African Cobras...pg26

Breeders Spotlight...pg16

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REPTILE AND EXOTIC PET MAGAZINE

Vol. 12 | No. 03 | May/June 2018

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Easier Than You Thought. Maternal Incubation in Ball Python

Breeders Most Wanted

Uromastyx Care Guide

Pg. 32

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Pg. 38

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Contents UE

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features

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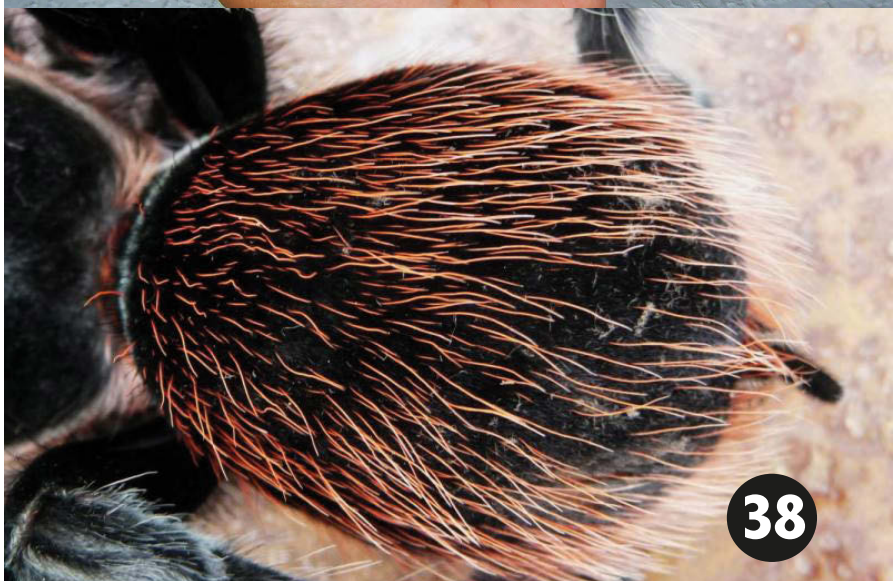
regulars



From the Editor...

March is here and the first Reptile Expo of 2018 is kicking off. We hope everyone had a good season with their reptiles and managed to breed the species they were hoping to breed. At Ultimate Exotics we have loads of new hatchlings and we spending allot of our time setting up new babies and making sure they eating properly before they are ready to be sold.

At this time of the year we normally start to see a shortage of rodents, but I must say it hasn't seemed as bad as last year, well not yet! It could be because of the shortage last year more breeders setup breeding racks or it could be that with the increase of breeding we have had in our rodent breeding facility we have managed to supply many more breeders.

As you can see by our front cover we have an exciting new article on a world first breeding here in South Africa of the Albino Gaboon Vipers by Bjorn Unger. Bjorn shares with us this amazing experience he went through with the ups and downs it truly is an incredible story and I hope you enjoy it.

Our colubrid of this issue is on one that used to be available in South Africa but now has disappeared and that is the Bull Snake. Bullsnakes are large, heavy-bodied constrictors covering the central US. Their range extends from Northern Mexico and continues all the way up to Southern Saskatchewan and Alberta, Canada. Adult length averages from around 1.5m to 2m. They commonly have a base colour of yellow or yellowish brown with darker saddles covering the upper part of the body. The pattern near the head is generally more dense and dark, turning into dark bands towards the tail. There are many regional variations on this coloration with some of them being more red or sandy coloured as adaptations to their local environment. In the wild, their habitat ranges from near rivers to semi-desert. They are avid burrowers in search of food and shelter and are built for digging in loose soil. Their prey is mainly rodent species however they also eat birds and their eggs.

For our tarantula fans we have a great article on a popular Baboon Spider Cameroon Red Baboon. This is a large African burrower indigenous to the West African countries of Cameroon, Congo, Gabon, Equatorial Guinea, Guinea and Zaire. It was first described by Pocock in 1897. This tarantula is often commonly called the "tawny red" baboon. This Tarantula has varied colorations depending on it's molting cycle. Just after a fresh molt, it is generally pretty much black looking, it will gradually turn a reddish brown color and even pick up some orange coloration prior to molt. This Tarantula is not "striking" in appearance, but very beautiful in it's own way. It generally looks "tawny red" hence, the common name. They have thick rear legs which are believed to aid them in burrowing, though not as pronounced as the "King Baboon". As with all tarantulas, it is very important to research their natural habitat so that you can duplicate it as much as possible in captivity.

Don't forget to take a look at our website www.ultimateexotics.co.za which is now South Africa's leading online reptile store where we have an ever increasing range of specialist reptile products and reptiles for sale online. You can also subscribe to Ultimate Exotics on our website and get the magazine delivered directly to you for less! Thank you to everyone for their support. Happy reading and happy herping!

The Ultimate Exotics Team

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July/August 2018	20 May 2018
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November/December 2018	20 September 2018
January/February 2018	20 November 2018

ULTIMATE EXOTICS
REPTILE AND EXOTIC PET MAGAZINE

volume 12 | number 03
May/June 2018

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The Standard Bank of S.A. Ltd
Hillcrest Branch 045726
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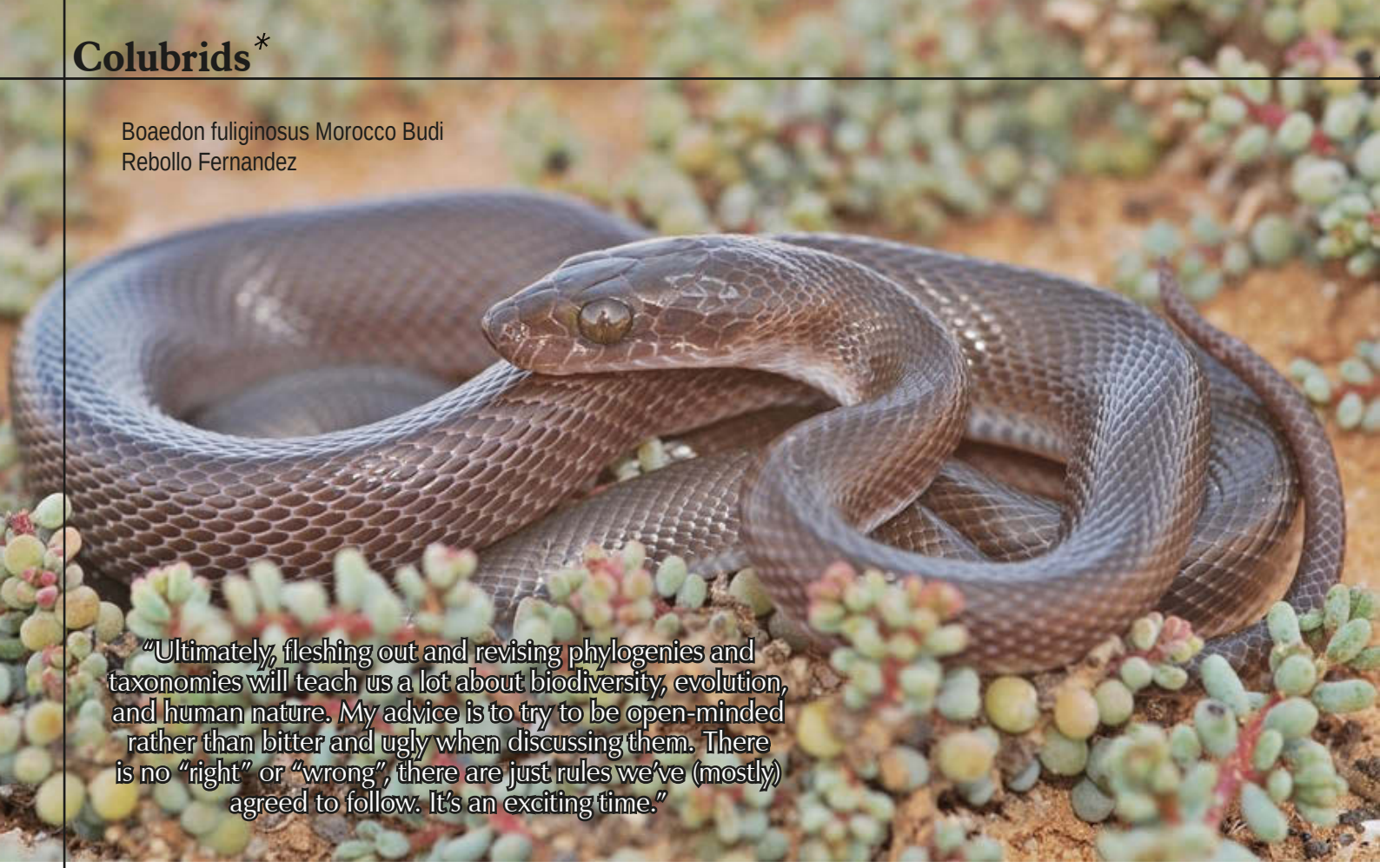
Cover Photo:
Electric Blue Day Gecko
(Lygodactylus williamsi)



Boaedon fuliginosus Morocco Budi Rebollo Fernandez

"Ultimately, fleshing out and revising phylogenies and taxonomies will teach us a lot about biodiversity, evolution, and human nature. My advice is to try to be open-minded rather than bitter and ugly when discussing them. There is no "right" or "wrong", there are just rules we've (mostly) agreed to follow. It's an exciting time."

The House Snake Mess for Dummies

By Andrew Durso

Arguably House Snakes are much more of a mess than ratsnakes, which makes sense when you consider that they are they distributed over an area almost 7 times larger, including areas as diverse as the Sahara Desert, Congo Rainforest, Great Rift Valley, East African Savannah, Ethiopian Highlands, Okavango Delta, and Southern African Great Escarpment, and occur in a total of 46 countries, many of which have perennially turbulent political climates. It's no surprise that the number of herpetologists working in Africa is dwarfed by the number working in North America, and the vast majority of these people have not been of African descent (although that is beginning to slowly change).

African House Snake (Boaedon fuliginosus) from the northernmost part of the range in Morocco. Like everywhere in Africa, there are probably multiple undescribed cryptic species within this lineage

What is surprising is that African House Snakes are popular in the pet trade and are important model organisms for studies of development, behavior, hormones and reproductive biology, yet we still know

almost nothing about them in the wild, even though they are common and tolerant of anthropogenically-disturbed environments.

When most people think of African House Snakes, the scientific name that probably comes to mind is Lamprophis fuliginosus. In this article, I'll try to explain why this well-known species had to be moved into the genus Boaedon in 2011, and why it will probably be split up into multiple species sometime in the (hopefully-not-too-distant) future. The correct scientific name of many African House Snakes in captive breeding colonies may be difficult or impossible to determine, especially because most people don't know which part of Africa their House Snakes originally came from (and they may have since been bred with House Snakes from other parts of Africa). To start, let's get a little taxonomic perspective. Pyron et al.'s 2011 article firmly established the family Lamprophiidae for a large group of mostly African snakes (321 species) formerly classified as colubrids but actually more closely-related to elapids (more detail here and here). They also found support for seven subfamilies of lamprophiids, of which only one, Lamprophiinae, concerns us today. There are currently 78 species placed in Lamprophiinae1, of which 25 are or have been at some point commonly called "House Snakes" and/or placed in the genus Lamprophis. Only one of these is Boaedon (formerly Lamprophis) fuliginosus, but in order to understand it, we'll need to take a closer look at the others.

A great deal of clarity was gained from the taxonomic actions of Chris Kelly & co-authors in 2011, who split the species in the genus Lamprophis up into several genera, depending on their relationships to other genera of lamprophiines. Even this study was only able to include data on ~40% of the species of lamprophiine snakes, so it's probable that surprises and new discoveries still await us.

There are currently 12 genera of lamprophiines. Two of these, Chamaelycus (4 species) and Dendrolycus (1 species), have not been included in any

House Snake from Steinkopf, Northern Cape area.

Found near Kimberley, Northern Cape.

Boaedon longilineatus

molecular phylogenetic trees, so we're going to ignore them for now. The general relationships of the other 10 genera have been sketched out, and they're divided into two groups of roughly equal diversity. The first includes the African Wolf Snakes (Lycophidion; 20 species) and the African File Snakes (Gonionotophis, including the former genus Mehelya; 15 species), as well as two monotypic genera: Hormonotus modestus (Uganda House Snake or Yellow Forest Snake) and Inyoka swazicus (Swaziland House Snake or Swazi Rock Snake). Both of these were originally described as species of Lamprophis. Hormonotus left the genus in the 19th century, and Inyoka was created for swazicus by Kelly et al. 2011 (it means 'snake' in the Nguni language group, the main language group in Swaziland). When it was originally described in 1970, swazicus was thought to be intermediate between Lamprophis and Boaedon, both of which were in use at the time, but it turns out that the resemblance is superficial, and it's closely related to neither. That takes care of the first two of our 25 House Snake species, which aren't really House Snakes at all.

The second group of lamprophiines contains six genera. Three of these are rather small and pretty straightforward, if obscure: Ethiopian Mountain Snakes (Pseudoboodon; 4 species), Günther's Black Snake (Bothrolycus ater), and Red-Black Striped Snakes (Bothrophthalmus; 2 species). None of these have ever been called House Snakes or placed in Lamprophis2, and they are clearly morphologically distinct. A fourth genus, African Water Snakes (Lycodonomorphus; 9 species), includes two species that were formerly thought of as House Snakes: Ly. inornatus and Ly. rufulus (the second only briefly). Ly. inornatus is interesting because it's terrestrial, unlike the other species of Lycodonomorphus, which is part of why it was classified in Lamprophis for so long.

The really important finding of Kelly et al. 2011 was that Lycodonomorphus split up the remaining members of Lamprophis into two groups. The southern African group containing Lamprophis aurora got to keep the name Lamprophis, because L. aurora was the first species to be placed in Lamprophis (it is the "type species" of the genus). It got to bring along its close relatives L. fiskii, L. fuscus, and L. guttatus, all of which are small house snakes with attractive patterns, sometimes referred to as "dwarf house snakes", that are popular in the pet trade despite being relatively poorly known in the wild.

The other group needed a new name. Fortunately, Boaedon had already been used to refer to this group for a long time, from the 1850s to the 1980s. Four species in Kelly's study got "new" names: B. olivaceus, B. virgatus, B. lineatus, and B. fuliginosus. Additionally, Kelly included B. maculatus in this group, because its morphology is similar to the other four species, but since we have no DNA evidence yet, this could change. These are sometimes informally called the "brown house snakes", in reference to their generally drabber patterns compared with the "dwarf house snakes". Morphological differences between these two genera include that Boaedon have enlarged anterior teeth on both the upper & lower jaw, and that the dorsal scales of Boaedon have apical pits, whereas those of Lamprophis do not.

Three other species get to stick around in Lamprophis for now: "L." abyssinicus and "L." erlangeri from the Ethiopian highlands, and "L." geometricus from the Seychelles. Probably once we get genetic data from these they will be moved into another genus, possibly Boaedon.

Now, the problems aren't over. The thing is that, in Kelly's study, Boaedon "fuliginosus" was split up by B. olivaceus, which is clearly a good species and it makes no sense to sink it into fuliginosus, as well as by B. lineatus, which has a more complex relationship with B. "fuliginosus"3. There are at least seven lineages of Boaedon "fuliginosus" (probably more than 10), thus we can

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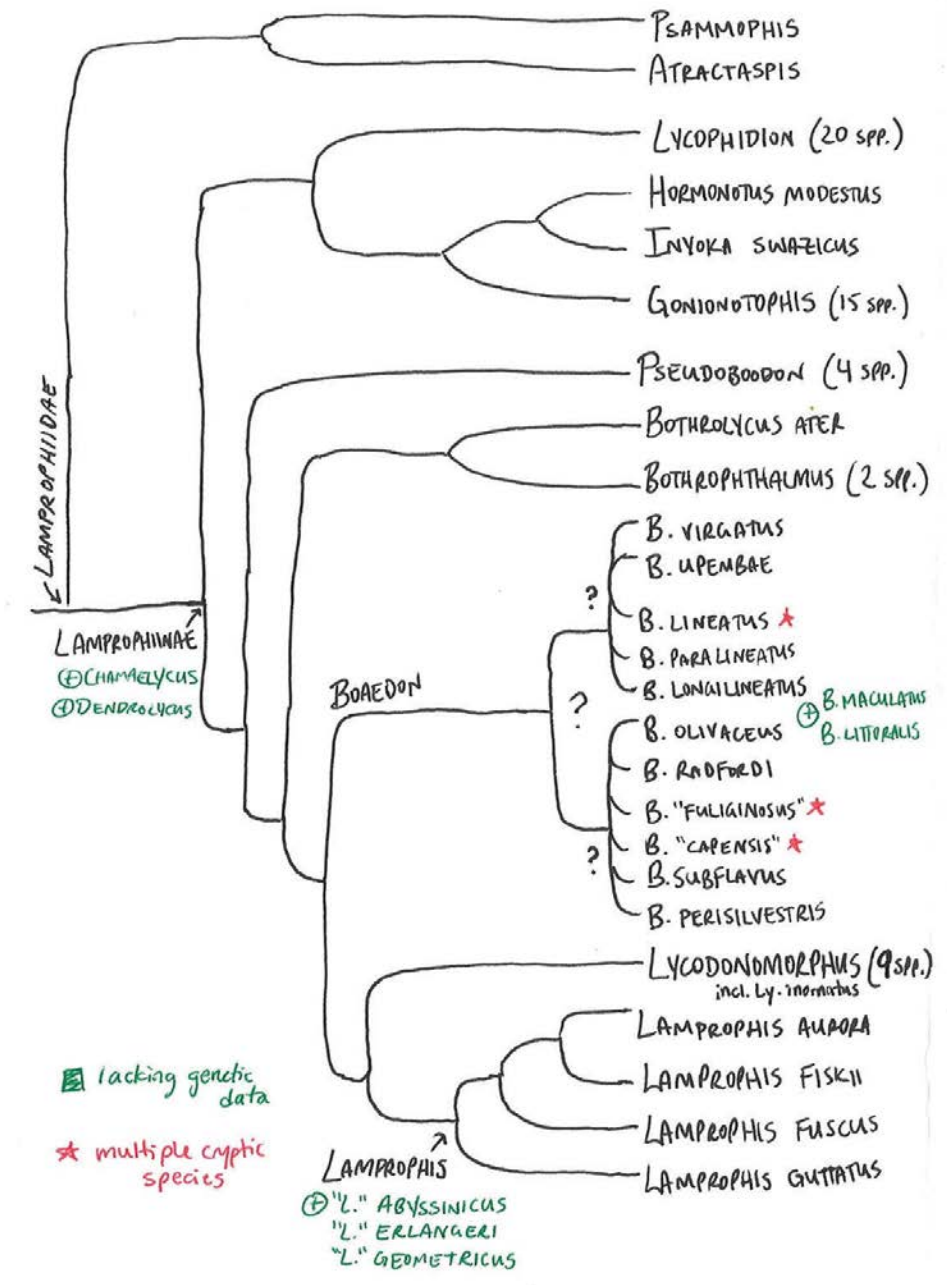
expect that at least 7-10 cryptic species are waiting to be described within this species complex. To quote Kelly et al.: "There have been several attempts to make sense of the intricate patterns of morphological variation in this complex, generally with only limited success."4. A handful of subspecies have been named based on morphology (e.g. mentalis in Namibia, angolensis from southeastern Angola to the southern DRC, arabicus in Yemen, bedriagae on the islands of São Tomé and Príncipe), some of which will probably eventually turn out to be used for full species.

Which, if any, of these future species will get to keep the name fuliginosus is not clear, because these decisions are made based on the location of the original specimen, called the "type locality". The type locality for L. fuliginosus was originally and incorrectly reported in 1827 as "Java". People were more careless back then. There is also no clear type specimen; at one point, one was designated, but it was lost by 1965. The type locality was subsequently corrected to the more accurate but still completely unhelpful "Africa" in 1962, and further restricted to either South Africa or Ghana, but which one isn't clear.

Finally, there is the issue of Boaedon "capensis", a putative species described in 1997 by Hughes and occurring east of a hazy and ill-defined zone angling northeast-southwest from the Gulf of Aden along the Great Rift Valley, then turning east and extending to the Atlantic Ocean possibly near the Angola-Namibia border, but potentially as far north as the mouth of the Congo River and thus also including three of the largest and most poorly-surveyed countries in Africa: Angola, the Democratic Republic of the Congo, and Sudan (including the still relatively new country of South Sudan). This name effectively replaces fuliginosus in eastern and southern Africa, but the exact boundaries are not remotely known, and it will probably turn out that both species are non-mutually-exclusive complexes of cryptic species. Because of the type locality confusion of fuliginosus, it could even turn out that both names (fuliginosus and capensis) are the same southern African species5, and that the western and central African species will need new names.

lamprophiinae cladogram



Recent discoveries have begun the process of adding to the number of species of Boaedon: in 2015, Eli Greenbaum and colleagues named a new species, B. radfordi, from the Albertine Rift in the eastern DRC and Uganda (which was formerly confused with B. olivaceus), and also unexpectedly found that a subspecies of Lycodonomorphus subtaeniatus was actually an undescribed species of Boaedon from a lake in south-central DRC, named B. upembae, that is most closely related to B. virgatus. They wisely refrained from making premature splits to the fuliginosus/capensis complex, stating that "Given the complicated taxonomic history and nebulous type locality for B. fuliginosus, substantial additional sampling and morphometric analyses are needed to assign...B. fuliginosus lineages to available names and to describe new species." They did, however, show that divergence among the various lineages currently referred to as B. fuliginosus could have happened as long as 21 million years ago.

In 2016, Trape & Mediannikov examined 1,370 specimens from eight countries and described 5 new species of Boaedon from central Africa, bringing the total number of species to 13 (including capensis and the certainly paraphyletic "fuliginosus"). Together, two of these, B. perisilvestris

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Spotted Rock Snake (Lamprophis guttatus) from North of Louis Trichardt. Photo Ryan van Huyssteen.

and B. subflavus, seem to effectively separate fuliginosus (western Cameroon and west) and capensis (Angola-DRC-S. Sudan and east), having been split from the middle of the species complex's geographic range; but many sources still use fuliginosus for populations east of the distribution of perisilvestris and subflavus. Trape & Mediannikov seem comfortable with the idea of restricting B. fuliginosus to West Africa and suggest that a blackish color without clear lines on the head could distinguish the species there, despite the absence of any consistent scale characteristics6. Right now, it's impossible to say how the 5-species described by Trape & Mediannikov fit with those described by Greenbaum or with the clades outlines in Kelly, because they used the 16S RNA gene, whereas the other two studies used three different genes (cyt-b, ND4, and c-mos).

So, we seem to be approaching stability, but the most problematic one remaining is the one everybody's heard of, knows and loves. Trape's latest definition notwithstanding, between fuliginosus and capensis, African House Snakes in the strictest sense occur in every country in Africa except for Algeria, Tunisia, Libya, Egypt, Sudan, and offshore countries like Madagascar, the Comoros, and the Seychelles7. At the moment, the L. "fuliginosus" complex is still one of the most widespread snake species in the world.

In case you lost count, a quick recap of species that are or have been in Lamprophis:

Hormonotus modestus (Yellow Forest Snake or "Uganda House Snake"; moved in 1850s)

Inyoka swazicus (Swazi Rock Snake or "Swaziland House Snake"; moved in 2011)

Pseudoboodon lemniscatus (briefly in Lamprophis in 1904, barely counts, see footnote2)

Lycodonomorphus inornatus (originally described as a Lamprophis because it was terrestrial, but always a little weird; moved in 2011)

Lycodonomorphus rufulus (briefly in Lamprophis 1840s-1860s, barely counts)
Lamprophis aurora (type species for the genus, will always be a Lamprophis by definition)

Lamprophis fiskii (gets to stick with aurora)
Lamprophis fuscus (gets to stick with aurora)

Lamprophis guttatus (gets to stick with aurora)

"Lamprophis" abyssinicus (awaiting DNA data; Ethioipian highlands)

"Lamprophis" erlangeri (awaiting DNA data; Ethioipian highlands)

"Lamprophis" geometricus (awaiting DNA data; Seychelles)

Boaedon lineatus (type species for the genus, will always be a Boaedon by definition, although as defined it too is likely a cryptic species complex)

Boaedon virgatus (gets to stick with lineatus)

Boaedon olivaceus (gets to stick with lineatus)

Boaedon maculatus (awaiting DNA data; got to stick with the above 3 because of morphology; Horn of Africa)

Boaedon radfordi (described by Greenbaum et al. 2015, split from olivaceus)

Boaedon upembae (formerly Lycodonomorphus subtaeniatus upembae; moved by Greenbaum et al. 2015; in the B. virgatus group)

Boaedon littoralis (split from B. lineatus by Trape & Mediannikov 2016, but lacks DNA data)

Boaedon longilineatus (split from B. lineatus by Trape & Mediannikov 2016)
Boaedon paralineatus (split from B. lineatus by Trape & Mediannikov 2016)

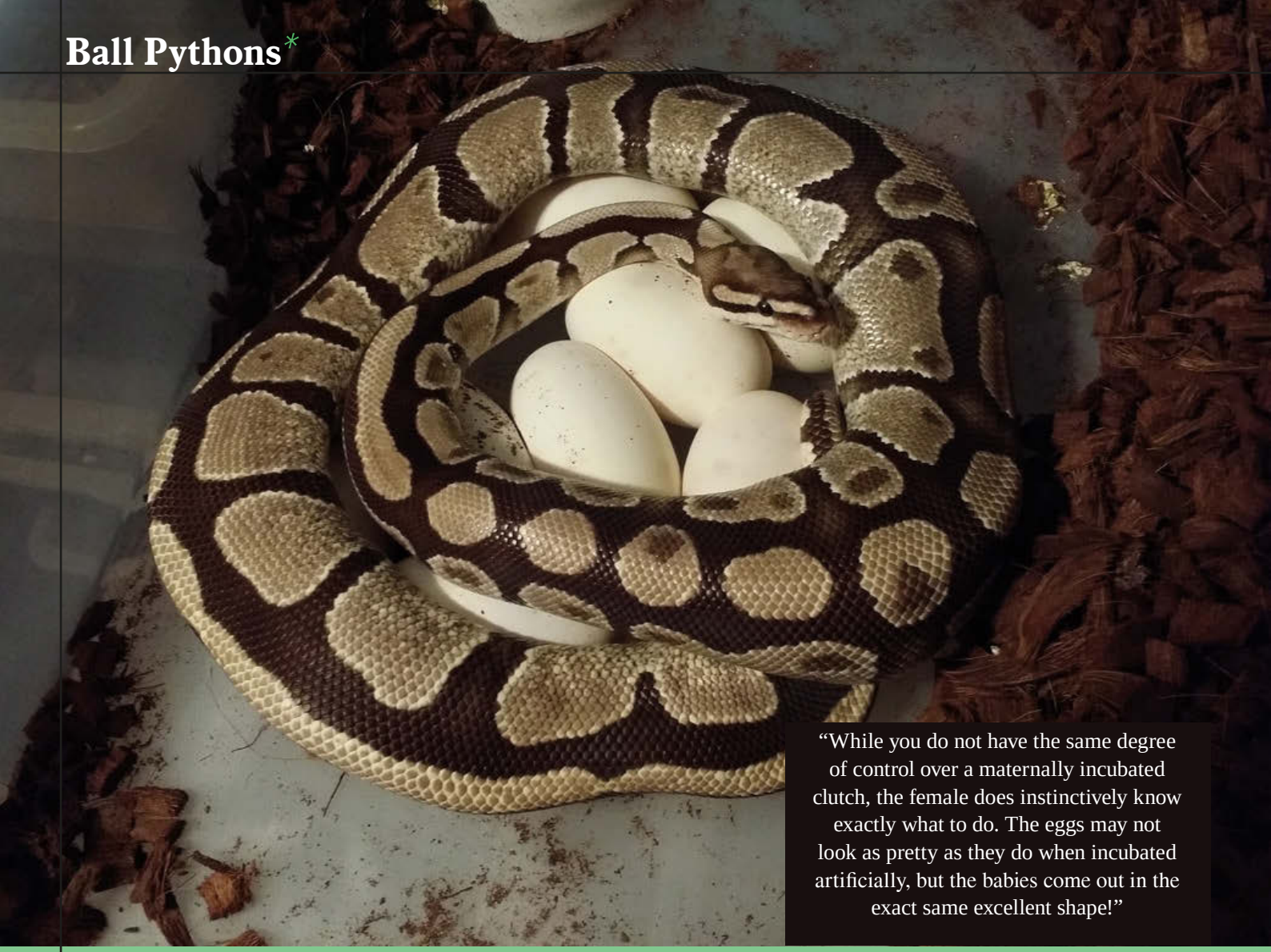
Boaedon perisilvestris (the first of many cryptic species to be split from B. fuliginosus; by Trape & Mediannikov 2016)

Boaedon subflavus (the 2nd split from B. fuliginosus by Trape & Mediannikov 2016)
Boaedon capensis (replaces fuliginosus in east Africa, could be multiple cryptic species)
Boaedon fuliginosus (definitely at least 7 cryptic species, probably many more, no guarantee that any will be called fuliginosus)

The Aurora House Snake, Lamprophis aurora, is the type species of the genus Lamprophis, meaning it will always be in Lamprophis unless that genus goes away completely.

Whether fuliginosus goes away completely or remains, it won't be going back to Lamprophis unless Lycodonomorphus does too, or unless new genomic data overwhelm the signals found in the genes used by Kelly's, Greenbaum's, & Trape's studies. There's a recurring debate in taxonomy about whether we should attempt to preserve widely-used and well-known names like fuliginosus, since people are probably going to continue using them anyway, or do away with "the burden of heritage" and adhere strictly to a system that discards 150-year-old names if they prove inconvenient or impossible to keep, at the risk of creating confusion & resentment. Proponents of the second argue that eventually people won't remember the old names, and I think they're right: I was born in the 1980s and didn't realize that Lamprophis fuliginosus was called Boaedon for 130 years beforehand; when I learned its name in ~1999, it was as Lamprophis fuliginosus and that was that. These changes might seem radical, but whenever possible they reinstate older names, like Boaedon, the disuse of which might seem radical to an older generation. There's further debate about the utility of splitting up cryptic species complexes, especially if it makes it almost impossible to identify which species you're looking at by morphology alone. These same issues are recapitulated in the North American ratsnake taxonomic "mess", North American slimy salamanders, egg-eating snakes, and in countless other species groups around the world. When I was writing this article, I thought more than once that I should just wait for a better time when it's all stabilized, but actually there's never a good time; we're always learning more. Ultimately, fleshing out and revising phylogenies and taxonomies will teach us a lot about biodiversity, evolution, and human nature. My advice is to try to be open-minded rather than bitter and ugly when discussing them. There is no "right" or "wrong", there are just rules we've (mostly) agreed to follow. It's an exciting time.

Lamprophis guttatus. Photo by Andrew Turner



"While you do not have the same degree of control over a maternally incubated clutch, the female does instinctively know exactly what to do. The eggs may not look as pretty as they do when incubated artificially, but the babies come out in the exact same excellent shape!"

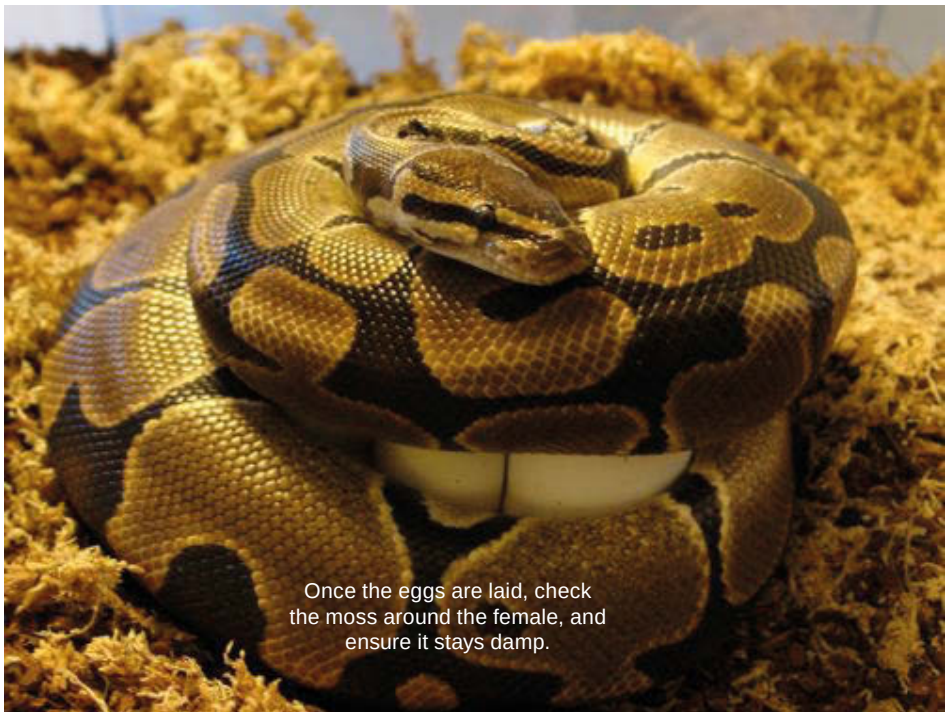
Easier Than You Thought

Maternal Incubation in Ball Python

By Jennifer Greene

Are you a beginner to ball python breeding? Have you had trouble with successful hatch rates incubating your eggs artificially? Are you curious about maternal incubation, and what's involved to allow your female to successfully incubate her own eggs? Then read on, and hopefully this article will help you on the path to successfully allowing your female to incubate her own eggs!

Before letting your ball python (or any snake species, for that matter) incubate her own eggs, you should prepare for this long before breeding even takes place. I would



Once the eggs are laid, check the moss around the female, and ensure it stays damp.

not recommend allowing small or young females to maternally incubate, as they may not feed during this time and the extended period of non-feeding may be too much for them. I generally only allow my females that are over 4 years old, and over 1800 grams (preferably in the 2,000 gram range) to maternally incubate their eggs. Prep your girls by simply feeding them well and getting them into the best condition possible, with nice complete sheds and solid, good weight to them. You want your girls as chunky as possible going into the breeding season, because again, they may or may not eat once they start incubating their eggs, and you don't want the incubation process to drain them too severely.

Adult female ball python preparing to ovulate

Once you've selected the females that will be maternally incubating, proceed through the breeding process like usual. For more information on this part, please refer to the numerous online caresheets, forums, and books currently available on the subject. The only additional thing to consider is that if your female loses too much weight during the breeding season prior to ovulating, do not allow her to maternally incubate. It is important that the female is in good condition throughout the entire process.

After your girl(s) have gone through the post-ovulation shed, begin readying their egg laying area. If they are in a display cage, this can be an enclosed box slightly larger than the female with damp moss packed into it, or in a tub setup you can simply place damp moss throughout the warm side of the tub. Watch your snake and tweak the cage conditions as needed - if she is laying directly on the heat, increase it by a few degrees until she is coiling just off to the side of the heat. This way the eggs will be a consistent temperature, as often when they are laid directly on the heat source the bottom eggs can become over heated and go bad. Be sure not to over-saturate the substrate or moss in the cage either, as this will also cause issues with the eggs. It is easier to add a little more water, bit by bit, to the moss surrounding the female (and thus increase humidity that way) than it is to try and remove moisture if you have put too much in. Too much moisture will kill the eggs much faster than not enough, so err on the side of dryness!

Preparing the incubation tub

When your female begins to coil just off to the side of the heat, DON'T DECREASE THE HOT SPOT! Most of the time the required high temperature is about 95 to 100 degrees; this needs to stay the same. The female will select the spot that she will be able to maintain the correct 88 - 90 degree range of temperatures based on the conditions in the cage. If you change the conditions in the cage, she cannot move the eggs, nor do much to

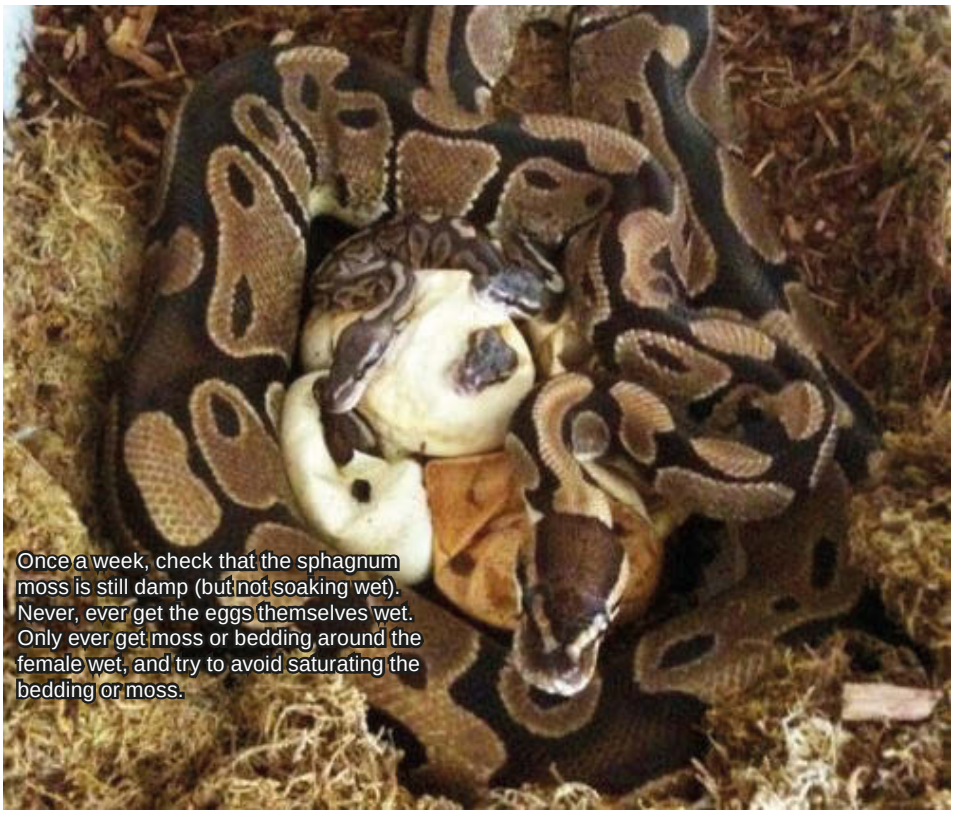

Baby ball python in tub

increase her own temperature, and this can ultimately impact the temperature the eggs are incubated at. Decreasing the hot spot by too much can result in longer incubation times, or if the temperatures get too cool, can even kill the entire clutch.

Once the eggs are laid, check the moss around the female, and ensure it stays damp. Use of New Zealand Sphagnum moss is recommended, as it tends to last longer without molding or disintegrating than other types of moss. To monitor temperatures, you can carefully slip the probe of a digital thermometer into the middle of the egg mass. This will allow you to check on the temperatures of the eggs without disturbing the female too much, which is ideal. Aside from providing fresh water daily, keep interaction with the female to a minimum at this point to keep stress as low as possible for her. Once a week, check that the sphagnum moss is still damp (but not soaking wet). Never, ever get the eggs themselves wet. Only ever get moss or bedding around the female wet, and try to avoid saturating the bedding or moss. Remember, it is easy to add a little water at a time until the ideal humidity is reached; it is significantly harder to remove it if you add too much. Some noticeable dimpling, especially of the top eggs, is normal and should not be a cause for concern unless the eggs appear to be losing more than ¼ of their usual mass.

Average incubation time for maternally incubated clutches is not usually much shorter or longer than artificial clutches, so yours should hatch between 55 and 65 days. I often start offering small rats to my incubating females during the last half of the incubation period. Some females accept meals, some don't. Either is fine, but you just need to be cautious not to offer a prey item that is too large. In the process of catching and constricting a large meal, there is the chance your female could disrupt her eggs, which naturally you want to avoid. A female that refuses to eat the entire duration of incubation can be somewhat concerning to you as a keeper, but this is the exact reason you should always start with a female in the best possible condition. Once the eggs hatch and the smell has been washed off of her, she should start feeding right away.

Once the babies start to pip, you can leave them alone in the cage until they have all hatched. The female will not squish them, and will even adjust her coils so that they can poke their noses out to breathe. It will take anywhere from a few hours up to 3 days for all the babies to emerge from their eggs, so be patient! Once all the babies have emerged, remove them, and then completely clean the cage and soak the female. It is necessary to thoroughly clean the cage as well as soak the female to remove all smell of the eggs and babies, as well as clean up the goop from hatching. Any remaining smell of eggs/babies will result in the female continuing to coil and attempt to incubate whatever



Once a week, check that the sphagnum moss is still damp (but not soaking wet). Never, ever get the eggs themselves wet. Only ever get moss or bedding around the female wet, and try to avoid saturating the bedding or moss.

has the smell of the eggs.

The end result - hatchlings!

And that's it! Once you've set up one female to maternally incubate successfully, you will find each following maternal incubation to be easier and easier to set up and maintain. I personally let most of my females incubate their own eggs, resorting to artificial incubation only for small or young females who are not as large or as heavy as I would prefer. While you do not have the same degree of control over a maternally incubated clutch, the female does instinctively know exactly what to do. The eggs may not look as pretty as they do when incubated artificially, but the babies come out in the exact same excellent shape!

When your female begins to coil just off to the side of the heat, DON'T DECREASE THE HOT SPOT!

Mojave Ball Python

Super Pastel Desert Ghost

Breeder Spotlight:

Gecko Tails

1. How did you get into reptile breeding?

Well I've always been Fascinated by Reptiles and how Mythical they appear and I saw a Tremendous amount of Passion for Reptiles from a Good Friend of mine "Hannes Claassens" and that Sparked not only a Passion but a Massive amount of love for Reptiles, the Breeding of them Followed after that.

2. What is the first morph you bought? And why did you choose that morph?

Not counting Normal into the Equation my First Morph I bought was Mojave I'm a Massive Fan of Mojave it Works well in all Combinations.

3. How long have you been breeding ball pythons?

We've been Successfully Breeding Ball Pythons for the past Four Years.

4. What morphs do you foresee being in demand in the next couple years?

That is a tough one because there are so many amazing genes out there but I'd have to say, Red Stripe; Cypress; Acid ; Puzzle and most of all the Stranger gene now that is something Jaw Dropping.

5. What was the first pairing you ever did?

Very First Pairing we did was Cinnamon to Normal. The Cinnamon came in few months after the Mojave and he was Bigger as well.

6. What is your favourite morphs to work with?

Our Favourite Morph/Morphs to Work with is Spark; Mojave; Red Stripe

7. What's one of your favourite, lesser known breeding tricks?

To be Honest we don't have a trick when it comes to Breeding, we do Increase Feeding During Breeding Season to Help the Females.

Acid Gene Ball Pythons

8. What morph would you like to work with that you don't have?

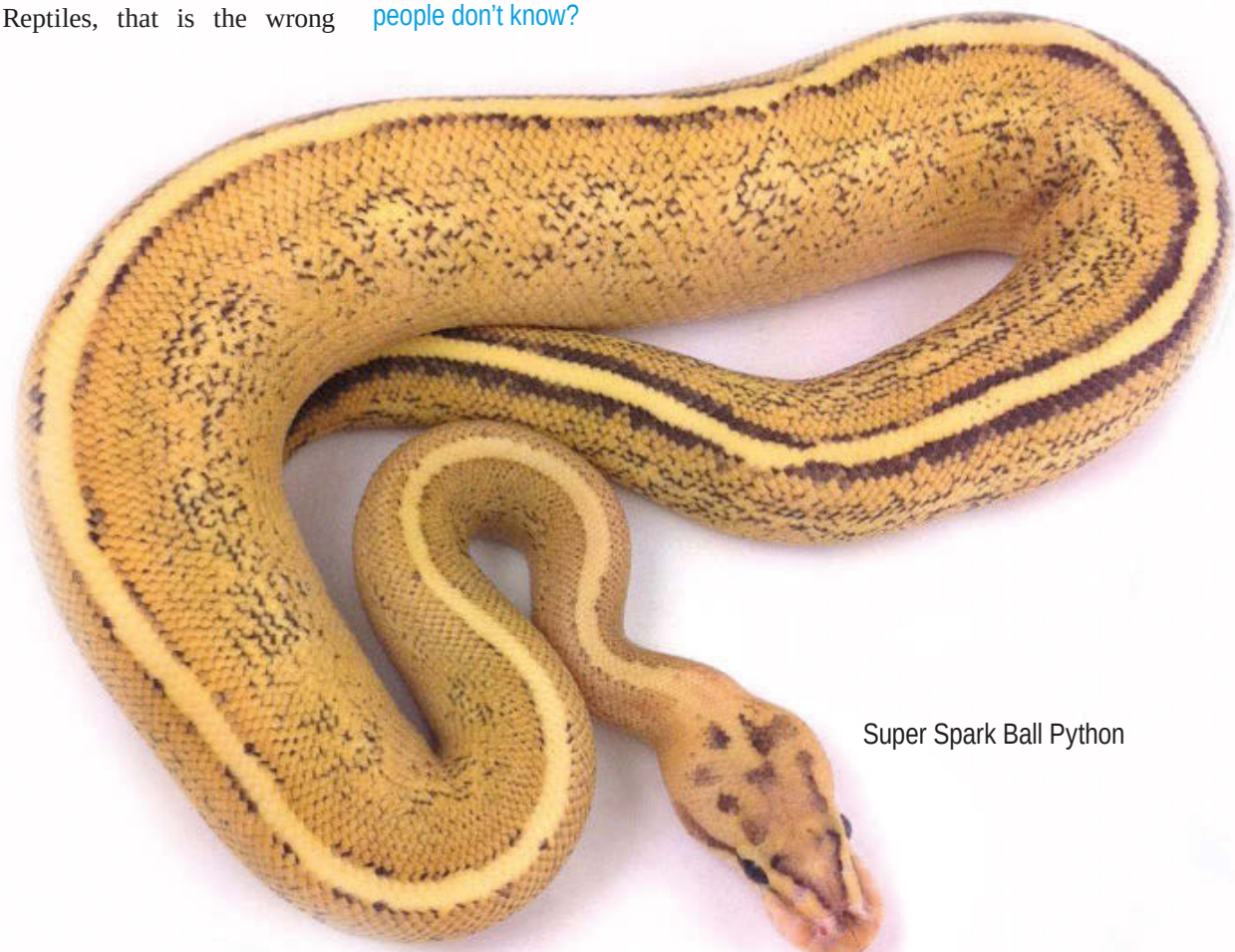
That would have to be the Stranger gene and the Acid gene.

9. What advice would you give to new people entering the hobby?

I've seen so many People come into the Hobby with the Idea of getting Rich by Breeding Reptiles, that is the wrong Attitude. Enter the Hobby because your Passionate about Animals. Working with Animals is Amazing there is no better Therapy. Love what you do but most of all Love the Animals. Yes, Ball Pythons are a Great Investment and can Generate a Source of Income.

10. What's something about you that most people don't know?

I'm a Firm Believer in Conquering Ones Fear no matter what it may be. I had a Fear for Tarantulas and Frogs now I Handle them when I have to Without being Afraid. I Live my Life by "Never Give Up Never Back Down" and " Change your Mind and it Will Change your Life". Yes, there are a few just a few Fears I still need to Conquer.



Super Spark Ball Python

"While very cute and typically quite brave, it is not recommended to handle these geckos often. Due to their very small size, they become stressed very easily when held, and so for their sake it is best to interact with them strictly on their terms. "

Article By:
LLL Reptile

Electric Blue Day Gecko

(Lygodactylus williamsi)

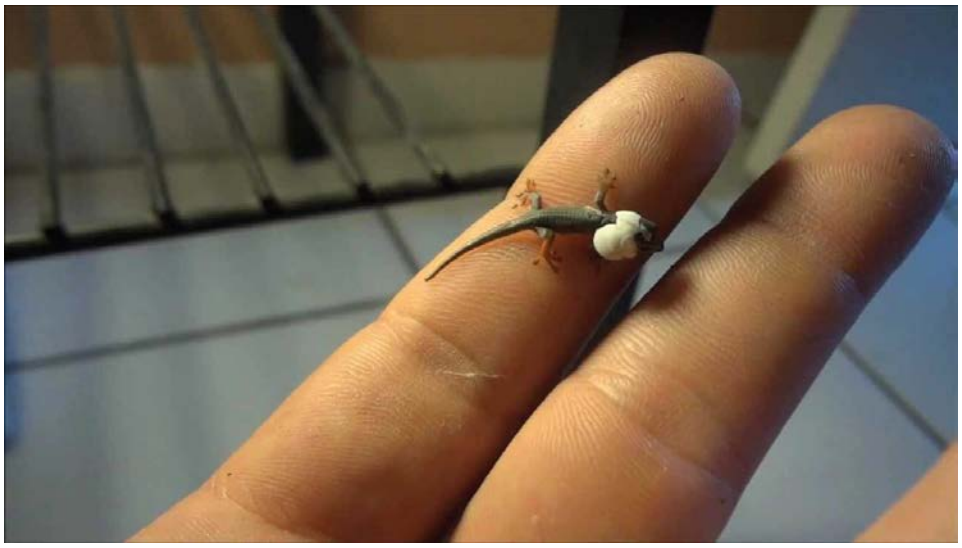
Electric Blue Day Geckos are commonly found in east Tanzania. This species is a Micro-Endemic and inhabits less than 4 square kilometres of the Kimboza Forest and nearby smaller areas. Notably the Ruvu Forest Reserve. The Kimboza Forest is primarily a natural lowland rain forest with a canopy of 20 meters with some trees emerging from the canopy up to 40 meters. Epiphytes in the form of large ferns such as Platycerium spp. Davallia spp. and Asplenium nidus are often found. Orchids of the genera Aerangis, Angraecum and Bulbophyllum are also readily seen. The climate is oceanic (low day/night variations). The temperatures in December reach an average of 28°C, while the period between May and August is low, with an average in July of 23.5°C. The annual rainfall is 1683 millimetres, which is quite high. The dry season is observed between June and August.

The animals are found exclusively on Pandanus rabaiensis trees, which cover 17.6% area of the Kimboza forest, only 52% of these trees are suitable as a habitat for Lygodactylus williamsi (Weinheim et al., 2010). An estimated population was originally calculated between 93,000-467,000 animals. Within the last 4.5 years out of the original population between 8 and 40% of these animals were caught by one group of poachers to be sold! There are more groups, but their success rates are unknown. Since December 2014 Lygodactylus williamsi is protected within the European Union, thus fortunately wild-caught animals won´t be imported to the EU anymore.

They are diurnal creatures with small, compact bodies and marked sexual dimorphism. Males are where the species gets their name, as they are a brilliant, shining, neon blue colour all over their dorsal surface, with black stripes running across their eyes and throat, and are a pale to bright orange on their ventral side. Females tend to be a bronze green, with fainter black stripes across their face and a tan belly. Once well established in captivity, Electric Blue Day Geckos breed

In a cage with artificial plants, a substrate that holds humidity and is easy to clean is ideal. This includes coco husk, reptile bark, peat, or other forms of compressed coconut husk.

Every opportunity to provide variety to their diet should be taken, as this list of feeder insects is extremely short compared to the variety of insects they would consume in the wild.



These beautiful little geckos were considered extremely rare in the hobby until only recently, and while care is similar to many other species of dwarf gecko, little is known about them in the wild.

May/June 2018

Electric Blue Day Gecko

Lygodactylus williamsi

Photo by Nakkimo

ULTIMATE EXOTICS
REPTILE AND EXOTIC PET MAGAZINE

quite prolifically, however raising the babies can prove extremely difficult.

These beautiful little geckos were considered extremely rare in the hobby until only recently, and while care is similar to many other species of dwarf gecko, little is known about them in the wild.

Size and Longevity

Electric Blue Day Geckos are a dwarf species of gecko, rarely exceeding 8.5cm total length. Due to their relatively recent influx into the hobby, little is known about their natural lifespan. An average of 5 to 10 years should not be unexpected.

Housing

Small adult size does not necessarily mean these geckos should be placed in cramped quarters. A minimum size for an enclosure should be at least the size of the ExoTerra Medium Naturalistic Terrarium, although if space allows, they do excellent in larger size terrariums. They can also be housed in traditional glass aquariums, but it may prove more difficult to conduct day to day maintenance without a front opening cage.

Substrate

Substrate for these geckos depends on how you are setting up their cage. A planted, naturalistic vivarium does not only look the best, but will also meet your geckos needs admirably as well. In a naturalistic vivarium, expect to use a combination of leca balls for drainage, polyfoam as a divider between your drainage and planting layers, and bioactive substrate to provide a nutritious soil mix for your live plants.

In a cage with artificial plants, a substrate that holds humidity and is easy to clean is ideal. This includes coco husk, reptile bark, peat, or other forms of compressed coconut husk. It doesn't hurt to experiment with several types of bedding before deciding on a type you prefer.

Decor and Cage Furnishings

When designing the cage for your gecko(s), keep in mind their natural behaviour. As small, bite sized geckos, they are naturally shy and prefer numerous hiding places and foliage in their cage. They love to climb, and every opportunity should be taken to provide them with plenty of vertical hiding places. Use of natural hides and bamboo hollows is highly recommended, as they provide similar hiding opportunities as the round tree branches they would hug in the wild. When they feel threatened, these

Coming from a tropical to subtropical climate, attention to humidity is a must. In addition to a dish with fresh, clean water provided daily, you should also mist your cage every day.

When designing the cage for your gecko(s), keep in mind their natural behaviour. As small, bite sized geckos, they are naturally shy and prefer numerous hiding places and foliage in their cage. Photo by Nakkimo.

geckos will immediately retreat to the opposite side of whatever surface they are on and offering several cylindrical objects for them to hide on in their cage will help them follow their natural instincts. Not every surface in the cage needs to be a cylinder, however, and use of Cork Flats, Grapevines, Magnetic Ledges, and other wood products will add visual interest to your cage as well as offer hiding options for your geckos to choose from.

In addition to wood products, serious consideration should be given to providing Live Plants or other foliage options for your geckos to hide on. In addition to being aesthetically pleasing, live plants also increase relative humidity in the cage, providing a beneficial microclimate for your geckos within their leaves. Since these little guys won't eat the leaves, you can use just about any plant you desire within your cage. However, it's probably best to use plants that can take tropical temperatures and moisture levels. Tropical Vines, magnetically attached Jungle Vines, and naturalistic fake plants can all be included as well.

Heating and Lighting

Being devout sun worshippers, these little geckos need lots of light and UVB. There are two methods that can be used to provide these things. The first and most traditional method is with a fluorescent UVB tube, such as a ZooMed Reptisun bulb, used in combination with a basking light, such as a ZooMed Basking bulb. In smaller cage setups, this is usually the best way to go, as you can use lower wattage basking bulbs in order to ensure you do not overheat the cage.

Basking spot temperatures can and should reach around 32-34°C, while the coolest side of the cage can drop down to around 26-28°C, with night temperatures at 22°C. At night, if temperatures in your home

Basking spot temperatures can and should reach around 32-34°C, while the coolest side of the cage can drop down to around 26-28°C, with night temperatures at 22°C.

drop below 20°C, it is recommended to use some form of night-time heating. A 40 or 60-watt Nightlight Red bulb should provide plenty of heat.

Water and Humidity

Coming from a tropical to subtropical climate, attention to humidity is a must. In addition to a dish with fresh, clean water provided daily, you should also mist your cage every day. Use of a hand spray bottle or pressure sprayer is one way to add humidity to the air. A reptile fogger is another way to add humidity and is highly recommended both for its humidity increasing abilities and because it just plain looks cool. If you want a higher quality misting system, use of a Mist King may be what you're looking for. In the end, it doesn't matter so much how you add humidity to the cage, it just matters that additional moisture and humidity is added at least twice throughout the day.

Nutrition

In captivity, these little geckos readily feed on most commonly available feeder insects. This includes (but isn't limited to) small crickets, fruit flies and small mealworms. Every opportunity to provide variety to their diet should be taken, as this list of feeder insects is extremely short compared to the variety of insects they would consume in the wild. Because of this, supplementation with a high-quality reptile multivitamin in combination with a high quality reptile calcium (containing D3) is highly recommended. Generally speaking, calcium should be offered about every feeding for egg-laying females, and every other feeding for non-reproductive animals. Multivitamins can be offered weekly, or as often as is recommended on the label.

In addition to insects, Electric Blue Day Geckos will also eat Repashy Gecko Meal Replacement Powder, or MRP, as well as ZooMed Day Gecko Food. Offering this food at least once a week will also help add variety to their diet and can be mixed with fresh fruits such as bananas or with canned fruit products such as ZooMed Mixins.

Handling and Interaction

While very cute and typically quite brave, it is not recommended to handle these geckos often. Due to their very small size, they become stressed very easily when held, and so for their sake it is best to interact with them strictly on their terms. This being said, males often become very bold and some will even take food from their keepers' fingers. There are several anecdotal accounts of males that would even climb onto their keeper's hands to bask while the keeper worked in their cage! So, with patience, you can eventually gain your geckos trust and they will learn that you are not a threat.

"Cobras are some of the most feared and also revered species of snake on the planet. Africa has a large proportion of cobra species with the rest found in Asia. I hope most of you now admire cobras rather than fear these spectacular deadly ready creatures."

Cape cobra
Photo by Johan Marais

AFRICAN COBRAS

By Timothy Zedi

Introduction

This article covers the cobra species found in Africa. I have listed some interesting info on them that you may not know with an emphasis on each species venom. Some of these cobras are well studied while others on the list you may never have heard of. I hope you will enjoy reading about some of Africa's most deadly snakes.

Cape Cobra

Cape Cobras can be found in the Cape Provinces in South Africa and into Namibia. Cape Cobras are very variable in colouration with the bright yellow colour being the most stunning. The yellow phase Cape Cobra is what gives it its scientific name (Naja nivea) "nivea" meaning sun in Latin referring to the bright yellow colouring being like the colour of the sun. Other colour phases are speckled cobras and a more uniform brown colour. Hatchlings are unmistakable being a yellow colour with a black band round the neck. Cape Cobras have a highly toxic venom which effects the nervous system eventually leading to the patient dying from asphyxia as the venom paralyzes the diaphragm leading to the bite victim not being able to breath. Along with the Black Mamba, Cape Cobras are responsible for the most deaths from snake bite in South Africa due to how toxic their venom is. Luckily anti venom is effective for the bite of this cobra and should be available in hospitals where they occur. Cape Cobras reach an adult length of 1.2 to 1.5 m long, so they are a medium sized cobra that packs a highly toxic punch. Care should be taken with handling this cobra or when keeping it in captivity. Very experienced members of my Herpetological Association keep and breed these cobras successfully without much problem but again keeping this species would not be recommended unless you have been dealing with large Elapids for a very long time.

Snouted Cobra

The Snouted Cobra was once considered a subspecies of Egyptian Cobra however this was discovered to not be the case and it has been considered its own separate species for over two decades now. This cobra is named after a distinct protruding snout on its upper jaw. The Snouted Cobra is one of South Africa's largest cobra species reaching a maximum length of 2m. I have heard of captive Snouted Cobras reaching 1m in length in their first year of life, that is a very fast growth rate indeed. Snouted Cobras come in a uniform tan colour as well as a banded phase. The venom of this species is neurotoxic with many bites also showing cytotoxic effects or flesh destroying toxins, anti-venom is available and effective for the bite of this snake. Snouted Cobras are generalized feeders eating rodents, frogs, birds and their eggs and other snakes. In fact, studies have shown that this cobra is one of the main predators of Puff Adders and regularly feed on this snake.

Anchieta's Cobra

Anchieta's Cobra also called the Angolan Cobra is another large cobra species similar to the Snouted Cobra, however this cobra is not found within the borders of South Africa. Although being a bit smaller than its cousin growing to a maximum of 1.8m long

The Forest Cobra is Africa's largest cobra species reaching up to 2.5m or more in length sometimes approaching the 3m mark.

the Anchieta's Cobra still packs a punch when it comes to venom with neurotoxins, cardiotoxins and some cytotoxins for added misery of a snake bite patient. I suspect a bite from this cobra would be similar to a bite from a Snouted Cobra There is no specific anti venom for this snake but SAVP polyvalent should have some cross reactivity with this snakes' venom. Anchieta's Cobra is native to Angola, parts of Namibia into Botswana and Eastern Zimbabwe. I know of some venomous snake keepers working with this species in South Africa but like all large cobras should be handled with extreme care

Forest Cobra

The Forest Cobra is Africa's largest cobra species reaching up to 2.5m or more in length sometimes approaching the 3m mark. In South Africa its distribution is limited to the forested regions of KZN where they are rarely encountered and bites are rare. A woman was bitten recently under unusual circumstances and she showed the neurotoxic and cytotoxic symptoms common with a bite from this snake. There is also a species of Forest Cobra from West Africa which is very similar to our native version. An interesting story is that a snake expert who got bitten on the thumb by a West African Forest Cobra, he showed no neurotoxic effects but ended up losing a whole finger due to necrosis, so this species should be expected to have some possibly serious cytotoxic effects when bitten.

African Spitting Cobras

I have lumped several species of spitting

The Snouted Cobra was once considered a subspecies of Egyptian Cobra however this was discovered to not be the case and it has been considered its own separate species for over two decades now.

Rinkhals are a very common snake and are a highly adaptable species. They are even found in urban areas and most of the call outs for problem snakes in Jo'burg are for these snakes.

cobras together for the purpose of this article. All the species we will be covering have modified fangs through which they spray venom at predators. Spitting venom is not used when hunting prey. These cobras all have a potent cytotoxic venom which can cause massive tissue damage and bites often go untreated for days due to poor medical care in the countries in which they occur. Being spat in the eyes by one of these snakes is not fatal but requires lots of flushing with water to get all the venom out of the eyes, otherwise sight may be impaired. It is recommended to go to an ER should you get venom in your eyes. Spitting Cobras can accurately spray their venom up to 3m in distance. Mozambique Spitting Cobras are a common snake in South Africa which along with Puff Adders are responsible for the most bites on humans than any other snake. This cobra has a bad habit of biting people while they are asleep in bed, it is not yet known why they do this. Other species include Black Spitting Cobras, Black Neck Spitting Cobras, Zebra Spitting Cobras, Nubian Spitting Cobras, Katian Spitting cobra and Red Spitting Cobras. All these cobras can spit from a lying down position and do not need to rear up and spread a hood in order to spit venom, so don't look down holes when you are field herping to avoid any unfortunate accidents. There is even a morph of one of these cobras, an albino Mozambique Spitting Cobra exists in captivity, as far as I know only one specimen exists, and this trait has not been reproduced. The albino Mozambique Spitting Cobra is on display at the Hartebeespoort Snake Park. Africa is also home to the world's largest spitting cobra, Ashe's spitting cobra which can reach over 2m in length. The Rinkhals though not a true cobra can spit venom and are closely related to cobras, so I have added them below.

Rinkhals

Rinkhals are a very common snake and are a highly adaptable species. They are even found in urban areas and most of the call outs for problem snakes in Joburg are for these snakes. Rinkhals will not hesitate to spread a hood and spit venom. Rinkhals need to spread a hood and shoot their heads forward in order to spit venom. Bites in humans are rare however dogs often get bitten. You will read in your field guide that this snake has a neurotoxic venom, however a confirmed Rinkhals bite in the Eastern Cape resulted in only cytotoxic effects. Rinkhals also give birth to live young while all true cobras lay eggs. Rinkhals come in two colour phases, a black body with a white ring around the neck and also a banded version. Unlike many cobras which have smooth scales, Rinkhals have keeled scales which have shown to have intricate microscopic structures on them possibly an adaptation to a cooler climate,

Water Cobras

Water Cobras are a fairly unknown species to most herpers. There are several species which inhabit the Congo and Central Africa. The best known and most studied is the Banded Water Cobra which is a light tan green snake with black bands. Most of what I have seen of this species is on YouTube where several USA keepers have them in their collections, I have never seen them in books or other sources. In captivity these cobras seem to do well as long as they are captive bred. Wild caught specimens seem to do terribly. All Water Cobras have a potent neurotoxic venom with no anti venom available. They would eat a diet of

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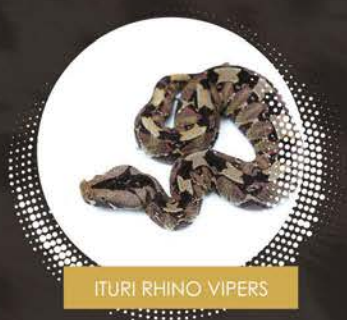
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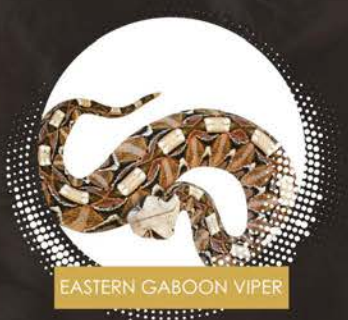
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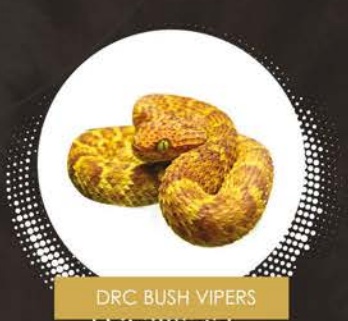
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Venomous reptiles and crocodilians require expert knowledge, specialized housing and may require permits in your Province. Please make sure you are aware of these requirements.

*All pictures shown are for illustration purpose only.

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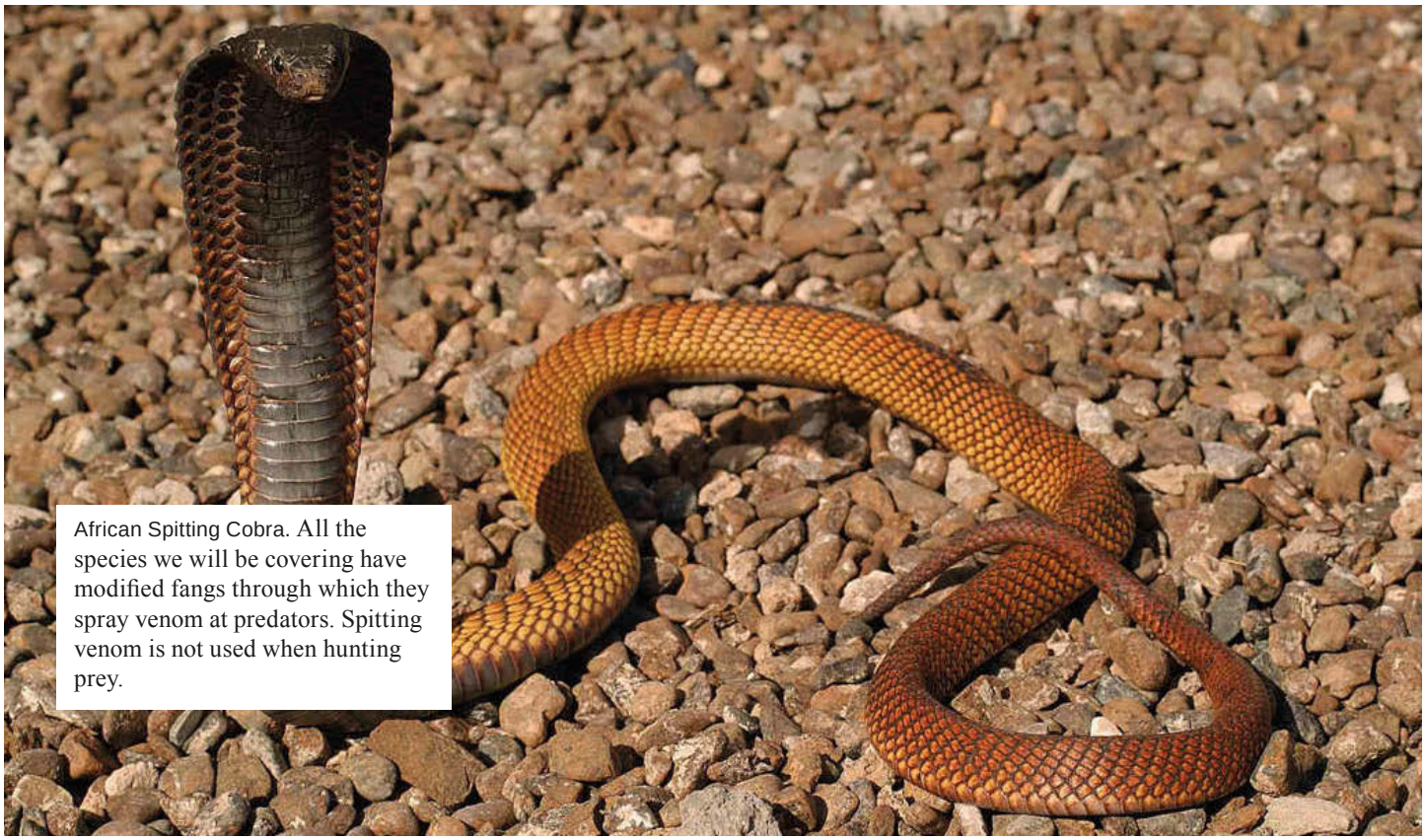


African Spitting Cobra. All the species we will be covering have modified fangs through which they spray venom at predators. Spitting venom is not used when hunting prey.

fish, frogs and other small animals near the water sources in which they live. Captive bred Water Cobras will eat frozen/thawed rodents. I find it interesting that so much can be learned from keeping a snake in captivity, when little is known about them in the wild. Other species include Christy's Water Cobra and an unnamed species which has somehow made its way into a few overseas collections.

Egyptian Cobra

The Egyptian Cobra is probably the most well know cobra in Africa with a rather large distribution. The Egyptian cobra ranges across most of North Africa north of the Sahara, across the savannas of West Africa to the south of the Sahara, south to the Congo basin and east to Kenya and Tanzania. This cobra has even been recorded swimming in the Mediterranean Sea. This is the second largest cobra in Africa second only to the Forest Cobra. Egyptian Cobras can reach over 2m long sometimes approaching the 2.5m mark. Egyptian Cobras were revered by the ancient Egyptians and appear on the hieroglyphics on their temples. Also, Egyptian Cobras were considered sacred by the ancient Egyptians and were kept in their temples, no Egyptian would kill this snake in ancient times. This is the snake which Cleopatra used to commit suicide or, so the tales tell. This cobra has a potent neurotoxic venom with some cytotoxins mixed in. This is the typical snake most people think of when they think of a cobra. Due to its wide range and habit of living near human settlements bites are common. This is a very successful cobra with a large range. I have seen Egyptian Cobras for sale at an expo once they sold very quickly, I have never seen them since. The Senegalese Cobra is similar to the Egyptian Cobra but has been

Water Cobras are a fairly unknown species to most herpers. There are several species which inhabit the Congo and Central Africa.

made a distinct species it inhabits parts of West Africa not much is known about it but it is similar enough to the Egyptian Cobra to add it under this heading.

Burrowing Cobra

The Burrowing Cobra or Many Banded Snake is a small member of the genus Naja with a maximum size of only 80cm with the average specimen being only 50cm in length. The name Many Banded Snake can be confusing as this cobra does not really have a banded pattern. This cobra naturally occurs in Cameroon, Central African Republic, Democratic Republic of Congo, Republic of Congo, Equatorial Guinea and Gabon. Like its name suggests this snake spends most of its time under leaf litter hunting frogs, lizards and other snakes. Unlike all other cobra species, the Burrowing Cobra does not spread a hood and no threat display has been recorded. This is a poorly studied snake and virtually nothing is known about their venom due to the fact there are no recorded bites. Although in a different genus this species resembles the Cape Coral Snake and Shield Nose Snakes and I suspect a bite would yield similar symptoms. Like with the previously mentioned snakes a bite from a Burrowing Cobra should be considered to be medically significant and medical care should be sought.

Conclusion

Cobras are some of the most feared and also revered species of snake on the planet. Africa has a large proportion of cobra species with the rest found in Asia. I hope most of you now admire cobras rather than fear these spectacular deadly ready creatures.

"There are several really awful Uromastyx Care sheets out there, and a lot of advice on the internet is sketchy. We prefer to listen to experts like Doug Dix at Deer Fern Farms; he has detailed care information on his site but we wanted to provide a basic guide as well."

Uromastyx Care Sheet

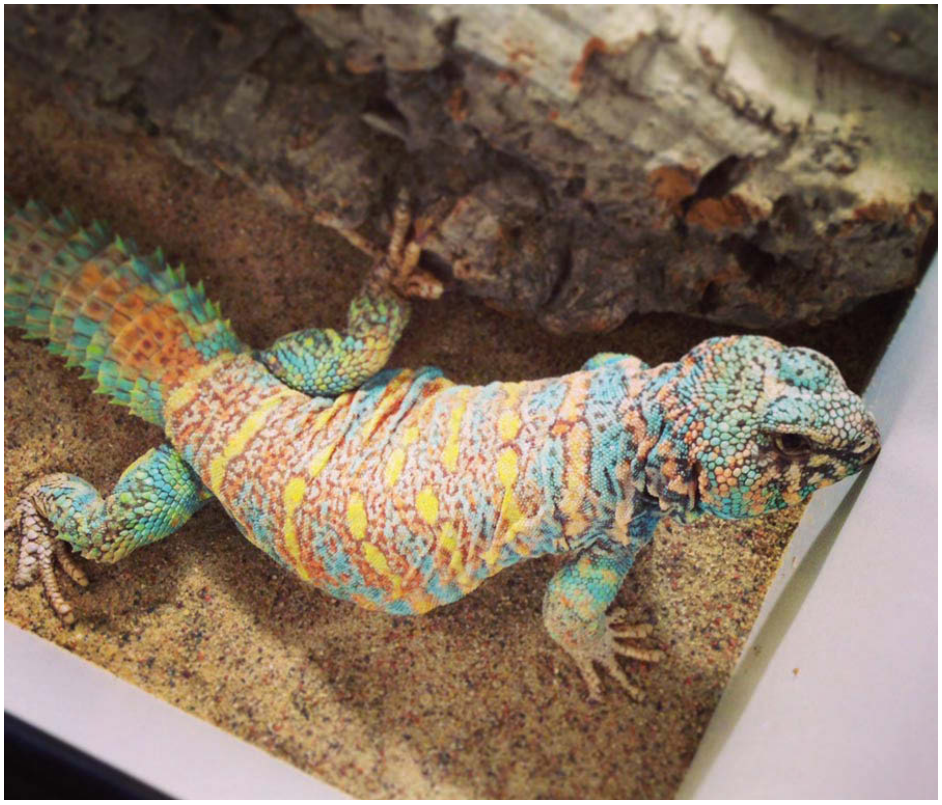
Article by Moon Valley Reptiles

While Uromastyx have been in captivity for several decades, there is still a lot to learn about this fantastic pet lizard. There are many species of Uromastyx and each can differ slightly in care. Below is a basic Uromastyx care sheet; be sure to research your specific Uro species!

Certain aspects of Uromastyx care are controversial: UVB lighting options, substrate choice, a few bugs or no bugs. We think it's best to learn as much as you can and make informed decisions about how to care for your uro. There are also possible Uromastyx health issues that you should be aware of before you bring home your new pet. Many problems are related to proper husbandry, so please make sure you are providing proper care and diet.

Peanut - Egyptian Uromastyx from moonvalleyreptiles.com
The Dude - Ornate Uromastyx from moonvalleyreptiles.com
Molly - Ornate Uromastyx from moonvalleyreptiles.com

There are several really awful Uromastyx Care sheets out there, and a lot of advice on the internet is sketchy. We prefer to listen to experts like Doug Dix at Deer Fern Farms; he has detailed care information on his site but we wanted to provide a basic guide as well.



The length of the terrarium is more important than height, as Uromastyx are a terrestrial reptile. Specially made 4′ long reptile cages with sliding front doors are great, as picking up a uro from above may startle them.

Reptiles in the Uromastyx genus are also known as spiny-tailed lizards for one obvious reason: they boast a thick, spicky tail that makes up about one third of their body. The name Uromastyx comes from Ancient Greek words: ourá meaning "tail" and mastigo meaning "whip" or "scourge".

Uromastyx species vary in size from 10 inches to nearly 3 feet. Their ultimate adult size will dictate the enclosure size, so be sure you chose the right Uro species for the space you have.

Uromastyx Housing

Uros are an active, diurnal lizard and require large enclosures. A hatchling (under 6 inches in total length) can be housed in a 20 gallon "long" tank, but anything smaller is problematic because it doesn't allow a proper temperature gradient. For a single adult, a 40-gallon "breeder" tank will work as absolute minimum, but a larger enclosure is preferred. A 75+ gallon tank is necessary when keeping a breeding or same-sex pair together. Unless paired young, individuals may not tolerate sharing space with others, even of a different sex. Females and males can be very aggressive to same-sex cage mates.

The length of the terrarium is more important than height, as Uromastyx are a terrestrial reptile. Specially made 4′ long reptile cages with sliding front doors are great, as picking up a uro from above may startle them. Most of their predators are swooping birds of prey, and you may notice that shadows and overhead movement can send them into a panic, especially when just settling in. Uros are burrowers by nature, but you can use artificial burrows or hide boxes to satisfy their need for a burrow.

Uromastyx Substrate

A big component to Uromastyx care is choosing the right substrate for you and your pet. You can go very simple or very complex, depending on the age and health of your lizard. Many substrates pose an impaction risk if they are ingested, so setup might need to be adjusted to include elevated feeding spots to minimize this risk.

In warm areas, Uromastyx can be housed outdoors. Keep in mind, however, that when exposed to natural cycles, uros will go through a brumation period which leads to breeding behavior.

Some substrates will hold a burrow and provide a more natural enclosure. At MVR, we have attempted a natural terrarium for our Uromastyx with limited results for the plants – it is quite warm and dry inside their tank. However, uros do enjoy this type of substrate as it allows them their natural behavior of digging. Adult and sub-adult uros can be placed on a substrate mix of washed playsand and organic soil/compost/peat moss. Be careful with a deep substrate, they can burrow underneath rocks and other objects, causing fatal injuries. For stability, place heavy objects on the bottom of the tank and fill in the substrate around them. It can be challenging to get the setup right.

For a more simple enclosure, we recommend housing uros (especially young ones) on white proso millet, a common bird seed, that can serve as a snack as well as bedding! Once you are used to the rest of their care and your reptile is large enough, you can introduce a natural substrate, as they do enjoy burrowing but do note that substrate can be eaten and cause an impaction.

If your Uromastyx tends to eat bird seed bedding and ignores his or her greens, you can choose bare floors or butcher paper covered with slate or ceramic tiles. Linoleum squares with adhesive backs can be stuck together for an easily removed, easily cleaned substrate.

On a simple substrate such as bird seed or slate tiles, you'll need to provide a nesting box or "humid hide" to simulate a burrow. This will help them regulate their humidity levels. Tupperware, Rubbermaid, or Sterilite plastic boxes can be used with a slightly damp sand/soil or sand/peat mixture which can be topped with sphagnum moss. Cut a hole to allow easy access; you might want to also include a PVC or a flexible tubing as a tunnel into the humid hide.

SUBSTRATE TO AVOID

Some types of bedding that are appropriate to other animals are not good for uromastyx. We recommend avoiding a lot of commercial products which can pose a choking hazard or intestinal blockage. Do not use wood shavings, bark (such as Repti-Bark), chips (such as Sani-Chip), crushed walnut shells, or calcium carbonate "sands". If the lizard eats it, it can cause issues called impactions where their intestines essentially become blocked and unable to pass waste. Signs are obvious constipation, straining to poop, and dehydration as the material absorbs water in the gut. A vet trip is necessary, but extra hydration (moist foods and fruit) can help. Do not treat with home remedies like mineral oil as this can make medical treatment more difficult. Some of these substrates are also extremely dusty. While aspen shavings are great for small animals and snakes, avoid them for uros.

Note that although Uromastyx are a desert-dwelling reptile, they do not do best on sand substrate. In the wild, they are mostly found on rocky outcrops and clay-based soils. Calci-sand should absolutely not be used. Also avoid ground walnut shells, as they can cause horrible impactions and corneal scratches.

Uromastyx Humidity, Heating and Lighting

High humidity can be a killer to Uromastyx! Being located in Phoenix, Arizona, MVR is lucky to have naturally low humidity. Strive to keep the humidity in your Uromastyx enclosure under 35%, while providing a more humid retreat (details below). This low humidity also tends to make keeping live plants in the uro enclosure more of a challenge!

Uromastyx love heat, and although they like their basking spot to be over 120 degrees, the rest of the tank needs to have a temperature gradient of 100 to 85 degrees Fahrenheit. The lizard must be able to thermoregulate their body temperature by migrating around their enclosure, which is why larger enclosures are best for Uromastyx. Nighttime temperature can drop into the mid-70s (60s in winter only if cycling for breeding).

Basking spots should be created with a reptile dome lamp and a clear "infrared" heat lamp bulb (less than $5 at home improvement stores). You can also use an

Strive to keep the humidity in your Uromastyx enclosure under 35%, while providing a more humid retreat.

outdoor floodlight if your light fixture can handle the wattage, this provides a very bright basking spot. Use a piece of flat slate or other light-colored rock surface. Make sure that the reptile cannot touch the heat source! Adjust as necessary depending on wattage to reach 120 degrees Fahrenheit directly over the basking rock (not ambient temperature). 120 is the minimum temperature; we recommend 130-140 right under the light and let the lizard move around to thermoregulate.

Make sure the tank is well illuminated – they want and even need bright lights to regulate their seasonal feeding response. If a bulb burns out and the tank becomes dark, they may go off-feed. We've experienced this first-hand so if your Uromastyx stops eating, check the lights and the basking spots and ensure ideal conditions are being provided!

UVB LIGHTS

In the past, we have had mixed feelings on artificial UVB lighting. We supplement our uros' diet with products containing Vitamin D3. During the summer, we expose our Uromastyx to natural sunlight for basking. Many of the current UVB bulbs on the market do not provide the optimal range of UV wavelengths. There is also the risk of photo-kerato conjunctivitis. From 2007-2009, major brands of UVB bulbs had a manufacturing error which resulted in damaging short-wave UV rays being emitted. The batch we used in 2010 happened to be one of the ones that had the problem. Unfortunately, The Dude suffered from painfully swollen eyes for a week. Luckily, there was no permanent damage to his eyes. After consulting with other Uro keepers, we decided UVB lighting wasn't a necessity and in some cases, is not worth the expense, unpredictable output and health risk.

However, the past few years have brought us more affordable and reliable choices and we are currently reconsidering our use of these bulbs. Please read our in-depth article on artificial UVB lighting

Your mileage may vary and we do not discourage others from using UVB lights. Just be sure to research the specific brand and model of bulb. They do seem to promote natural behaviors, especially in bulbs that also produce UVA. In rehabbing Uromastyx with calcium deficiencies, UVB bulbs can be especially useful.

Keep an eye on UV Guide UK for latest news in UV lighting for reptiles.

Outdoor Housing for Uromastyx

In warm areas, Uromastyx can be housed outdoors. Keep in mind, however, that when exposed to natural cycles, uros will go through a brumation period which leads to breeding behavior. This can be very problematic when multiple individuals are present, as males are territorial and females are extremely aggressive to all other females AND males when bred.

It may be an easier undertaking to build an outdoor enclosure for daytime basking rather than full-time containment. For some general guidelines, see the AZ Game & Fish Desert Tortoise Enclosure info. Uros don't eat grass, but you can plant a variety of safe edible plants for them.

Additionally, for sunny days you can give smaller or young Uromastyx some time outside in a "tortoise house", which is basically a box with a mesh screen lid that has a shaded sleeping area. However, these don't offer enough room to be permanent enclosures.

Uromastyx Diet & Nutrition

Uros are mainly herbivorous and do well on a supplemented vegetarian diet. Insects are not needed (unless the uro is not settling in) and can cause more harm than good. Although hatchlings may readily take insects, this is a critical period for them and an improper diet can cause Metabolic Bone Disease (MBD) quite quickly.

Their "salads" should consist of dark green leafy vegetables, limiting spinach, kale, broccoli, and cabbage. Head lettuce, such as iceburg letuce, are not nutritious. Chose "spring mix" packaged greens, and add in additional helpings of endive, bok choy, dandelion greens, thawed frozen veggie mix, shredded squash, and other safe veggies. Edible flowers like hibiscus blooms and dandelion blossoms can also be offered.

Check out our Uromastyx Diet page for an extensive list of foods to include and which to avoid!

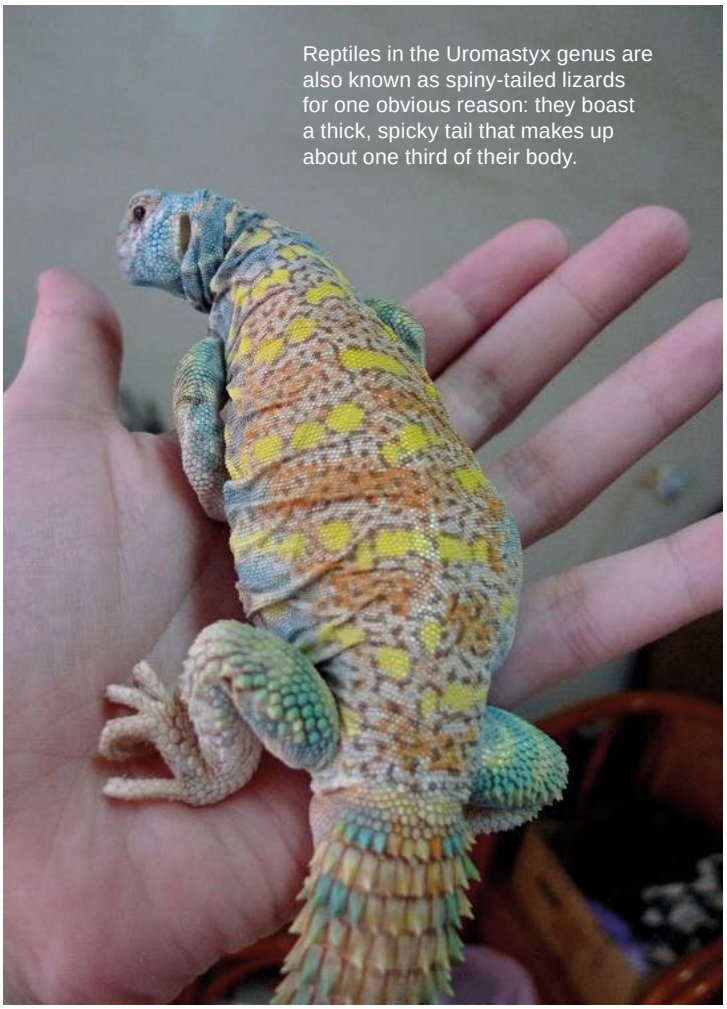
For supplementation, Repashy Vegie Dust and Miner-Al Indoor formula can be used on alternating days.

Additionally, dried beans, juvenile iguana pellets and/or ground Mazuri Tortoise pellets can be offered dry in a separate feeding dish. However, Uromastyx housed on birdseed may not be inclined to eat this mix.

Water

Most Uromastyx species do not drink from a bowl but get most of their water needs from their food. Hatchlings should have a shallow jar or tupperware lid of water available every other day. New arrivals, sick individuals and gravid or recuperating females may require occasional drinks of water. Be careful that your uro doesn't asphyxiate on the water; some get very excited in water and inhale it into their lungs!

Too high of humidity and even soaking can contribute to a respiratory infection (RI), which requires a vet visit to diagnose and treat with prescribed medication(s).



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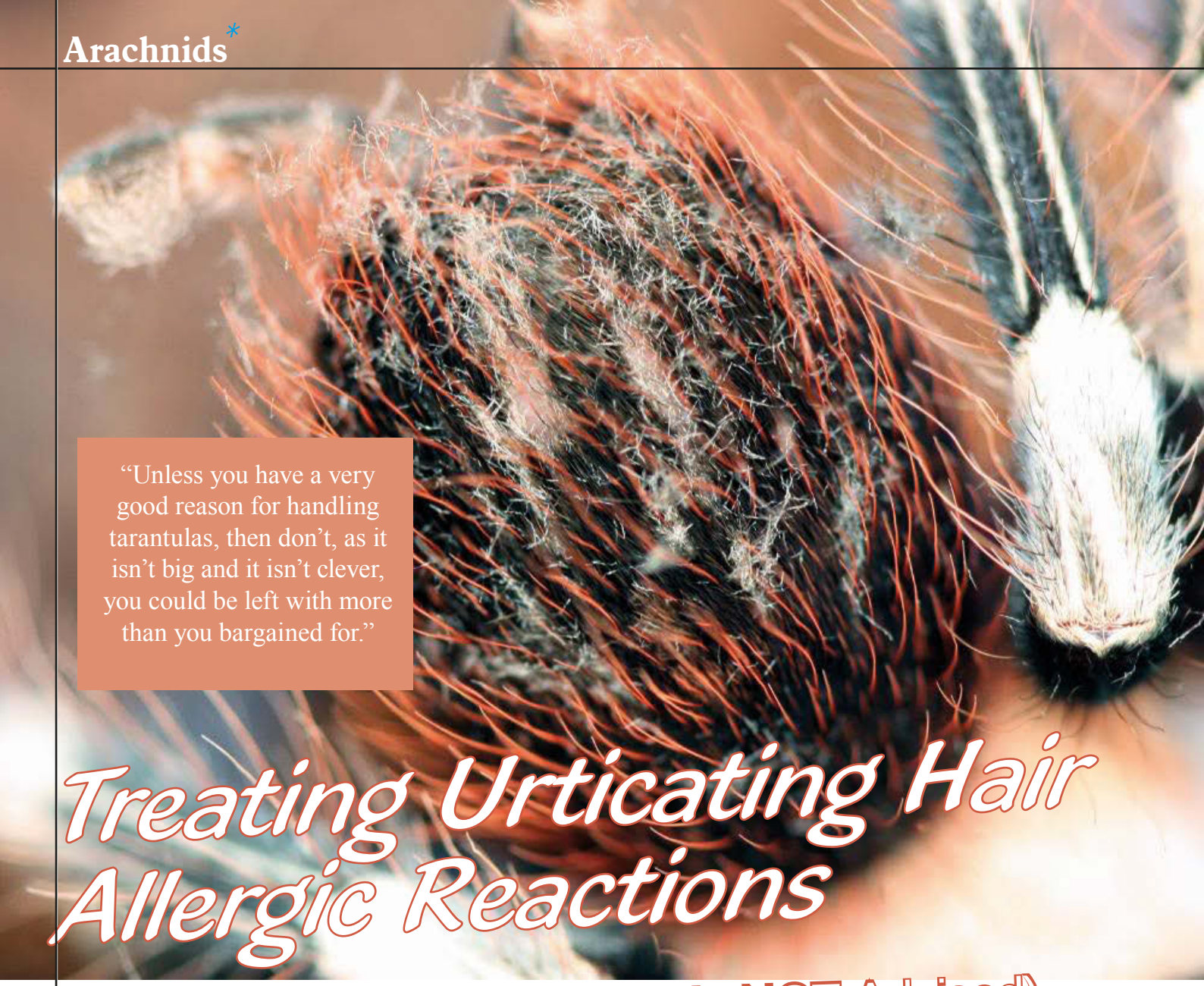
Moroccan Uromatrix. Make sure the tank is well illuminated – they want and even need bright lights to regulate their seasonal feeding response.



"Unless you have a very good reason for handling tarantulas, then don't, as it isn't big and it isn't clever, you could be left with more than you bargained for."

Treating Urticating Hair Allergic Reactions

(Or Why Handling Tarantulas Is NOT Advised)

by Martin Overton

Let me just make the following very clear:

The opinions expressed here are my own personal opinions and I know there will some people that will disagree with the opinions I express in this article, however I am receiving a constant stream of e-mails from those suffering from handling their 'pet' New-World Tarantula.

Furthermore, the advice I give here is mine and I am not a physician, doctor or in any way, shape or form a member of a medical profession.

Therefore, I would strongly suggest that any serious or long-lasting effects suffered from anyone handling tarantulas that have urticating hairs, that they should seek proper medical advice, preferably from a practitioner that has knowledge of urticating hairs and their effects.

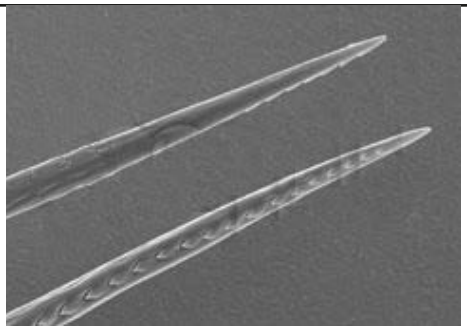
The Problem:

Here's a typical e-mail from a worried parent whose child has just handled their/or a friend's 'pet' tarantula:
"My daughter was handling a pet tarantula and her hand has several raised reddened areas. In the last day her fingers have raised bumps along them. Her hand is very itchy and sore. Is there any way to treat this..."?
In this case the reaction was quite mild, once in a while some poor unfortunate person suffers from more severe reactions, which can in a very few cases, be as serious as anaphylactic shock. There are also documented cases of partial/temporary blindness due to urticating hairs getting into the eyes. Some (few) people appear to have no adverse reaction at all to some species of tarantulas urticating hairs.

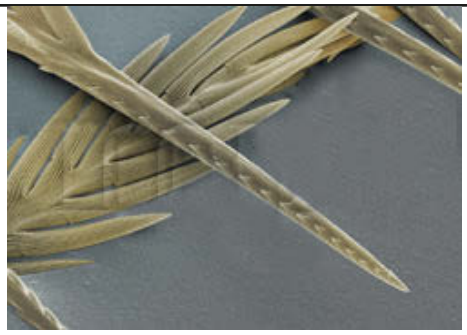
What are Urticating Hairs?

Urticating (or irritating/stinging) hairs are a very effective defence mechanism (in addition to the venom) used against attackers by Tarantulas mainly found throughout the Americas (the so-called New World Tarantulas). These hairs which cover the abdomen, in their thousands, come off very easily with a simple rub of one or more of the tarantulas' legs.

The cloud of hairs kicked at a potential attacker will penetrate any exposed skin and cause symptoms from mild to severe allergic reactions. If they get into the nose and the other airways, then a burning/stinging sensation is common along with constant uncontrollable sneezing and even wheezing or restricted breathing. If they get into the eyes, then the eyes will water



Detail of barbed distal end of type 1 hair. Magnification ca. x3,100



Detail of barbed distal end. Magnification ca. x2,400

uncontrollably, and the hairs may even cause temporary blindness. This, of course usually puts off the would-be attacker, as all thoughts of an eight-legged snack tends to be less of a burning desire.

The urticating hairs on a tarantula aren't hollow and loaded with toxins, as they sometimes are with other creatures that use urticating hairs for defence. The tarantula urticating hairs appear to irritate due to the structure of the hair itself; so, it's a mechanical irritation rather than chemical defence.

Tarantulas are not the only creature to use this defence mechanism it is also used by Moths and Butterflies, mainly in their caterpillar stage of development. However, a number of them use toxin loaded hollow urticating hairs and therefore can be accused of carrying chemical weapons which by their nature tend to cause more severe and painful reactions.

There are currently six distinct identified types of urticating hairs (a few examples appear below) and these are also of different sizes.
Urticating Hairs of Brachypelma smithi (Mexican Red-Knee Tarantula)
Entire hair (type 2) with inset showing end normally loosely attached to spider. Total length ca. 210um (0.210mm). Microscope magnification x440.
Detail of barbed distal end. Magnification ca. x2,400
Part (ca. 1/5th) of type 1 hair showing coarse barbs along its full length. Magnification ca. x570
Detail of barbed distal end of type 1 hair. Magnification ca. x3,100
"Two types of urticating hair are found on the Mexican Red-Knee Tarantula. Type 1, 1mm long with coarse barbs along its full length and type 2, just 0.2mm long, very ornate but equally as unpleasant."

The Solution:

I strongly advise against handling tarantulas as most that are kept as pets have urticating (irritating) hairs that cause a rash on skin that is exposed to them through handling or a tarantula kicking hairs in defence. Please be aware that this is a natural defence mechanism for most tarantulas from the Americas (most New World species).

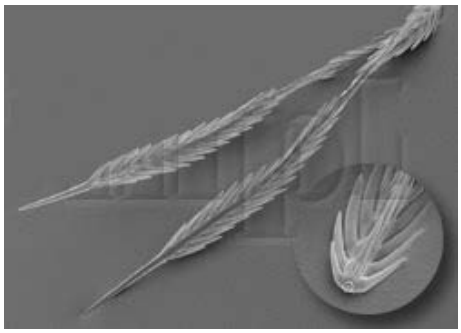
Some tarantula societies also feel, quite rightly, that careless and uneducated handling of tarantulas can only be damaging to our hobby and could ultimately, in the current 'political correctness culture' be seen as a 'good' reason to limit or ban these fascinating creatures. This would mean that only zoos and other licensed and policed/educational establishments would be allowed to keep them.

Too Late...

So, you've already handled the tarantula and now you have a rash on your hands or other extremities, and you want some advice on how to treat the constant and painful itching?

There are remedies that you can use, however I would suggest that if you are concerned, that you contact a suitable doctor that has knowledge of urticating hairs and their effects as occasionally severe reactions do occur and may require unusual treatment. An example of a product that can help is Piriton (an anti-allergy tablet that contains chlorpheniramine maleate Ph.Eur. 4mg).

You may find that creams or tablets that contain



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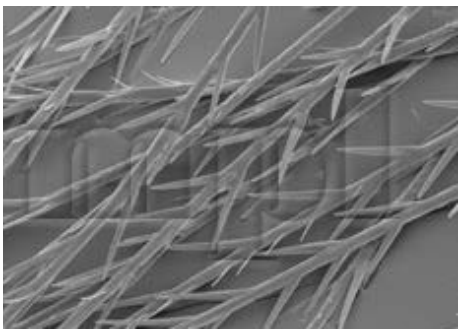

Part (ca. 1 5th) of type 1 hair showing coarse barbs along its full length. Magnification ca. x570

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We would like to encourage any Heretological Clubs and Associations in South Africa who is not on this list to please contact us on 031 763 4054 or editor@ultimateexotics.co.za so that we can place you on our list free of charge.


Brazillian Giant Blonde
(Nhandu Tripepii)

anti-histamine may well help as they combat the excess histamine that is being produced. Scratching the affected area may cause the hairs to go deeper into the layers of the skin.

You may find that the rash will subside in a few days, however I would suggest that you speak with a doctor or pharmacist and explain the condition as they can offer the best advice.

Suggestions for The Future...

1. I would also strongly suggest that tarantulas are not handled.

I don't make this suggestion lightly as I have been keeping tarantulas for over 13 years, and have never handled my tarantulas, and have experienced the effects of urticating hairs personally, both on the limbs and in the airways (nose, throat, lungs). I have only experienced temporary effects (2-3 days of rash). However, with some species the effects can last significantly longer, sometimes re-erupting months or years after the initial exposure (worst case scenario).

2a. If you must handle them (for a good reason, not just 'cos it's cool, or that it scares your sister/bother/friend) then ensure that your hands are very thoroughly washed (with soap and water) after each and every handling episode.

2b. Don't scratch any part of your body while you are handling it, especially your face or rub your eyes as you'll be sorry you did.

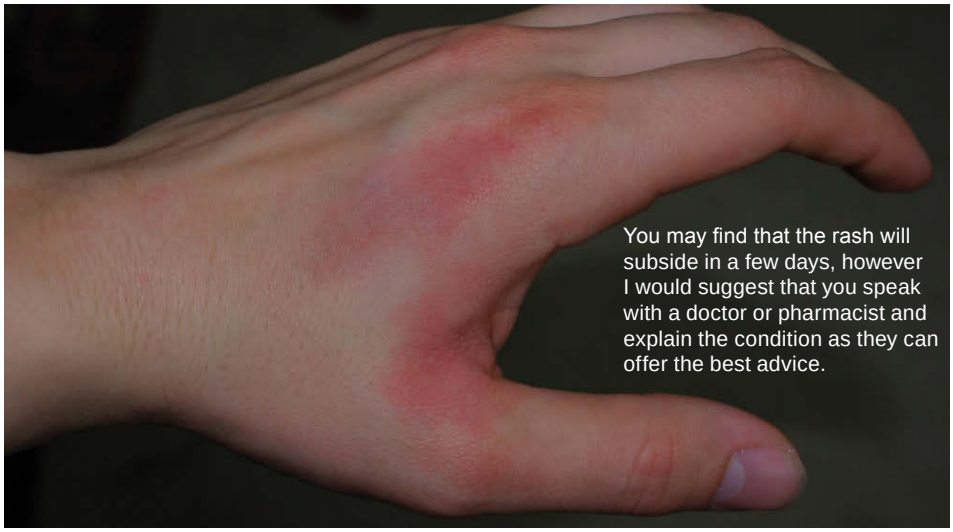
2c. If you do get a rash, then DON'T scratch it as this will force the hairs deeper into the skin and may in some cases cause secondary complications such as infection and permanent scaring.

2d. NEVER, let a tarantula walk on your face or any other sensitive areas. A rash may be the least of your worries, try explaining to a doctor/nurse/paramedic how you got bitten, or have a severe allergic reaction 'there' by/from a tarantula.

Conclusion:

Unless you have a very good reason for handling tarantulas, then don't, as it isn't big, and it isn't clever, you could be left with more than you bargained for.

Just Say NO!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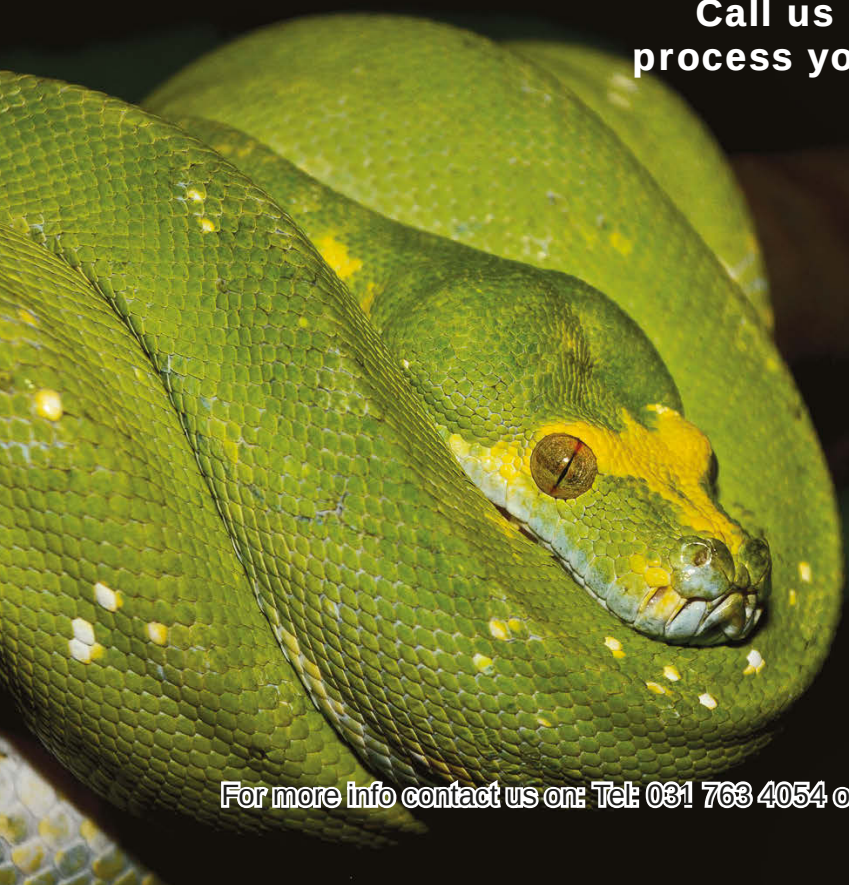

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