# National Aquarium of Baltimore Exhibit -- VENOM: Striking Beauties

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**National Aquarium of Baltimore**
Pier 3, 501 East Pratt Street Baltimore , MD 21202
Phone: 01-301-4816000
URL: http://www.aqua.org

Description

'VENOM : Striking Beauties' was a two-year exhibition at the National Aquarium of Baltimore, illuminating the role of venomous animals in the natural world. The exhibition is now available for lease.

With a diverse collection of aquatic and terrestrial venomous animals as its focal point, the exhibit combines video, sound, graphics, and recreates habitats in a multimedia experience. Its goal is to teach visitors how animals use venom as an adaptive strategy and to dispel the myths that often lead to unreasonable fear. Visitors explore the biology and behaviors of venomous animals, from warning mechanisms to venom delivery systems. The displays are loosely organized under four themes, each highlighted by a video column in the exhibit space: Venom versus Poison, Delivery, Warning, and Life and Death.

Terrestrial habitats are displayed behind heavy, double-locked steel doors. Naturalistic aquatic environments are contained within an interesting array of acrylic shapes. Combined with industrial finishes, this juxtaposition creates an underlying contrast of textures and impressions. Visible locks and gates indicate the importance of security and strength, but exhibits keep animals just one thin pane of glass away from visitors. An original music score combines sounds of deserts, plains, and rain forests with artificial, mechanical sounds, heightening tension within the gallery. These contrasts mirror the conflicts inherent in the concept of 'VENOM: Striking Beauties'.

## Animals on Exhibit

| Group: | Species: | Common Name: |
|---|---|---|
| Ray | *Urolophus jamaicensis* | Yellow stingray |
| Snake | *Bitis gabonica rhinoceros* | West African gaboon viper |
| Frog | *Dendrobates pumilio* | Strawberry poison dart frog |
| Bony Fish | *Synancela verrucosa* | Stonefish |
| Bony Fish | *Plotosus lineatus* | Stinging catfish |
| Bony Fish | *Scorpaena plumieri* | Spotted Scorpianfish |
| Frog | *Bufo guttatus* | Smooth sided toad |
| Snake | *Bitis nasicornus* | Rhinoceros viper |
| Bony Fish | *Scorpaenopsis sp.* | Red scorpionfish |
| Bony Fish | *Lo magnifica* | Red fin foxface |
| Bony Fish | *Opsanus beta* | Orange toadfish |
| Bony Fish | *Siganus puellus* | Masked rabbitfish |
| Bony Fish | *Pterois volitans* | Lionfish |
| Bony Fish | *Pterois antennata* | Lionfish |
| Frog | *Dendrobates auratus* | Green & black poision dart |
| Frog | *Phyllobates bicolor* | Golden poison dart frog |
| Centipede | *Scolopendra heros* | Giant desert centipede |
| Centipede | *Scolopendra gigas* | Giant Peruvian centipede |
| Bony Fish | *Lo vulpinus* | Foxface rabbitfish |
| Echinoderm | *Toxopneustes pileolus* | Flower Sea Urchin |
| Snake | *Bothrops asper* | Fer-de-lance |
| Snake | *Bothriechis schlegelii* | Eyelash viper |
| Scorpion | *Pandinus imperatur* | Emperor Scorpion |
| Snake | *Bitis gabonica gabonica* | East African gaboon viper |
| Frog | *Dendrobates tinctorius* | Dyeing poison dart frog |
| Bony Fish | *Dendrochirus brachypterus* | Dwarf lionfish |
| Snake | *Acanthopis antarcticus* | Death adder |
| Echinoderm | *Acanthaster planci* | Crown of Thorns sea star |
| Insect | *Dasymutilla occidentalis* | Cow killer |
| Insect | *Paraponera clavata* | Cone snail |
| Mollusk | *Hapalochlaena sp.* | Cone Snail |
| Mollusk | *Conus sp.* | Blue-ringed ocyopus |
| Ray | *Taenlura lymna* | Blue spotted stingray |
| Spider | *Latrodectus mactans* | Black widow spider |
| Bony Fish | *Scorpaena brasillensis* | Barbfish |
| Scorpion | *Centruroides exilicauda* | Arizona bark scorpion |

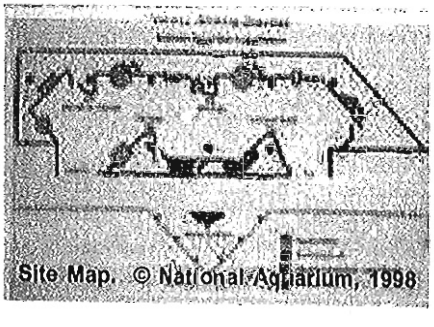
Size:

The overall exhibit space was approximately 1,800 square feet (160 $m^2$), not including back up. It was dictated by the size of the gallery where it was installed. Others who wish to lease it can spread it out to a more leisurely space plan. Space allocation in square meters:

Costs :

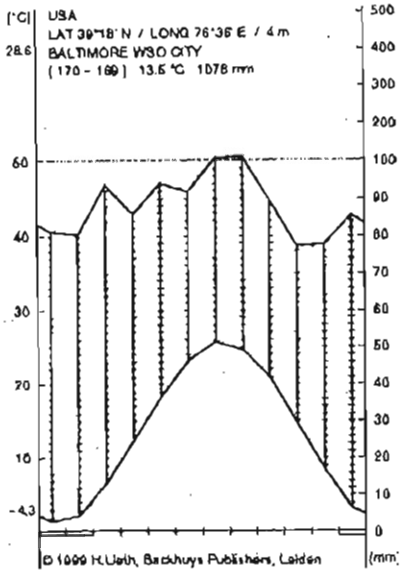
$819,700 including 3 % for design. Total costs include exhibit design/ engineering ($26,890), demolition and construction ($133,631), LS/ Warehouse holding and quarantine ($169,096), installation and interpretive elements ($265,328), tanks and habitat fabrication ($213,416), and project management ($11,339)

Construction began January 1998 and opening date was March 13, 1998. Exhibit Design was by the aquarium staff, Baltimore



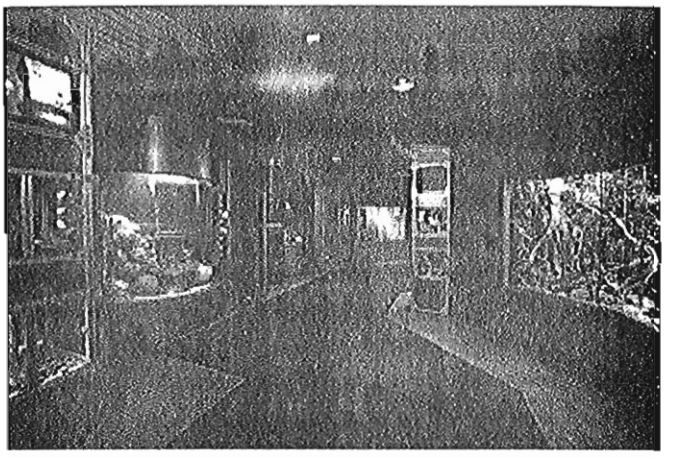
Site Map. © National Aquarium, 1998

Local conditions:
Right column is a climatic diagram for the closest weather station.




P'ants ;
Appropriate plants are chosen to portray the habitats of the animal species exhibited.

Features dedicated to animals:
The habitats are constructed to be naturalistic re-creations of nature appropriate to the animals exhibits, for example, the Australian Outback exhibit.

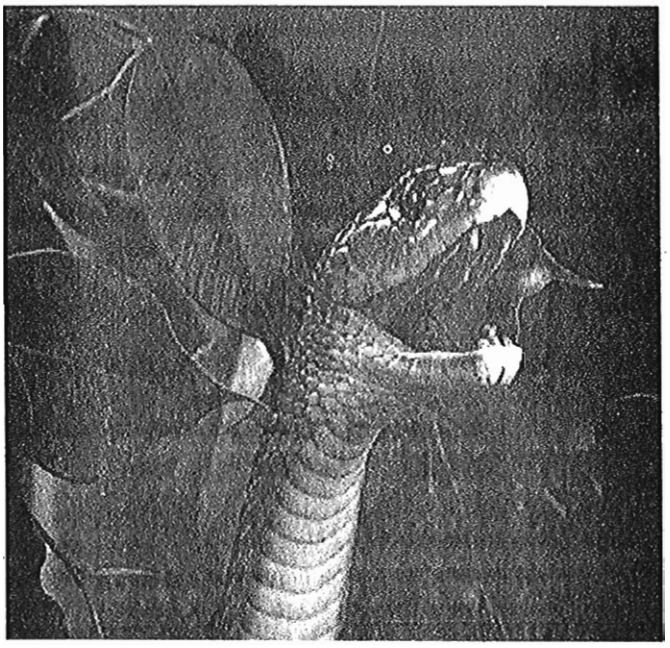


**Terrestrial habitats are displayed behind heavy, double-locked steel doors. Combined with industrial finishes, this juxtaposition creates an underlying contrast of textures and impressions. ©National Aquarium, 1998**

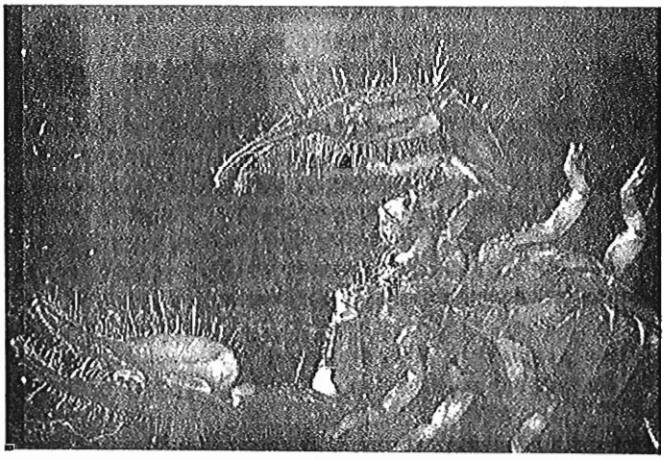
Features dedicated to keepers:
The variety and high toxicity of some of the animal species presents a special challenge for keeper safety. A Venom Emergency Procedures Manual was created specifically for the exhibit. The protocols are written in a manner that clearly define expectations, assigned responsibilities, and promote rapid response when appropriate. Staff was trained in venomous animal emergency procedures and first aid before being permitted to handle venomous species. Refresher training was offered approximately once a year. Material for each species or group of animals includes methods of envenomation; signs, symptoms, and medical treatment, and a brief bibliography for further information. The Venom Emergency Procedures Manual provides staff from several departments with guidelines for rapid response to staff envenomations or animal escapes.

FEATURES DEDICATED TO VISITORS:

A number of graphic techniques are used to engage the public. Each of the small terrestrial arthropod exhibits includes an enlarged action photo of the species on display. The aquatic and larger terrestrial exhibits are accompanied by back-lit graphic panels, including a color photo of each animal displayed and notes on its life cycle or behavior. Video monitors, provide a non-stop montage of still photos, action footage, and text appropriate to the column's theme. Four LED units provide a continuous loop of interesting venom trivia. This exhibit introduced a groundbreaking exhibit technique: the use of video screens to extend the actual recreated habitats. Action videos integrate virtual habitats with the animals on exhibit by incorporating filmed behaviors of the same species in their natural environments. For example, in an enclosure where a live cobra lays peaceably coiled, a video of a second snake shows the animal spreading its hood in a defensive display - a rare behavior in venomous animals on exhibit. Video also adds action to exhibits. The taipan displayed under a recreated shack of an Australian sugar cane grower moves infrequently, but a screen mounted on the door shows people and a dog walking around inside the shack. Many visitors think the videos are real.



**Black Mamba,**
**© National Aquarium, 1998**



Scorpion, © National Aquarium, 1998

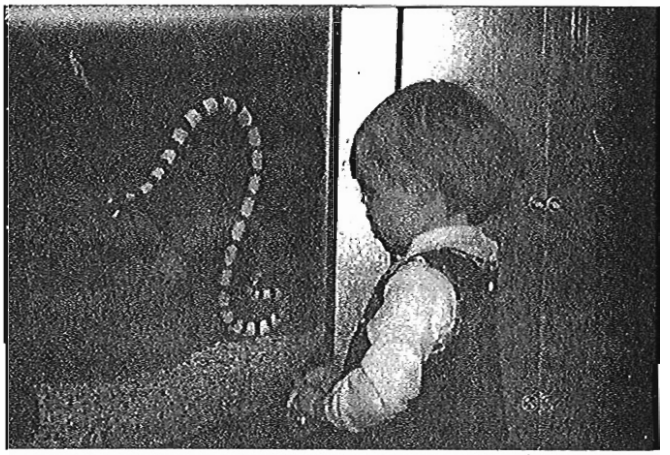
**Interpretation:**
Interpretive programming was developed on numerous levels. The Venom Discovery Station is a large display counter where trained volunteers use animal puppets, epoxy models, and preserved animal parts to allow visitors to explore key topics. They also distribute a take-home flyer that gives tips about venomous animals in the local region, reinforces the ecological importance and medicinal value of these creatures, and supports their conservation. Six interactive computer terminals enable visitors to glean additional information and watch video sequences of behaviors that they might otherwise never see.
In conjunction with VENOM, an auditorium program developed around fable and folktale themes provides general visitors with views of venomous animals here and in other countries. Education Department staff members also developed new VENOM resource materials for teachers.

**Management:**
A team of aquarists and rain forest exhibit staff was formed to safely service both the exhibit and reserve animals. Each morning, the area is locked off from the rest of the building by closing a large swinging gate. This allows biological staff uninterrupted time to service the animals. All terrestrial exhibits open either from the front or the side, providing a clear view of animals at all times and ample space needed to handle them. Standard equipment and zoo/aquarium protocols are employed to maximize safety. During the year preceding the exhibit's opening, staff received extensive training in handling the animals in reserve holding areas. Prior to arrival of the animals, all staff — including custodial, facilities, visitor services, and security — were lectured on how each species would be housed, safe handling procedures, and emergency response in case of envenomation. This procedure helps to minimize the anxiety of staff members without prior experience of working with venomous animals.

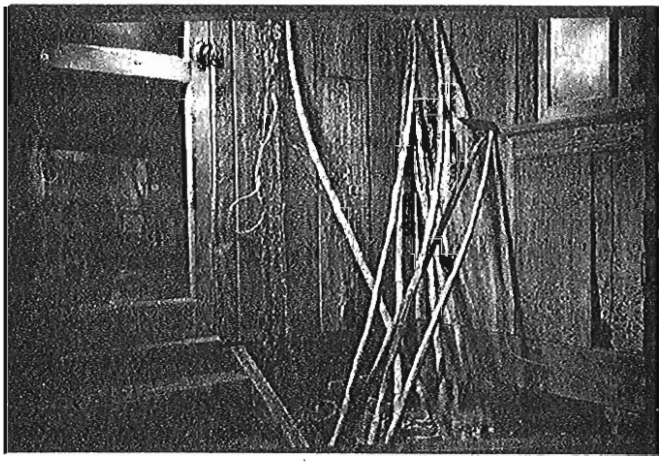
**Research:**
As a means of evaluation, front-end surveys were conducted to gauge visitor interest and knowledge levels. Information from this analysis was incorporated into the content points emphasized in the exhibit.

**Conservation:**
'VENOM: Striking Beauties' aims to correct the numerous and widespread misconceptions about venomous animals through a range of media, from electronic graphics to docent-visitor interactions. Statistics show the rarity and minimal danger of encounters with venomous animals in the U.S. The value of venom in saving lives is also presented: a display case exhibits drugs created from venom that are used to treat various human diseases. Furthermore, the presentation of these animals in compelling habitats increases appreciation for their role in various ecosystems. VENOM was designed as a two-year temporary exhibit and thus did not lend itself to breeding programs. However, staff was pleased to have the first successful captive breeding of the Eruba sea krait.

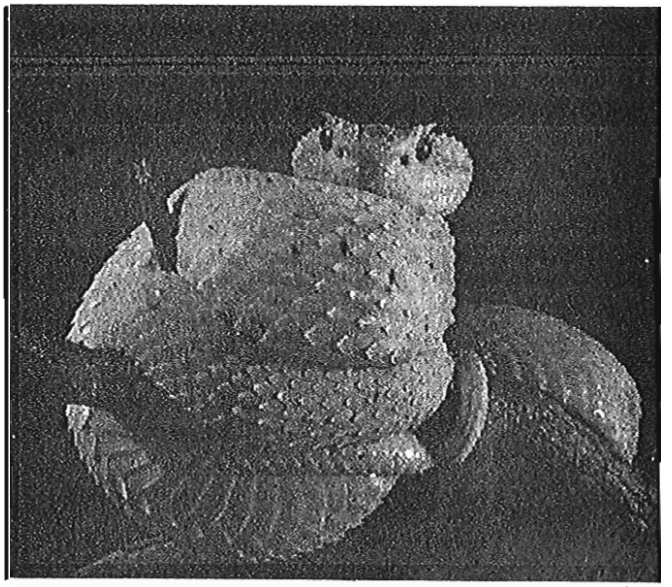
**Local resources:**
Local hospitals were utilized to aid in creating the training and safety manual for staff working with poisonous animals, such as black widow spiders.



The exhibit is designed to give a feeling of saftey, while offering up-close encounters with venomous animals such as this sea snake. ©*National Aquarium, 1998*



The taipan displayed under a recreated shack of an Australian sugar cane grower moves infrequently, but a screen mounted on the door shows people and a dog walking around inside the shack. Many visitors think the videos are real. ©*National Aquarium, 1998*



Eyelash viper on branch