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Have you ever thought about what attracts you to the creatures you have? In this issue, Colin Stevenson explains his fascination with keeping crocodilians while at the other extreme, Colin Dunlop reveals his long-standing interest in leafcutter ants. For those who share their lives with reptiles, amphibians and invertebrates, it's not necessarily about keeping a pet. Instead, the appeal lies in being able to observe and study creatures at close quarters which may otherwise only be seen occasionally on television.

In case you'd been distracted recently, it's that time of year again. Christmas is almost upon us, and if you're looking for some last-minute gift ideas in the reptile field, check out our suggestions on page 30. You can always drop heavy hints to your nearest and dearest as well, if you spot something here that you like!

Remember to order everything needed for your animals without delay as well. It's not just a question of food - obtaining a spare bulb for example is a good idea because it could be potentially disastrous if a vivarium heater blows on Christmas Eve, leaving you possibly without a replacement for several days.

Once you have everything organised, why not settle down and enter our special Christmas crossword competition? Whatever your plans, enjoy the festive break.

David Alderton, Editor.

**David is an acknowledged expert with more than 40 years of experience in this area. He has written and broadcast extensively about the care and biology of these creatures, and also speaks regularly to various herpetological groups.*

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Cuddly crocodilians?

They have been living on the planet, essentially unchanged for over 200 million years, and have beaten the mighty dinosaurs at the survival game. They are magnificent, large and powerful predators. For some people, they are fearsome; for others, they are pets! Colin Stevenson explains the appeal of keeping crocodilians.



It often surprises people to find out that crocodiles and alligators are thriving in some private homes in Britain. Admittedly, not many people have them, and for very good reason. Crocodilians and dangerously venomous snakes are the two groups of reptiles that should be kept only by the experienced, and totally dedicated. Now is a good time to mention that this article is in no way recommending crocodilians as 'pets'. The aim here is to explain why some people are prepared to go to great extremes (and cost) to keep these reptiles, and why they find them so fascinating.

There are 23 species of crocodilian, encompassing crocodiles, alligators, caimans and gharials. Most have similar lifestyles: predators living at the water's edge, feeding on insects, fish and frogs when young, and moving onto larger prey as they mature. The tail is designed for swimming; the skull is strong, with teeth that grip their prey effectively and a bite so powerful that it is simply incomparable to that of any other living creature. Although often considered as primitive in the past, the physiology of crocodilians is remarkably complex, as scientists are now appreciating.

The species most commonly kept in Britain are some of the caimans, notably the common, or spectacled, caiman (*Caiman crocodilus crocodilus*) and the dwarf caiman (*Paleosuchus palpebrosus*). Occasionally, African dwarf crocodiles

(*Osteolaemus tetraspis*) become available, as well as Chinese alligators (*Alligator sinensis*) and, rarely, their American relative (*A. mississippiensis*). Other species grow simply too large to house outside of zoos or professional facilities. ▶

Dwarf crocodiles bred in 2000 in Denmark.
© Colin Stevenson.



Most suitable crocodylians for private keepers

Species		Availability	Approx. Size	Temperament
Spectacled caiman	<i>Caiman crocodilus</i>	good	1.8m male, 1.5m female	Moderate
Dwarf caiman	<i>Paleosuchus palpebrosus</i>	moderate	1.5m male, 1.2m female	Moderate
Dwarf crocodile	<i>Osteolaemus tetraspis</i>	rarely	2m male, 1.6m female	Moderate
Smooth-fronted caiman	<i>Paleosuchus trigonatus</i>	rarely	2m male, 1.6m female	Difficult
Chinese alligator	<i>Alligator sinensis</i>	occasionally	2m male, 1.6m female	Good

Dangerous wild animals in your home

Are they good pets? Well, no, not really! They are insanely cute when young and small, but they grow. And once they reach 1m (39in) in total length, their bite becomes a serious concern. The dwarf caimans will spend most of their time hiding, and normally do not enjoy much handling. Regular duties such as cleaning and feeding can be time-consuming, and of course, potentially dangerous as the crocodylian matures.

The *Dangerous Wild Animals Act* (often referred to simply as "the DWA") permits people to keep these exotics, with a regulatory framework established which includes regular inspections of the premises where the crocodylians are kept. Whilst it sounds rather dramatic, the DWA lays down a straightforward process, aimed at ensuring the welfare of both you and your crocodylian (as well as that of your neighbours!).

The DWA licence is issued by the local authority, so this is dealt with by the council's licensing section. They will arrange to visit you, along with a veterinary surgeon. The aim is to make sure you know what you are doing, so experience counts! They will check that the enclosure is suitable, and that it is secure, and warning signs are in place.

The cost of obtaining a DWA licence varies drastically. In the author's county, the fee is around £200 to apply, then renewable at around £120 per year. But other keepers report fees as high as £800 per year. In most cases, the veterinary

surgeon's fee will exceed the actual cost of the licence!

The DWA is a good thing: if you want such animals as crocodylians, or even lions and tigers, the possibility is there for you: but you need to work for it, as you should. These are serious animals, so justify serious legislation. If you do not want to apply for a DWA licence, then don't even consider any DWA animal. Otherwise, you will be breaking the law, and will end up in the news when you are caught and prosecuted.

Who keeps crocs?

Given the size of crocodylians, the legalities involved and expense of keeping them, why would anyone want to do so? For those who are serious, it's almost a calling! A friend of mine explains that he has always been fascinated by them. They are the only animal he has ever really wanted. For me personally, it's a tremendous honour to have a crocodylian in the home. These animals have been my personal favourites since I was two years old.

Many other true 'croc people' feel the same: they can sit and watch their crocodylian for hours, and just the thought of it being there brings a delighted smile to their face. They have libraries of crocodile books, plus shelves of crocodile videos and DVDs. I think most readers can relate to this, as many of you will be obsessed with your own particular choice of animals! Crocodylian keepers also often become very involved in conservation of this group of reptiles. They have been integral to the

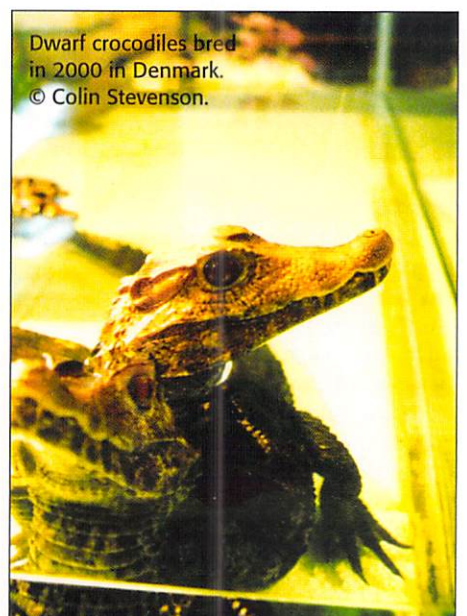
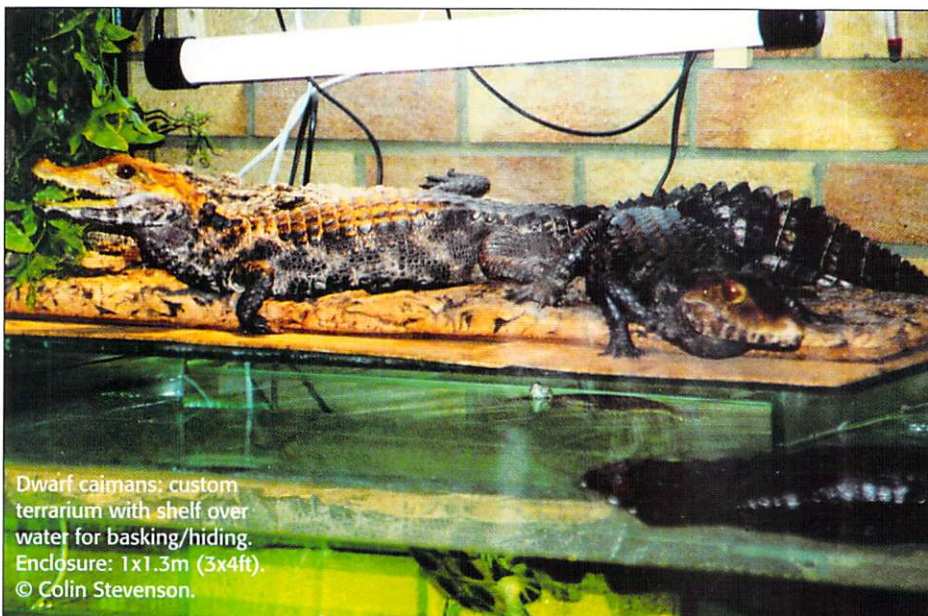
success of some conservation programmes for Chinese alligators, the false gharial (*Tomistoma schlegelii*), and are currently helping to assist the survival of the gharial (*Gavialis gangeticus*) in India and Nepal.

Nevertheless, a few people choose a crocodylian simply because it is 'cool', having more money than sense. In the author's experience, these keepers end up giving their crocodylian away at some point, when the 'coolness' wears off – which may happen remarkably quickly. Another friend of mine was called to remove what was described as a 'large' alligator from someone. When he arrived, it was a 60cm (2ft) spectacled caiman that was then 'too big' for its owner.

Where do you put a crocodile?

All crocodylians are tropical species. The alligators – Chinese and American – can withstand cooler temperatures, but even they require a nice warm home. Readers of this magazine know all about heating cages for their bearded dragon or corn snake. Imagine heating an enclosure for a 1.8m (6ft) crocodile – the energy companies love it!

"I have three sheds of different sizes," one keeper explained to me recently. "Each shed is insulated on the top, sides, and bottom with Celotex insulation, and I heat the sheds in winter. Each enclosure has one or two 150 watt heat lamps, as well as those mercury vapour UV bulbs. I have a system that controls temperatures, timers, filters – the works!"





“The last thing you want when you open the door in the morning is a crocodile attaching itself to your leg!”

Whilst young crocodilians can easily be kept in aquariums of varying sizes, eventually you need to get rid of the tanks and build an enclosure. Basically, you will require a zoo-style pen. For most keepers, this is the garage, or a shed converted for their crocodilians. Insulation will save money in terms of heating costs, but there is no escaping the fact that this will still be expensive.

The main components of a crocodilian's quarters are:

- A pool
- A land area for basking
- An area for hiding

The pool will take up most space within their enclosure. My pond – constructed of wood and fibreglass measures approximately 2.4 x 1.2m (8 x 4ft), and is up to 0.8m (2.5ft) in depth. It is home to two caiman that are now 1.4m (4.5ft) and I'm planning on expanding it for them again over the next couple of years.

Most ponds used for crocodilians are large preformed plastic/fibreglass ponds traditionally sold for koi, although many keepers like to make theirs from concrete, coated with water-proofing agent. Concrete certainly allows for a nice gradual slope to and from the water, but carries the risk of damaging the skin of the crocodile if it is too rough, or should it be too smooth, so the reptile's feet will slip and rub against the surface. Like Goldilocks' porridge, the texture must be just right!!

Water temperatures are generally kept around 26-27°C (79-81°F). An effective filter means less water changes are necessary and a drain means even less hassle! Basking lights need to allow the crocodilians to attain a body temperature of around 32°C (90°F), while background heating ensures night-time temperatures don't dip below the low-mid 20s (72-77°F).

The land area can have many substrates, including wood chips, sand and grass. It all depends on the size of the enclosure, and your ability to maintain it. Many years ago, I lost a very young crocodile due to pebbles. The crocodilian swallowed a pebble about the size of a marble, and

died – despite veterinary care. Therefore, I would not recommend pebbles and stones in enclosures for hatchling or young crocodilians under about 1m (3ft) long.

For animals at this age, the land area should be built as a shelf extending over part of the water. This allows for the crocodilian to hide in the water beneath the overhang. This mimics the way that young crocodilians behave in the wild and is a straightforward way of reducing stress for them. Even in large enclosures, this can be accomplished, and for species such as the African dwarf crocodile and dwarf caiman, this design will be utilised throughout the life of the animal.



Dwarf crocodiles. Enclosure size is 3m x 3m (10x10ft). Taken during refilling after cleaning. © Colin Stevenson.

"I had a Chinese alligator climb out of his cage. I couldn't believe it! It was a metal fence, with only a few cross lengths," one keeper told me. The agility of crocodilians is often under-estimated. They can climb quite well, and jump effectively too. The walls of the enclosure should therefore be smooth, built to a height of at least 1.2m (4ft) above the water or land area. If the wall does not extend to the ceiling, then it should have an overhang to prevent the crocodilian from escaping. The last thing you want when you open the door in the morning is a crocodile attaching itself to your leg!

To catch a crocodile

The time will come when this is essential, so you need to be prepared. The best way to restrain small animals is to grab them quickly behind the head, without hesitation. Crocodilians are incredibly quick at snapping side-ways, so never approach from this angle – they'll get you every time. Their teeth are razor-sharp and bites usually become infected. Instead, approach from above. For extra safety, you can always use something like a towel or a plastic lid to hold over the head of the young crocodilian, then quickly grab for the neck area. This will give you time to set yourself properly.

For larger crocodilians, you will need experience – this article is not aimed at instructing how to catch and handle large crocodiles. If you've seen the various cable TV presenters catching crocodiles with ropes, assisted by several helpers, you get the idea: it isn't a simple matter.

Get me my lunch – and make it snappy

Crocodilians like their food! After a period of settling in, feeding is straightforward, and a crocodilian will be waiting with open jaws. As with other reptiles, they progress from eating pinkies to rats as they grow. Hatchlings should be fed insects, including earthworms. No hand-feeding. Having had a young crocodile's tooth through my fingernail, I use blunt-ended tongs. It's fairly obvious, really....



Training

Readers may recall from the first issue of *Practical Reptile Keeping* that there was an article on the training of crocodilians. Yes, they can indeed be conditioned to make caring for them a bit easier. A simple tip is when feeding them, choose differently-coloured containers to those you use when cleaning their quarters. A crocodilian will then soon learn to recognise when it is feeding time, as distinct from cleaning time. They pick up patterns of behaviour very rapidly.

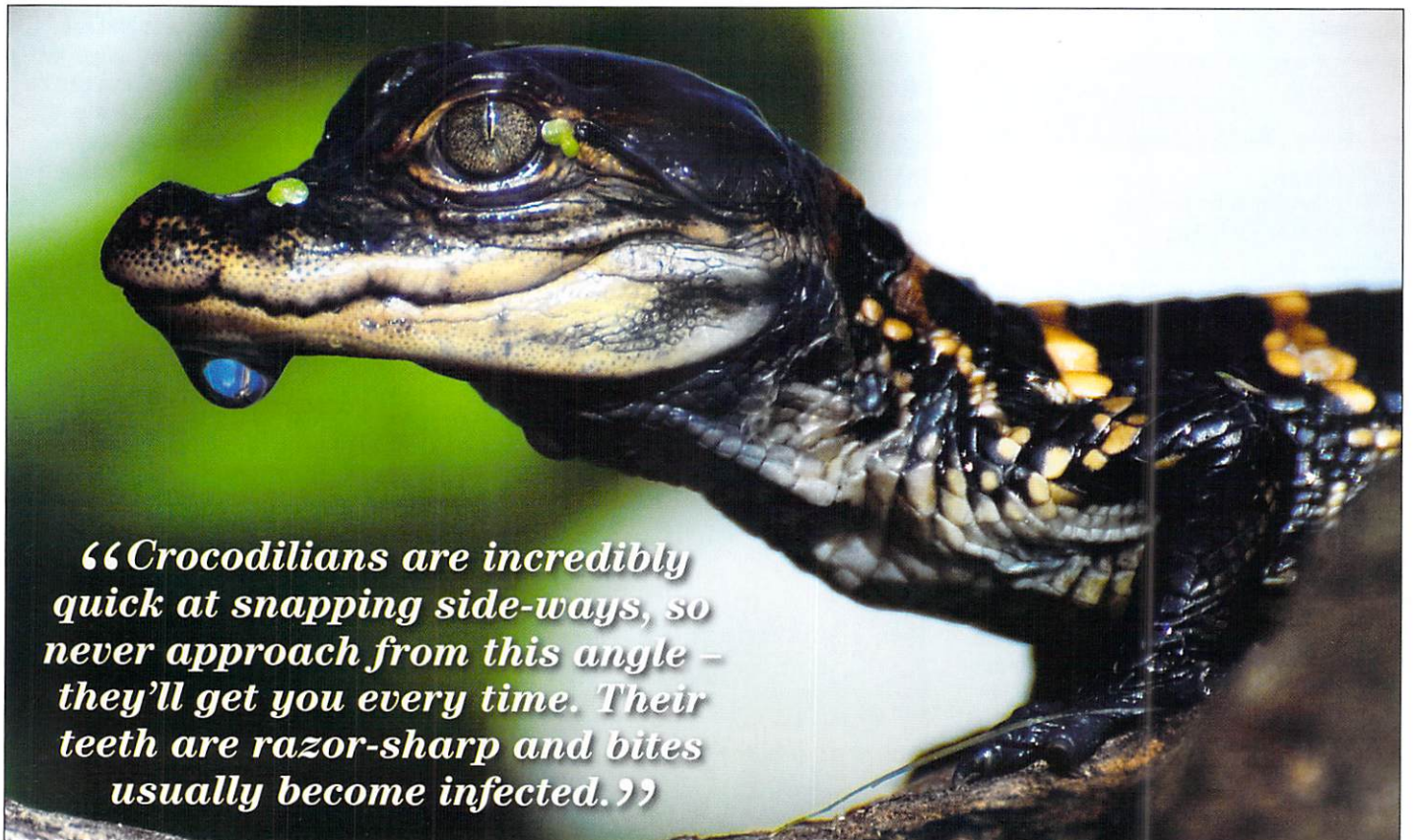
"We had our Cubans trained to stay in the water when we enter their enclosure," a keeper at Florida's Gatorland told me. "We would call them by name, and each would quietly walk over to us and take the food. We could then say 'water', and the croc would turn around and go back into the water. It was incredible, and made life much easier for us." Facilities in the US also have alligators accustomed to having basic veterinary tasks, including blood collection, performed without capture or restraint.

We're having a baby

For a very few private keepers, their crocodilian pets have also become parents. The main limiting factor is that these animals often require a much larger enclosure at this stage, and of course, temperatures, compatibility, size, diet and maturity all come into play as well. Recently however, dwarf crocodiles were bred here in Britain by a private keeper in Oxfordshire. Both dwarf and spectacled caimans have also been bred privately within the UK. I expect more species to be added to this list shortly as animals already being kept get closer to breeding size.

Crocodilians are magnificent creatures.

For most people, seeing them in zoos is rewarding enough, but for a small group of dedicated people, prepared for the expense and commitment needed, crocodilians represent a lifelong, consuming passion. We are only just starting to understand what these animals are capable of, and dedicated private keepers are making important contributions to this knowledge, by carrying out detailed observations of the crocodilians which they are keeping. ■



“Crocodilians are incredibly quick at snapping side-ways, so never approach from this angle – they'll get you every time. Their teeth are razor-sharp and bites usually become infected.”