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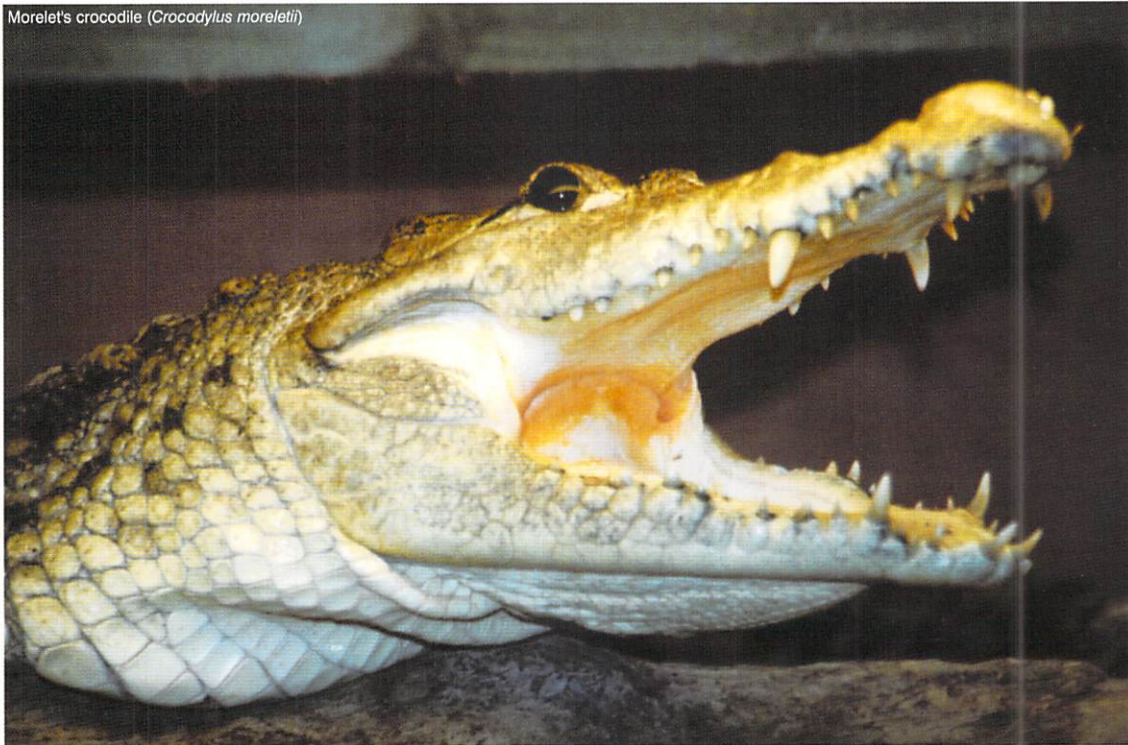
DANISH DWELLINGS

Colin Stevenson visited The Danish Crocodile Zoo and saw almost every type of species in the world



Nile crocodile (*Crocodylus niloticus*)

Morelet's crocodile (*Crocodylus moreletii*)



Muggers, or Marsh, crocodile (*Crocodylus palustris*)

When you think of crocodiles, you wouldn't generally think of Denmark - until now. There is a place here where you can see almost every living species of crocodilian. Fortunately for the locals (and their pets), the crocs are contained within the Danish Crocodile Exhibition - or Krokodille Zoo.

19 SPECIES

The zoo itself is located at Eskilstrup, on the island of Falster in Denmark - about one hour south of Copenhagen. Started as a private collection in the 1990s, the Danish Crocodile Exhibition officially opened to the public early

2000. The recent addition of a young pair of Gharials (*Gavialis gangeticus*) brings the total number of different crocodilian species at the zoo to 19, but negotiations are underway which should see the Black caiman (*Melanosuchus niger*) exhibited by the end of this year.

This is one of the most significant collections of crocs you will see anywhere. The owner, Rene Hedegaard, aims to eventually have all 23 species of crocodilian on show.

The emphasis is on providing the crocs with suitable enclosures and educating visitors about the ecology and conservation of the world's crocodilians. Of course, the sight of some very large crocodiles is a major attraction. A percentage of the entry fee also goes directly to crocodile conservation programs worldwide, via the Crocodile Specialist Group of the IUCN.

CROCODILIANS

The living crocodilians vary from the familiar American alligators, to the rare Chinese alligators or gharials from the large Nile and saltwater crocodiles to the small Dwarf caimans and Dwarf crocodiles. There are variations in colour, size, nature, habitat, behaviour, snout-shape and diet. To find all these different species in the one place is a fascinating experience.

The zoo has the largest crocodile in Scandinavia with Samson, a large male Nile crocodile who shares the enclosure with two females. These crocodiles are quite active, moving between the water and sandy basking areas.

Another species not often seen is the Cuban crocodile (*Crocodylus rhombifer*). These beautiful crocodiles retain their vivid black and yellow markings well into maturity. They also have a well-earned reputation for jumping - which makes feeding time a tad more tricky for Rene than with say, the Dwarf caimans.

Of particular interest are some of the rarer species - such as the Siamese crocodile (*Crocodylus siamensis*), Tomistoma (*Tomistoma schlegelii*), Chinese alligator (*Alligator sinensis*), African slender-snouted crocodile (*Crocodylus cataphractus*), Gharial and Morelet's crocodile (*Crocodylus moreletii*). Some of these are critically endangered in the wild, and not often seen in captivity. ▶



American alligator hatchling
(*Alligator mississippiensis*)

“The zoo has the largest crocodile in Scandinavia with Samson, a large male Nile crocodile who shares the enclosure with two females”

BREEDING SUCCESS

Several species have successfully bred at the zoo. Last year, American alligator and West African dwarf crocodile hatchlings were produced and the Spectacled caimans also laid eggs, but these failed to hatch. At least twice, the Muggier crocodile (*Crocodylus palustris*) has laid infertile eggs. The most successful to date, though, are the Dwarf caimans, (*Paleosuchus palpebrosus*). The Dwarf caiman female is already set to lay eggs again this year, and the alligators, Dwarf crocodile and Spectacled caiman are expected to lay again as well this year.

Last year, the Spectacled caiman female chose the zoo's opening time to lay her eggs and fascinated visitors and excited staff got to see her actually laying them.

The Dwarf caimans, the smallest of the existing crocodylians, have reproduced at the zoo in 1997, 1998 and 1999. Their enclosure was modified last year, and due to the stress of moving around, they did not reproduce. Since 1997, a total of 37 Dwarf caiman hatchlings have been hatched and raised at the zoo.

The zoo's male Dwarf caiman is 1.5m and the female 1.2m. Like all caimans and alligators, the Dwarf caiman builds a mound nest of vegetation in which to lay and incubate her eggs. The timing of the reproductive cycle is influenced by many factors, including seasonal temperature fluctuations and number of hours of daylight. Rene caters for these and other factors, and he generally lowers the winter temperature for all crocs, along with altering the light cycle.

Once the Dwarf caiman is out of the cooler winter period, they begin mating. At this time, nest material is provided in the enclosure - hay, dead leaves, woodchips and sphagnum moss. She will then lay her eggs anywhere from April to July. Once the eggs are laid, the caiman will remain in front of the nest, exhibiting the parental care that all crocs are noted for.

Rene takes great care when removing the eggs from the nest, transferring them to an incubator (whilst some lucky helper gets to keep mummy caiman away). In this way, the incubation temperature can be controlled precisely.



Captive-bred dwarf crocodile
(*Osteolaemus tetraspis*)

It is interesting that all crocodylians have their sex determined by the incubation temperature. Generally speaking, females are produced at the lower and higher ends of the spectrum, and mostly males are produced at intermediate temperatures. The obvious advantage here is that for captive breeding, the sex of the hatchlings can be determined simply by manipulating this temperature.

The duration of incubation is also a function of temperature - the hotter it is, the quicker the incubation period. For the Dwarf caimans, a temperature of 31°C will mean an incubation period of 99 to 100 days.

When the period is coming to an end, the caiman will call from within the egg. This indicates the young caimans are ready to hatch. If necessary, the shell will be cracked by hand, but not the inner membrane (chorion). This way, the young can break out of this membrane and hatch normally, without the risk of them being unable to break the often very hard shell.

The hatchlings will live off their yolk sac at first, and are then introduced to a diet of earthworms, followed by freshwater fish as they grow.

CONSERVATION

The Danish Crocodile Zoo is also about conservation. As well as the donation of part of the entry fee to crocodile conservation programs, Rene was also involved with the export of Chinese alligators from the captive breeding centre in China. This provided the Chinese centre with much-needed money for its research and conservation program and Rene is set to visit China again this May.

All imports for the Chinese alligator are controlled by CITES - the Convention on International Trade in Endangered Species. Since the Chinese alligators are Appendix 1 species, this meant quite a lot of work for the people involved, but the rewards are that relationships were established between the zoo and Chinese alligator



Rene, the owner of the zoo, with a small Chinese alligator

biologists, and the zoo can now plan a future breeding program for this species.

EXPERT

Crocodiles generally get a bad reputation from the press. The truth is however, they exhibit highly developed behaviours in communication, parental care, and tremendous inter-species variation in colour, habit, temperament, size and head-shape - they are not all man-eaters. The Danish Crocodile Exhibition offers the chance to appreciate these magnificent reptile survivors up close, and is run by someone both fascinated by and expert in crocodylians. **end**

CONTACT

Danish Crocodile Exhibition
Ovstrupvej 9
4863 Eskilstrup
Denmark
Fax: (+45) 5445 4242
From Copenhagen: Take E47 / E55 to Exit 43, in the direction of Stubbekbing. First street on right (Gundslevmagle). Left onto Ovstrupvej after 3.8 km. It is sign posted.

LIST OF SPECIES

Crocodylians:

American alligator	<i>Alligator mississippiensis</i>
Chinese alligator	<i>Alligator sinensis</i>
Spectacled caiman	<i>Caiman crocodilus</i>
Broad-snouted caiman	<i>Caiman latirostris</i>
Yacare caiman	<i>Caiman yacare</i>
Dwarf caiman	<i>Paleosuchus palpebrosus</i>
Smooth-fronted caiman	<i>Paleosuchus trigonatus</i>
Slender-snouted crocodile	<i>Crocodylus cataphractus</i>
Johnstone's crocodile	<i>Crocodylus johnstoni</i>
Morelet's crocodile	<i>Crocodylus moreletii</i>
Nile crocodile	<i>Crocodylus niloticus</i>
New Guinea crocodile	<i>Crocodylus novaeguineae</i>
Mugger (Marsh) crocodile	<i>Crocodylus palustris</i>
Saltwater crocodile	<i>Crocodylus porosus</i>
Cuban crocodile	<i>Crocodylus rhombifer</i>
Siamese crocodile	<i>Crocodylus siamensis</i>
Dwarf crocodile	<i>Osteolaemus tetraspis</i>
False gharial	<i>Tomistoma schlegelii</i>
Gharial	<i>Gavialis gangeticus</i>

Tortoises and turtles:

Spur-thighed tortoise	<i>Geochelone sulcata</i>
Hilaire's side-necked turtle	<i>Phrynops hilarii</i>
Terecay turtle	<i>Podocnemis unifilis</i>
Snake-necked turtle	<i>Chelodina longicollis</i>
Red-eared slider turtle	<i>Trachemys scripta elegans</i>

Snakes:

Green anaconda	<i>Eunectes murinus</i>
Ball python	<i>Python regius</i>

Lizards:

Water monitor	<i>Varanus salvator</i>
Green anole	<i>Anolis carolinensis</i>
Brown anole	<i>Anolis sagrei</i>