until recently, there were four seawater aquariums in the atrium of the Tropical Kingdom pavilion. Their complete reconstruction began last year, resulting in there now being only three, but much bigger, aquariums. Each has a volume of almost 2,000 litres, and features equipment that is still undergoing a stormy development process, but which allows the faithful reproduction of conditions below the surface of the sea. The tank which was the first to be refurbished is dedicated to the predators of the aquatic world. We intend to keep representatives of two groups there – moray eels and red lionfish. Of the approximately 200 living species which comprise the

moray eel family (*Muraenidae*), visitors to our exhibit have been able to see one zebra moray (*Gymnomuraena zebra*) and two snowflake morays (*Echidna nebulosa*).

The moray eel family has about fifteen genera (the exact number differing from author to author). They are common inhabitants of shallow, warm seas. They have a serpentine body and lack pectoral and pelvic fins, while their dorsal, caudal, and anal fins join together seamlessly. They are similar to other eels, to which they are related. Moray eels do not have scales, but their skin produces a large quantity of mucus which can be toxic. This helps to protect them from parasitic infections. Their threatening, constantly open mouth has nothing at all to do with aggression: Through it, they pump oxygenated water to their gills. The large, blunt teeth of zebra morays are adapted for the crushing of the resistant carapaces of marine invertebrates.

Morays also have another pair of “jaws”, which originated through the modification of the fourth gill arch. When the moray is at rest, these remain deep within the oesophagus. Only after catching prey does it bring its pharyngeal jaws forward in order to grip the food and slowly transfer it further into its body. Moray eels therefore swallow food in a way similar to snakes.

The zebra moray has an extensive distribution area ranging from East Africa and the Red Sea through the whole Indo-Pacific region, which includes the Hawaiian and Galapagos islands, and reaches as far south as the Great Barrier Reef, continuing along the American west coast from Mexico to Columbia. The zebra moray inhabits shallow waters with a rocky or sandy bottom, and also coral reefs at depths from 1 to 39 metres. It lives hidden in various crevices and cavities, where it lurks waiting for prey. It primarily lives on crabs, but also consumes other crustaceans, molluscs, and sea urchins. It usually grows up to half a metre in length, though some individuals can reach 150 cm.

Our zebra moray has settled down in a cavity in a big tufa rock, out of which it sometimes sticks its head. It immediately senses the presence of prey – small fish thrown into the tank by zookeepers – and pulls itself out of the narrow opening in the rock to attack. It is currently about 30 cm long.

The snowflake moray typically grows about one meter in length and lives in shallow tropical oceans at depths to 30 meters. Its distribution is similar to that of zebra moray. The snowflake moray has a white to cream colored base color with black and gold markings that run the length of its body. Moray blood is toxic.

Mgr. Petr Šrámek,

Curator of reptiles, amphibians, fish, and invertebrates



Snowflake moray

Photo: Petr Šrámek

Three species of lion fish share the tank with moray eels

The moray eels in the tank which we wrote about on the previous page share their home with three species of lion fish. The red lion fish (*P. volitans*) is undoubtedly the best known of these. There are two such individuals moving slowly and majestically around our tank and, in addition, there are also a smaller and less frequently kept spot-fin lion fish (*P. Antennata*) and a zebra turkeyfish (*Dendrochirus zebra*).

Lion fish, of which there are around twenty species in the Pteroinae subfamily, come from the tropical waters of the Indo-Pacific. With almost 400 other species, they belong to the scorpion fish (*Scorpaenidae*) family, which is widespread in tropical and subtropical seas throughout the world.

Lion fish are able to eat fish which are only a bit smaller than they are. They approach their prey very slowly and inconspicuously, then use their fan-like pectoral fins to close the small remaining difference quickly while opening their mouths extremely rapidly to suck in their unsuspecting prey. Their distinct appearance and their tendency to move slowly in open waters suggest to predators that they're inedible. The reason for this is their 18 spikes (to be exact, dorsal, anal, and pelvic fins) which have developed glands that produce a neurotoxin. When they sting, the poison is expelled from the gland, spreads along

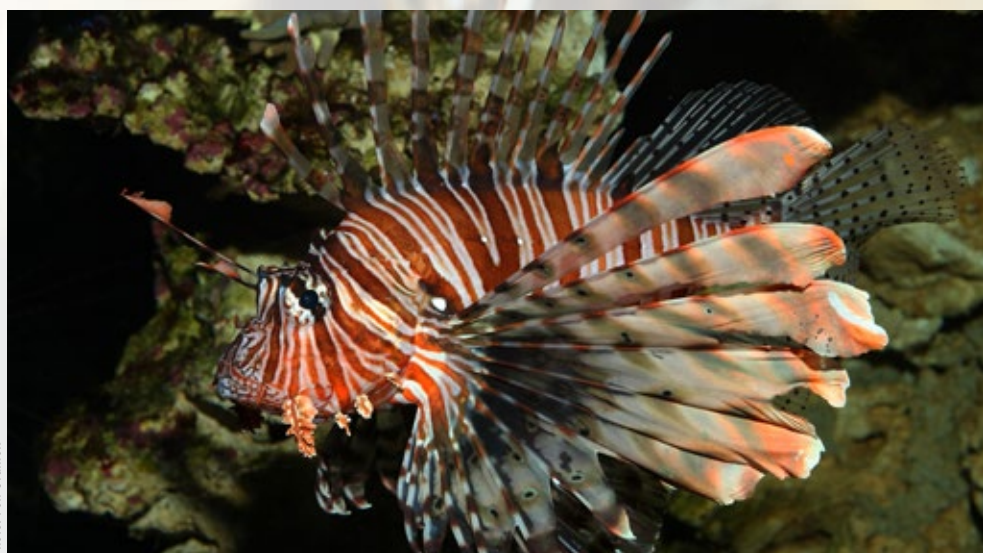


Photo: Petr Šrámek

Red lionfish

a groove in the fin ray, and enters the body of the victim. The sting is extremely painful and takes a very long time to heal, though it isn't lethal in most cases.

An interesting feature of the biology of lion fish is its shedding of the topmost layer of skin, which is probably necessitated mainly by their static way of life. Lion fish spend a long time waiting for their prey and then digesting it; so bacteria, algae, and possibly parasites can gain a foothold on their exterior. When they shed their skin, the fish also get rid of their unwanted visitors. Skin shedding is also one reason why lion fish are relatively resistant to parasitic infections in captivity.

The introduction of red lion fish to the Atlantic Ocean is one of the most serious ecological disasters ever. Scientists have discovered that all such fish in the Atlantic are the descendants of only eight females which escaped from captivity in Florida into the wild around 1985. Today, red lion fish have spread around the whole Caribbean and its surroundings, where they have a surplus of food. There are thousands of individuals, and they can eat anything which fits into their extremely expandable mouths. Other fish don't see this non-native species as a predator, and thus lack the instinctive escape reactions which would save their lives.

Mgr. Petr Šrámek,
Curator of reptiles, amphibians, fish,
and invertebrates



Zebra lionfish



Spotfin lionfish

Photo: Petr Šrámek

KURA KURA

save the turtle

Turtles have existed on the Earth for almost 250 million years. They have witnessed the rise and fall of the dinosaurs, coped with a wide variety of predators and survived climate changes. However, today they are disappearing from the surface of the Earth and zoological gardens are playing important role in the fight to preserve their gene pool.

Brno Zoo is the initiator of the Kura Kura project, the aim of which is to establish an educational centre for local inhabitants as well as tourists on the island of Nusa Penida in Indonesia. The Kura Kura ("Save the turtle!" in Indonesian) centre and rescue station will draw attention to the danger which threatens freshwater and sea turtles, one of the most endangered groups of Indonesian fauna.

You can too take part in the rescue of a very important part of our planet.
Even a small sum can make an important difference!

For more information, visit zoobrna.cz/kura-kura

Thank you for any help you can provide!

AN: 267825941/0300



B | R | N | O |

The statutory City of Brno supports Brno Zoo and Environmental Education centre, semi-budgetary organisation.

ZOO
BRNO

fb.com/zoobrna



UCSZOO
UNION OF CZECH AND SLOVAK
ZOOLOGICAL GARDENS