

January  
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# Enviroscope

Keeping Guides on Target



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## Do humans live longer in jail?

As a guide, how many times have you been asked this question?

*How long does a giraffe (elephant, lion ...) live?*

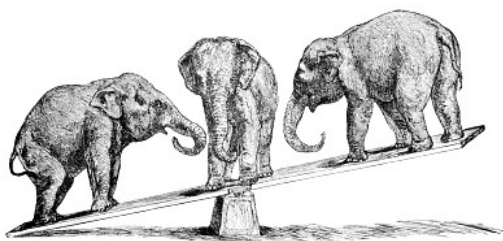


The almost universal reply is to give a rough figure for the animal's lifespan and then to add the qualifier "but they can live up to xxx years in a zoo."

I have never really given this common wisdom much thought, but on reflection it would seem to be a spurious argument. Without access to a complete range of dietary requirements, exercise and social stimulation, is it likely that prison inmates will live longer than they would on the "outside"? I doubt it. Why should things be any different for animals?

While some species may benefit from the absence of their natural enemies in zoos, and therefore exceed their natural lifespans, this is definitely not the case for elephants. In fact African and Asian elephants in the wild live more than twice as long as those in zoos do. This has given rise to concerns for the welfare and mental health of captive elephant populations around the world.

The average African elephant cow lives to be just under 17 in a zoo but those living natural lives in Amboseli National Park in Kenya lived an average of 56 years. British and Canadian scientists who conducted a six-year study into this believe that obesity and stress are just two of the likely factors for their early demise. Also seen are accidents, infanticide, herpes, tuberculosis, lameness, infertility, and stereotypic behaviours. Zoo elephant populations are not self-sustaining without importation of wild stock. This makes it certain that the future survival of the species cannot be left to "ex situ" conservation.



## The Milky Way does have a black hole!

It has long been suspected that there was a black hole at the centre of the Milky Way, and now that suspicion has been confirmed. A super-massive black hole (to give it its proper term) of around four million solar masses has been empirically confirmed to exist at the centre of our galaxy. It lies around 27000 light years from earth so there is no immediate danger of us plunging into the abyss any time soon!

In fact, black holes are not the dangerous all-consuming things they are usually made out to be. Like the grain of sand that causes the formation of a pearl, black holes allow swirling clouds of space gases and dust to congregate and to form into galaxies, planets, stars and many of the other wonders of our universe.

## What is it?

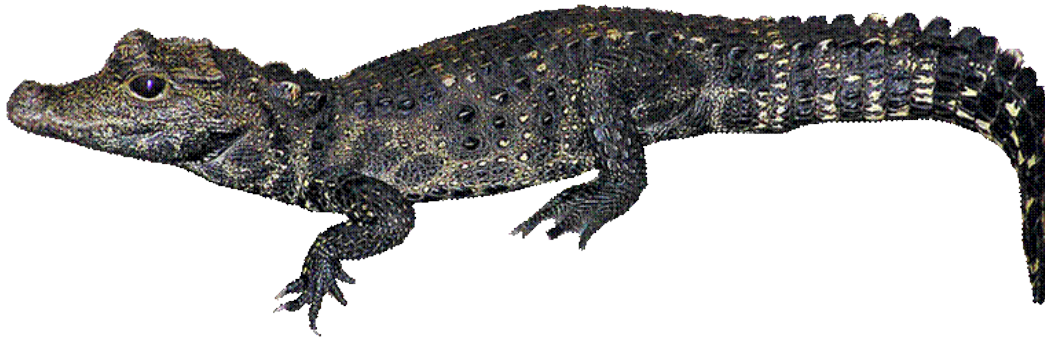


To which common bushveld animal does this eye belong?

[Click here for the answer](#)

## African dwarf crocodiles split into three distinct species

This genetic analysis thing is really adding new species to our already huge list of species on earth! The dwarf crocodiles of west Africa were always regarded as the same species, but with two distinct subspecies existing in different areas. Now a study conducted into their DNA has shown that the two are in fact distinct species. To make it interesting, they have also discovered a completely new species in far west Africa, that was masquerading as the old one.



Study leader Mitchell Eaton of the American Museum of Natural History says that there may be even more species that haven't been sampled yet. African dwarf crocodiles all fall into the genus *Osteoleamus*, the species being *osborni*, *tetraspis* and the yet-to-be-named newcomer.

Dwarf crocs are widely hunted for "bush meat", this and deforestation being the biggest threat to their survival. All are listed as vulnerable on the International Union for Conservation of Nature's Red List.

"The planet isn't going anywhere. We are!  
Pack your shit, folks. We're goin' away."

George Carlin

### **The camels must go!**

More than a million feral camels are eating their way through the sensitive Australian outback in yet another introduction disaster in that country. A month or two ago, Australians were urged to begin eating kangaroos for the reason that their population too is out of control. Now in a similar plea, people there are being urged to eat more camels. Professor Murray McGregor of the Desert Knowledge Cooperative Research Centre said *"Eat a camel today, I've done it. It's beautiful meat. It's a bit like beef. It's as lean as lean, it's an excellent health food."*

The Australian Department of the Environment lists feral camels, horses, donkeys, pigs, wild rabbits, red foxes, cats, goats and cane toads as animals of "significant concern."

### **Mekong River the new biological hotspot**

If one spoke to any soldier in the Vietnam war, the Mekong Delta was not a good place to be. Now biologists are amazed to find that this little studied area is turning up undiscovered species day after day and is in fact a "biological treasure trove". The area consists of the rainforests and wetlands along the Mekong River,

which flows through Cambodia, Laos, Myanmar, Thailand, Vietnam and the southern Chinese province of Yunnan.



*Fig 1: Mekong giant catfish weighing 273 kg*

In the last ten years the area has revealed at least 1068 previously unknown species, including the world's largest spider (30cm leg span), the Laotian rock rat (thought to be extinct 11 million years ago), and a shocking pink millipede. Also newly discovered are 519 plants, 279 fish, 88 frogs, 88 spiders, 46 lizards, 22 snakes, 15 mammals, four birds, four turtles, two salamanders and a toad - an average of two previously undiscovered species a week for the past 10 years.

The river is home to over 1200 species of fish, among them some of the largest freshwater fish on earth. The rare Irrawaddy dolphin is also found there.

### **2008 was one longer by 1 "leap second"**

December 31 2008 was exactly 1 second longer than normal due to a leap second that was tacked onto atomic clocks around the world. One ways of defining a day is by the time it takes the earth to revolve around the sun and the other is by measuring an exact portion of time using an atomic clock. Because the earth's rotation is slowing down ever so slightly the two systems are constantly at odds with each other. To counteract this effect, a second was added on to bring them into synch. The last leap second was added in 2005.

## Kruger croc deaths still a mystery

The deaths of several hundred crocodiles in the Olifants River in KNP has still got scientists stumped. The cause of the deaths is now known to be pansteatitis, but the reason for them getting the disease is still not understood.

Pansteatitis results from a variety of sources, one of which is eating rancid fish oil. The body fat of the victim turns hard and causes immobility and eventually death results from starvation, dehydration etc. The disease is mostly caused through low antioxidant levels. Although the deaths are not the result of direct poisoning from organic pollutants and heavy metals, there is a knock on effect that is causing the apex predators of the river to be affected.

If the agent of the deaths was understood, then surely it would be easy to find the source of the rancid fish oil? Unfortunately this is the difficult part of the riddle to solve. It was first suspected that poachers from Mozambique were setting their gill nets but not clearing them often enough. The dead fish then decayed and were eaten by the crocs. Voila! - source of pansteatitis explained. Unfortunately things are more complicated than this since no abnormal fish mortalities have been recorded in the river system.

In an attempt to solve the mystery, South Africa's leading researchers, scientists, conservationists and wildlife pathologists have joined forces in an initiative called the Consortium for the Restoration of the Olifants Catchment (Croc), led by SANParks. Fishes caught and analysed from the Olifants gorge have all been found to be unhealthy, their gills and internal organs being affected by (it is thought) exposure to toxic agents, which are believed to somehow be creating the pansteatitis condition in the crocs.

Although the exact cause of the deaths is still unclear, it is becoming more and more apparent that they are the result of an unhealthy ecosystem caused directly by human activities in the catchment area.

"When one tugs at a single thing in nature, he finds it attached to the rest of the world".

John Muir

## Cheetah origins in question

Science and scientists have a great knack of making unwitting liars out of people. Today's new and "ground breaking" research becomes tomorrows untruths, fibs and misinformation. What I am getting at here is the latest findings regarding the origins of cheetahs.

Previous scientific understanding had it that cheetahs were an ancient lineage of cats (*Miracinonyx*) that evolved in the Americas and not in Asia like almost all other cats did. The evidence they say, showed that the closest living relative of the cheetah was the cougar. This conclusion was based on morphological features. Who are we to dispute such findings and conclusions?



Fig 2: Recreated skull of *Acinonyx kurteni*

Well it turns out that I'm a liar again. I recently told some guides about this but now have to retract my words. The latest research on their origins has come up with a beautiful fossil skull of a cheetah species that dashed around in China some 2 to 2.5 million years ago. The skull is anatomically similar to those of modern cheetahs and the species has been dubbed *Acinonyx kurteni*. This is one of the oldest fossil cheetah finds to date, but what makes it interesting is that it has a set of primitive features that pre-date those of all other cheetahs known. This indicates that the species was a predecessor of all cheetahs in both Africa and America. It is unclear whether the cheetah then crossed the Bering Strait into America, or if the American lineage of cheetahs evolved separately.

In all, only five or six species of cheetah and cheetah-like animals are known from the fossil record, with only one species still alive today.

## Putting a value on trees



The value of a good shade tree has long been known to country folk, but now a scientific study has sought to place an actual monetary value on them.

The cooling effect of a shade tree on the west or north of your house will have a small but valuable impact on the amount of electricity needed to cool the home – around \$25 per year. Although this is not much, if done on a large scale, the impact could be tremendous.

## Faroe Island Grindadráp

I recently received an email regarding the slaughter of long finned pilot whales that takes place each year in the Faroe Islands. My friend was very concerned and asked if I could send the message to the relevant people in my mailing list.



The main thrust of the message is shown (unaltered) below.

**DENAMRK: WHAT A SHAME, A SAD SHAME. THIS MAIL HAS TO BE SEEN . THERE IS NO WORST BEAST THAN HUMAN KIND ITSELF!!!!**

*While it may seem liar even today continues to be made this time of year BRUTAL, Dantesque, bloody slaughter in the Faroe Islands, which belong to Denmark. A country supposedly 'civilization' AND EUROPEAN UNION country. For many people this attack to life is unknown, to sensitivity. IN THIS bloody slaughter to attend Moz to 'show' entering adulthood (!) Is absolutely incredible that no one does A SHIT to prevent this barbarism that are committed against Calderon, an intelligent dolphin who has the particularity of approaching People out of sheer curiosity. fwd this everywhere, PLEASE.*

I looked at the content of the letter and began to wonder how often it is that we point fingers without giving the matter the proper thought. I investigated the whale hunt and came up with the following points for consideration.

- The annual harvest of pilot whales dates back 1200 years into the middle ages. Something tells me that the harvest is sustainable!
- In years when the necessity for meat and other whale products is not high, the hunt is banned. There is no commercial incentive for the harvest, all products being divided up among the inhabitants.
- Contrary to what the story says, there is no rite of passage associated with the hunt. It is open to all and any willing participants.

- Ironically, although around 850 animals are killed per year (averaged from 1709 to 1999), the *Grindadráp* is now being threatened because the meat of the whales is found to contain dangerously high levels of mercury, making them unfit for human consumption. **It is you and I folks, that are putting that mercury into the sea!**
- Unlike the accusations of the naysayers, most are not "left to rot" and are used by the community as a major meat source, to make shoes and a host of other things. By mass, 90% of the carcass is used.
- The species is listed by the IUCN as Least Concern, estimates of their numbers are around 750000 in the wild.
- Like other small island countries, the Faroes have to obtain their protein from somewhere. For this they have always turned to the sea since the land is cold and largely unsuitable for ranching cattle or other domestic animals.
- Although the Faroe Islands are officially part of Denmark, they are largely autonomous and have their own government. They are NOT directly part of the EU. Denmark also has nothing to do with the event, which is particular to the islanders only.

I guess that the sight of so much blood and the brutal hacking at innocent and intelligent animals pulls at our heartstrings in ways we do not feel for chickens, pigs and sheep. There is no nice way around the fact of carnivory. Death, blood and savagery are all part of the deal no matter which way you look at it. For those of us honest enough to kill our own animals for food, the personal act of killing demands of us that we do so as quickly and humanely as possible. **Lets hope the same goes for the Faroese.**

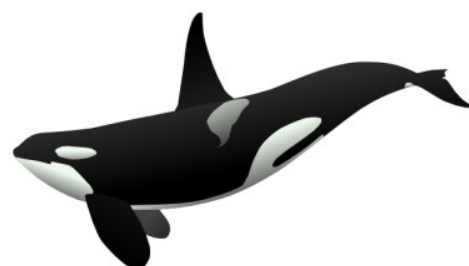
The following reference may be interesting:

1. Killing methods and equipment in the Faroese pilot whale hunt.

<http://www.whaling.fo/nammco99whalingandanimal.htm>

2. Marine mammal hunts

<http://www.highnorth.no/library/Hunts/cont-hun.htm>



**What is it – Answer**



The eye shown belongs to the foam nest frog (*Chiromantis xerampelina*). The horizontally elliptical pupil distinguishes it from those seen on snakes and geckos. Reed frogs also have this pupil arrangement. The advantage of the horizontally or vertically elliptical pupil was discussed recently in this newsletter.

**Very latest on cheetah breeding**

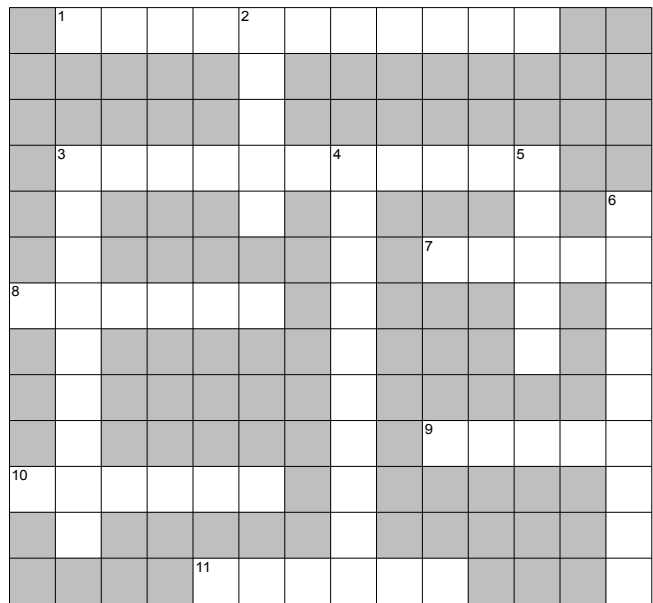
As yet unpublished research into cheetah reproduction has discovered that a males-only "bark" is used to stimulate egg production in females. Unlike other cats which are polyoestrous (meaning they ovulate regularly and frequently) cheetahs ovulate only irregularly and infrequently. Consequently, cheetahs are notoriously difficult to breed in captivity, this being one of the biggest drawbacks to their long term conservation.

While studying cheetah vocalisations in San Diego Wild Animal Park, two bioacoustics researchers accidentally stumbled on the discovery. They noticed that a few days after the "stutter bark" began, mating resulted. Knowing that single sex calls among mammals were usually reproduction related, they experimented further. A sexually mature female was introduced into an enclosure with two males and the relationship of stutter bark frequency was plotted against the level of reproductive hormones found in her faeces. What they found was a very tight correlation between call frequency and steadily increasing hormone levels over a period of days.

It is not clear from the article whether mating resulted or not, but the obvious significance is that recorded sounds may be used to artificially manipulate the oestrous cycle of female cheetahs and thereby facilitate captive breeding.

To hear the call, click [Cheetah stutter bark](#)

**Crossword**



EclipseCrossword.com

**Across**

1. Yellow carotenoid pigments in plants and animal fats and egg yolks. (11)
3. Feeding on fishes. (11)
7. A word describing a backbone, or a kind of "thorn". (5)
8. A cylindrical spike like inflorescence seen on many trees. (6)
9. Periodic shedding of the outer skin in reptiles and feathers of birds (5)
10. A hole made by an animal, usually for shelter. e.g. kingfishers. (6)
11. A hard glossy mineral consisting of silicon dioxide in crystal form. (6)

**Down**

2. A U-shaped bone at the base of the tongue that supports the tongue muscles. (5)
3. A chemical element (along with Sodium) which is vitally important for conducting nervous impulses. (9)
4. Tubular egg-laying structure at the end of the abdomen in many female insects. (10)
5. The brightest star in the Virgo constellation. (5)
6. A form of igneous rock consisting of extremely coarse granite resulting from the crystallization of magma rich in rare elements (9)

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