The Zoological Garden Newsletter

Happy and exciting news – the Syrian spadefoot toads are breeding

For the first time in ten years our Syrian spadefoot toads have laid eggs, and some of the eggs have already hatched. Our current breeding colony was established in 2013, as part of an attempt to save the toad population that inhabited the big winter pond in the Checkpost area in Haifa, before it was drained in order to build a shopping center. As part of the rescue operation tadpoles were collected and brought to the Zoological Garden, and we are happy to report that their survival rate – from tadpoles to four-year-old toads today – is about 80%.

The Syrian spadefoot toad, once called the cat-eyed toad because of its vertical pupils, is an endangered species locally, like all other amphibian species in Israel. Despite its Hebrew name – the common spadefoot toad – it is not common at all in Israel. The main threat to its existence here comes from loss of suitable habitats.

Garden news are also available at our website
A colorful romantic story with a sad ending

About a year ago, as part of the 'collect and save' mission at Beer Milka, a female common chameleon arrived at the Zoological Garden. The chameleon, a solitary animal, got used to living in a cage and it seemed that it had everything it could desire. A year passed and summer arrived again – the chameleons' breeding season. On one of the last days of August, the chameleon keepers discovered that the 'lady' had received a visitor: a male chameleon that had probably arrived by following the female's sex pheromones, and was trying to get into the cage. The enthusiastic suitor was introduced into the cage and enjoyed the generous hospitality, which included an eager female and fresh crickets. Alas, the honeymoon period was all too short – a few days later the two were observed in a completely different state: the female, wearing prominent warning colors, was hissing, threatening, and biting the male, who had turned pale. The male was released from the cage and went on its way and the female slowly calmed down. Two weeks later the female was observed wearing pregnancy coloration, not to mention chubby as a result of the developing eggs.

The story, however, has a sad ending: just before laying her eggs, probably due to 'pregnancy complication', the female died, not a rare situation in chameleons. About 40 eggs were discovered in the autopsy, but they were not developed enough for successful incubation in an incubator.
A taphonomic study in the Zoological Garden

Taphonomy is the research field that studies the destruction and preservation processes of organism remains. Understanding these processes is important for identifying the way in which fossil assemblages were formed. For instance, taphonomy research enables us to determine whether a specific fossil assemblage represents the fauna that dwelled in that area in the past, or the dietary preferences of a specific predator species. As part of Orr Comay's recently completed Ph.D. research (supervised by Prof. Tamar Dayan), the remains of prey found in the pellets of different owls (little owl, barn owl, long-eared owl, tawny owl and Eurasian eagle-owl) that live in the Zoological Garden, were examined. The owls were fed with house mice and their pellets were then examined in order to detect patterns in the damage caused to the prey remains – taphonomy prints. The research employed traditional taphonomic indexes (fragmentation, corrosion, and relative frequencies of skeletal parts) and also a modern taphonomic index – the fracture index, which examines cracks and marginal damage to limb bones, whose taphonomical significance had been ignored until now. The results of this research will help to identify owl species in fossil assemblages at a higher probability than had been possible to date.

Wonderful nest-building in the monk parakeet research colony

Twenty-five monk parakeets currently live in the research colony and nest-building is at its peak. The parakeets are provided with large nesting boxes and suitable twigs, and have started work. The nests are built partially in the nest boxes and partially on top of them and among them, as can be seen in the photos.
The nests typical to this species are made of twigs and branches that the parakeets cut to the right size and then weave into a big nest. Usually, one very large nest is home to several pairs of parakeets. Each pair has its own entrance corridor that leads to an internal chamber in which the pair sleeps and breeds. Since the nest is also used for sleeping outside the breeding season, nest maintenance is carried out all year long. The parakeets spend much of their time at the corridor entrances, where they can easily be observed.

**The rock hyrax group**

In the rock hyrax research cage, located next to the northern wall of the ibex cage, live eight hyraxes. Five of them arrived from the area of Abirim in the Upper Galilee and were joined by three hyraxes already living in our garden. The eight hyraxes have succeeded to form a functioning social group and are now acclimatizing together in their cage.

**An extended and mixed-species cage for water birds**

The relatively crowded cage of the white-eyed gulls has been joined to the adjacent spoonbills' cage. The connection between the cages was done gradually: at first only a low

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opening was formed, through which only the gulls could move between the cages. After two weeks of observations, in which the dynamics of all the cages' inhabitants were examined and no negative interactions were detected, the upper part of the cage was also joined, and the spoonbills can now also move between the two cages. Today, all are dwelling peacefully together in the extended cage: the single slender-billed gull that lived in the spoonbills' cage has joined the white-eyed gull flock and behaves as part of it, and the stone curlew and the red-billed duck, which also lived in the spoonbills' cage, spend most of their day in the company of the gulls. The white-eyed gulls, in spite of the huge space now available to them, nonetheless prefer to spend most of their time close to each other, in a dense flock.

As can be seen in the photos, the white-eyed gull chicks that were hand fed have also integrated successfully into the flock. As you might remember, at the beginning of August

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abandoned eggs were found in the white-eyed gulls' cage, and were collected and incubated in an incubator. Altogether, five chicks were fed by hand and returned to the flock at different stages. The first two chicks were returned to the flock when they already had down feathers; in other words, they were relatively mature. They integrated easily into the flock, but continued to emit young gulls' calls and did not fully develop the variety of adult calls. The third chick was returned to the gulls' cage when it was only a month old. It was introduced into the adults' cage sheltered in a small cage in which it spent the day. At night it was taken into a warm room inside the building. Thus, this chick was exposed to adult gulls when it was quite young and, indeed, when it grew up it emitted adult gull calls. Consequently, the two other chicks that were hatched in the incubator were introduced into the adults' cage when they were only a few days old and thus were exposed to adult gulls throughout their growth period. And indeed, these chicks too learnt the adult calls and emitted them from an early age.

Animal enrichment in the Zoological Garden

As part of the effort to promote animal enrichment in the Zoological Garden, and as an initiative of Afrin Bonshtein, a volunteer who was involved in an enrichment project in the Zoological Garden, the garden's workers were invited to a lecture on animal training and enrichment. The lecturer was Gali Berkovich, training and enrichment coordinator at the Zoological Center Tel-Aviv Ramat-Gan (Safari), who shared some of her vast experience with us. It was decided that Ehud and Aluma, the animal keepers, would be responsible for the Zoological Garden's enrichment program. They will receive training and enrichment protocols from Gali, adapt them to the Zoological Garden, and plan new and varied enrichment activities that will be assimilated into the keepers' routines.
One of the activities already being carried out to promote our animals' welfare is that of allowing the hyena to spend several hours a week in the wolves' yard. Before the hyena enters the yard the wolves, of course, have to go back inside their cage. Despite our best intentions, however, our elderly hyena does not like upsetting its daily routine. It goes out into the yard, makes a short round, and then sits next to its cage door and 'asks' to go back inside.

Zoological Garden newsflash

A female Rüppell's fox that was born in the Zoological Garden in 2001 was moved to the cage between the jackal cage and the mongoose cage. She is a very curious animal and can be seen spending much of her time checking the new environment.

Three eggs were found in the cage of the dune geckos (Stenodactylus petrii). Since the cage is not suitable for incubation, the eggs were taken to be incubated in the warm reptile room. By the end of September two of the eggs had hatched, but only one hatchling survived.

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Winter is coming and the yellow-legged gulls are here again. They can be seen on the main grass area, near the pond, but also outside the garden – on the high lamp posts along the road or soaring in the Ramat-Aviv skies.

The young vulture, which arrived at the Zoological Garden at the beginning of May from the Nature and Parks Authority, to be adopted by our old vulture couple, has grown up and was transferred in mid-September to Ramat HaNadiv, in preparation for its release back to nature.

In the first week of September three pups of the fat sand rat (*Psammomys obesus*) were born in the big cage in the reptile yard. Usually the pups do not leave the den before they are fully independent, but this time they peeked out earlier than usual and allowed us to see them. Later, several other females also gave birth and the fat sand rat colony is now thriving.

Our two young hares were released onto the main grass area. If you are lucky enough, and walking in the garden in the early morning hours or before sunset, you might see them.