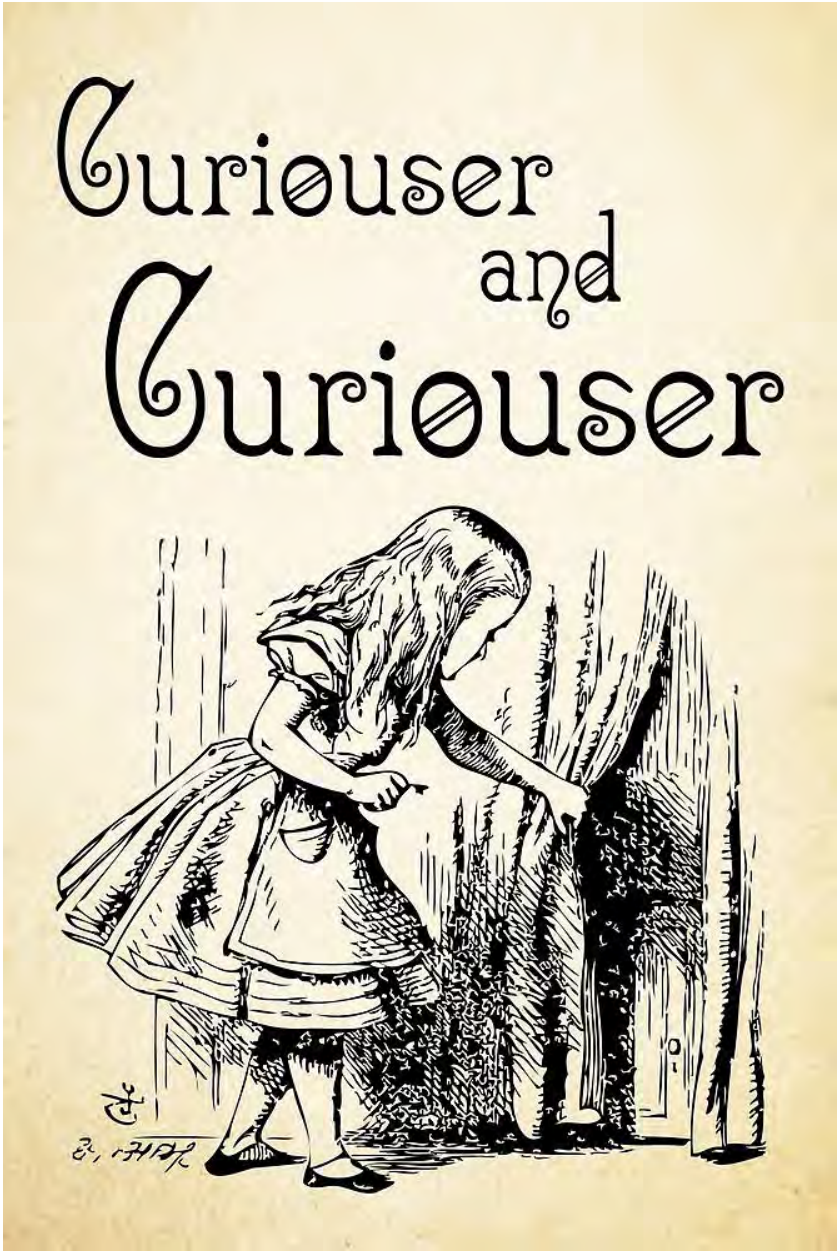


Catalog #1

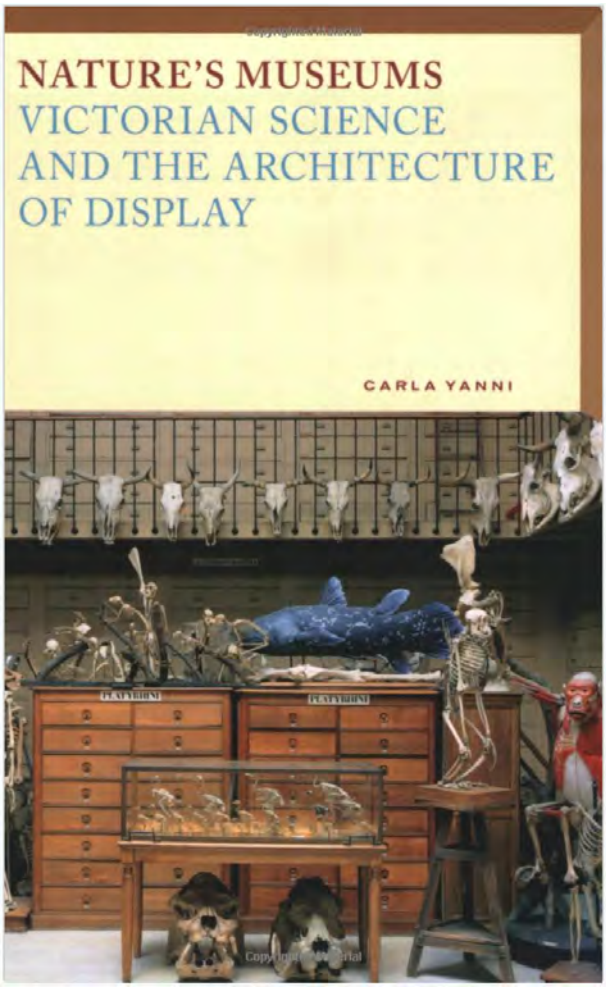
In the words of the Belgian scholar of German adoption, Samuel Quiccheberg, ca. 1560 :

[A museum is] "a theatre of the broadest scope, containing authentic materials and precise reproductions of the whole of the universe" … [in order to] "obtain rapidly, easily and safely a true and unique understanding of the world combined with an admirable wisdom".

Exhibit at the Cortes Island Museum & Archives, 2019/2020, curated by Christian Gronau. All pictures in the catalog by Christian Gronau unless stated otherwise.
Cortes Island Museum and Archives Society
Mansons Landing BC Canada

Many of the early collectors were parsons, who, with much time on their hands between sermons, spent countless hours walking through the countryside of their parishes, picking up and collecting whatever caught their eyes. They amassed large herbariums, they prepared bird skins and brought home bones and curious stones. Some of them were quite systematic and ordered their finds into well described categories. Patrick Armstrong says it well in the title of his book, published in 2000 :
The English Parson-naturalist : A Companionship Between Science and Religion

Unbeknown to themselves, these early naturalists were laying the groundwork for scientific disciplines like biology (and evolution) and geology (and deep time), among others. Their efforts, made explicitly with the goal of demonstrating the beauty and glory of God's creation, inevitably uncovered contradictions with the holy texts of the bible and ushered in the predominance of scientific thinking in matters of the natural world. The Universe, as made apparent by the scientific method, is in no way at all concerned with belief systems, personal preferences, hopes or desires.
Reality is what it is – and, in light of the arcane observations of particle and quantum mechanics physicists, as well as cosmologists, the world we live in is growing ever curiouser and curiouser ….



Another author worth mentioning is Carla Yanni and her 2005 book *Nature's Museums*.

In it she makes the following delightful statements about Imperato's Museum in Naples, which operated from 1599 to 1670.
(It is represented by a black-and-white print on this catalog's following page.

"Imperato's objects were not well organized : the vault contained a few starfish on the left, and one starfish on the right; fishes and shells were scattered throughout; the crab was nowhere near the lobster; an armadillo was perched near the foot of a tall bird. Similar objects were not classed with other similar objects, thus breaking a central rule of nineteenth-century museum design. The objects seem to have been placed either where they looked good, or where there was space. The Victorians wanted to observe specimens which were instructive about general principles in natural history - not nature's quirks, God's inexplicable moments of bad taste. Ugliness, and sometimes beauty, were too extreme to teach lessons.
Olaus Worm's collection is also well-illustrated in the frontispiece for his catalogue, though it does not show the collector and his guests, as did Imperato's. Worm's museum introduces another vexed issue in museum classification, because at a glance the spectator can see that human-made items are included with the natural specimens. One can see stuffed quadrupeds, fish, parts of incomplete animals, bows and arrows, paddles and footwear. The images attempt to capture the awe visitors must have felt upon viewing these rooms filled with natural specimens, human artifice and books. Recent studies on seventeenth-century natural history suggest that curiosity was a value in itself …"

The Victorian era, of course, comprised the latter two thirds of the 19th century, a long time after the lives of Imperato or Worm. By that time, systematic thinking and the principles of classification and taxonomy had taken hold among the educated population. The older notion that "curiosity was a value in itself" nonetheless has kept a powerful hold on the human imagination - for better and for worse.

Hudibras beats the astrologer Sidrophel and his man Whacum.
Plate 8 in Samuel Butler's satire *Hudibras* (1663 - 1678).

As remarked upon elsewhere (Terry Pratchett's 4th Discovery Novel, *Mort*) :
"There was a large crystal ball with a crack in it, an astrolabe with several bits missing, a rather scuffed octogram on the floor, and a stuffed alligator hanging from the ceiling. A stuffed alligator is absolutely standard equipment in any properly-run magical establishment, This one looked as though it hadn't enjoyed it much."
The workshop of a wizard, alchemist, or apothecary [and we might add : astrologer] *is never complete without a stuffed crocodile or alligator hanging from the ceiling. What it's actually good for is anybody's guess.* (http://tvtropes.org)

How very curious !
Perhaps in the spirit of satire, perhaps just to fake authenticity, our Curiosity Cabinet sports numerous items that were once deemed essential content : ceiling alligator and cracked crystal ball among them ……

The real thing : a small crocodile (actually, to be more precise, a Caiman) is surveying us all from its elevated position on the ceiling. It came from a lady's purse - from a time when it was considered "elegant" to wear dead animals in a show of - what ? - "superiority"?, "top-of-the-foodchain status"? Well, here we honour the little creature as the essential and meaningful guardian of all that is wondrous and worthy of our curiosities :

"In medieval Europe and earlier, because of their appearance (long body and tail), the alligator and crocodile were associated with the dragon. The dragon was often the guardian of treasures, often symbolic of hidden wisdom. Because alligators and crocodiles seem to hide within the water while guarding them, they were given the same role as the mythical dragons - ***the guardians of mystical treasures and wisdoms.*** *To encounter an alligator or crocodile was to indicate an opportunity to begin to unfold and develop some new wisdom - wisdom that could swallow you up if not used carefully."* Ted Andrews

The crystal ball (middle shelf of the Cabinet) is also genuine : Brazilian Quartz, cut, shaped and polished in the old German gem-cutting town of Idar-Oberstein.
There is an interesting connection to Brazil : when the local Agate deposits (weathered from Basalt volcanoes and concentrated in the river Nahe) ran out, a group of unemployed stone workers formed a brass band and ended up touring world-wide. During a stint in Brazil, one band member noticed the peculiar cobble-stones that had been used to pave one hacienda's yard : they were agates ! Thus were the legendary agate deposits of Brazil discovered - and the gem-cutting guilds of Idar-Oberstein revitalized. Raw agates and, eventually, other gem stones were shipped to Germany, where the gem-cutting expertise was still alive.

Whale Bones

The skull of a **Beluga Whale** (*Delphinapterus leucas*) is unexpectedly slender and elongated, considering the bulbous forehead the living animal has. Equally surprising are the skull's very impressive teeth, which, unfortunately, are missing in the museum specimen, provided by George Sirk.

Highlighted against the silhouette of a human hand, the Beluga appears huge. Astonishingly, the equivalent of a single finger bone, the proximal phalange of a **Grey Whale** (*Eschrichtius robustus*), dwarfs the Beluga skull and completely outclasses the human hand.

The flipper of a Grey Whale, being prepared for restoration by technicians of the Pratt Museum in Homer, Alaska. The arrow indicates the location of the bone in question.

Bruce Ellingsen provided our museum specimen, which was unearthed during waterline work in Smelt Bay many years ago.

“Although whales are seen in northern Georgia Strait, it appears that the people living in this area did not hunt them.”

Dorothy Kennedy & Randy Bouchard
Sliammon Life, Sliammon Lands
Talonbooks, Vancouver, 1983 p. 36

Another remarkable and very unusual-looking bone to be found as part of a whale's skeleton is the ear capsule (tympanic bulla).

The specimen, provided by Lynne and Joe Jordan, belonged to a Grey Whale from the Sea of Cortes, Mexico.
A curled lip, resembling a sea shell, envelopes the opening into an otherwise astonishingly massive bone. Inside parts of the middle ear bones and the inner ear bones were housed.
Sound under water is a very powerful agent, and some aspects of a whale's ear anatomy have actually developed for the purpose of protecting the whale from, rather than amplifying already loud acoustic signals.
This emphasizes the danger man-made noise presents to cetaceans : not just by way of being disorienting and interfering with their underwater communication, but also by being downright injurious.

Lesser Bird of Paradise

Paradisaea minor

Northern New Guinea

On loan from Laurel Bohart.

The **Greater Bird of Paradise** (*Paradisaea apoda*) is very similar in appearance to the Lesser - the main difference being, as can probably be guessed, its size.

Carl Linnaeus named that species *P. apoda*, or "legless bird of paradise", because early study-skins reaching Europe were prepared without feet, often by natives. Hard to believe, but this led to the misconception that these birds were beautiful visitors from paradise that were kept aloft by their plumes and never touched the earth until death.

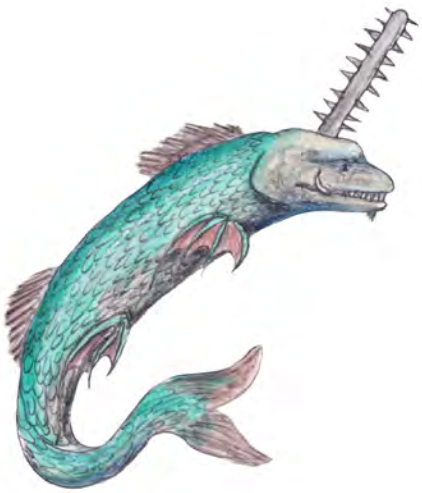
Sawfish

Largetooth Sawfish *Pristis pristis*

Closely related to rays, Sawfish are among the largest fish known, reaching maximum body lengths in excess of 7 meters (23 feet). The long snout, studded with teeth-like “dermal denticals”, is called the “rostrum”. It ranges from 1/3 to 1/4 total body length, depending on species. This “saw” is used very effectively in sweeping fencing-like motions to incapacitate prey fish.

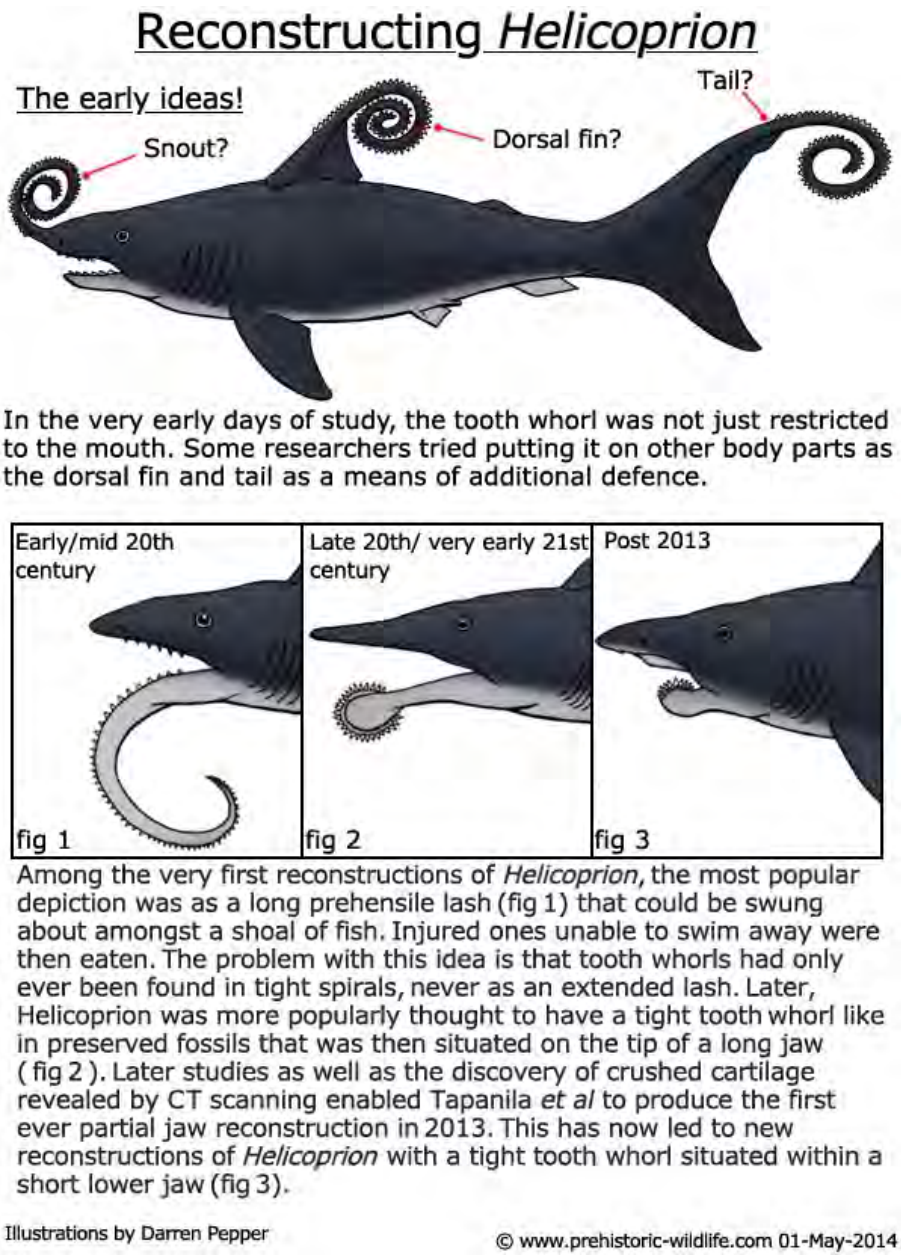
The rostrum exhibited here was acquired by George Sirk in 1981, in Cooktown, Queensland, Australia. The fisherman, who had caught the fish as by-catch of one of his prawn trawls, reported on routinely trapping sharks and turtles and ripping up sponges and corals … Fishing practices have improved since, but sawfish, sharks and turtles continue to be critically endangered worldwide.

A beast of legend, the Sawfish was configured as one of the many monstrous sea-beasts that populated the oceans of the human imagination.

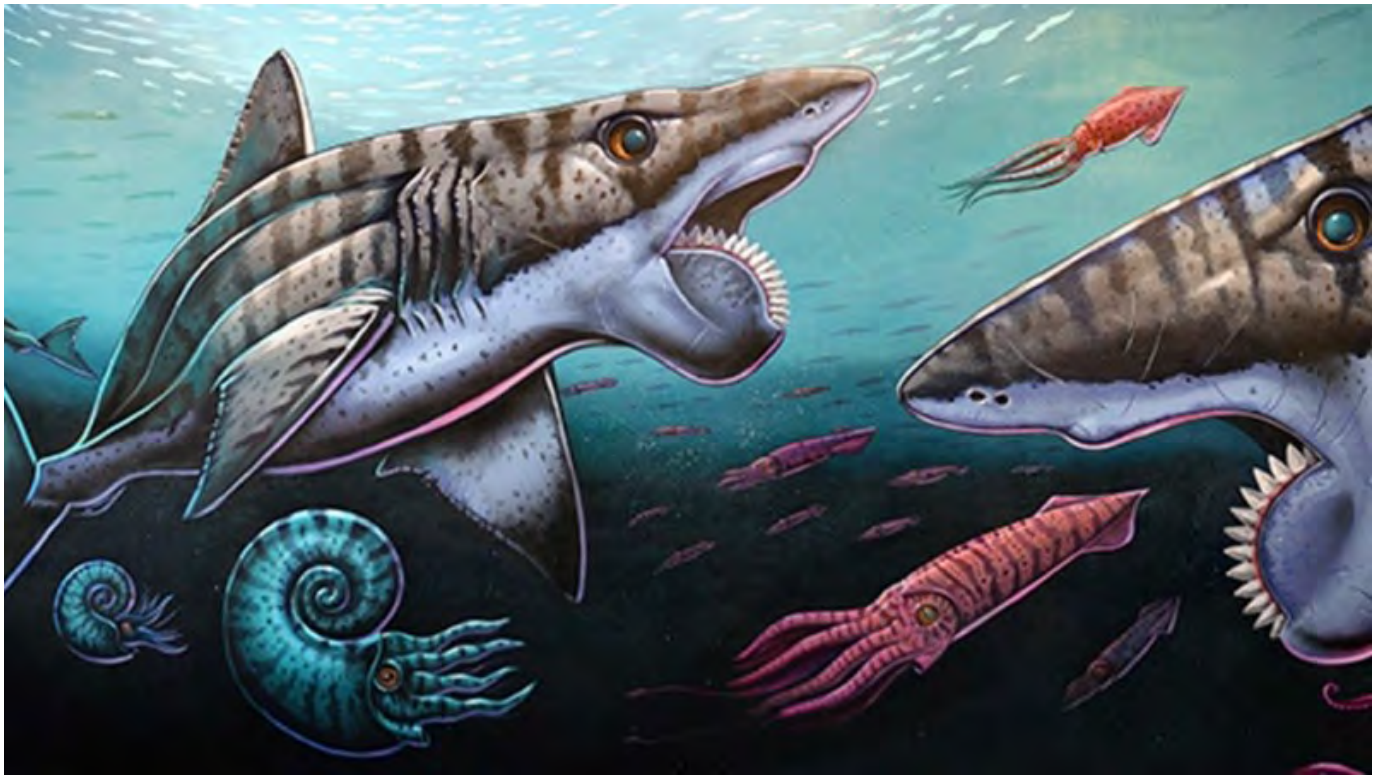


As bizarre as these early attempts at depicting Sawfish seem, they are nothing compared to the difficulties faced by palaeontologists trying to reconstruct the so-called Buzz-saw Shark. Numerous fossils like the one depicted here had been found in Permian rocks of worldwide distribution :

Many models of where on the shark this tooth-whorl was located were proposed :



The famous Alaskan illustrator of all things fishy as well as fossil, Ray Troll, offers this interpretation of current understanding :



“Blister Pearl”

a.k.a. Baroque Pearl a.k.a. Non-nacreous Pearl

A partially attached so-called “Blister Pearl” of the G**iant Clam** *Tridacna gigas*, on loan from George Sirk. It was acquired from a prawn trawler in Queensland, Australia, ca. 1981. The pearl is placed inside a small specimen of *Tridacna* sp. provided by Dennis and Sabina Mense.

George’s pearl weighs an impressive 112.6 g - which turns out to be nothing, compared to the record-holding specimens of maritime legend and lore. (See below.)

Sadly, as is true for all rare and beautiful things in the world, humans lust after ownership and, inevitably it seems, the objects of desire soon find themselves at the brink of extinction. This is true for the once very wide-spread and fairly common giant clam *Tridacna gigas*. In several of the many marine habitats in the SW Pacific, the Indian Ocean, even in the Red Sea, they can no longer be found.

The ***Pearl of Allah***, is considered the largest in the world and was found near Palawan Island in the Sulu Sea of the Philippines. Given the fascination humans have for extremes, this specimen has many stories and calamities associated with it, not to mention monetary dramas. (Read the fascinating accounts provided. Spoiler alert : No, the giant clams do not trap unwary divers : the valves close too slowly for that to happen.)

The second largest pearl weighs a modest 2.27 kg and is called the ***Palawan Princess Pearl.*** Below it is shown in its original *Tridacna gigas* shell. As its name indicates, it was found in the same Philippine waters as the record-holder above.

Sailor’s Valentine

This heart-shaped box, decorated with a variety of shells common to the local waters of B.C.’s west coast, belonged to the late Alf and Pierrette Milsted.

The notion that the traditional shell-craft boxes were made by sailors for their wives and sweethearts during the long sea voyages away from home is understandably popular. The truth is that, especially on the Caribbean island of Barbados, an extensive cottage industry, created by local women, was active, mainly in the decades between 1830 to 1890.
Antique Sailor's Valentines, traditionally using octagonal wooden boxes, are highly valued by collectors worldwide.

ANTIQUE SAILOR'S VALENTINE Genuine Barbados 1850-1870
THESE ARE NOW BECOMING EXTREMELY RARE

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+C $86.41 shipping
11 Watching

8d 14h left (18/2, 0:50)
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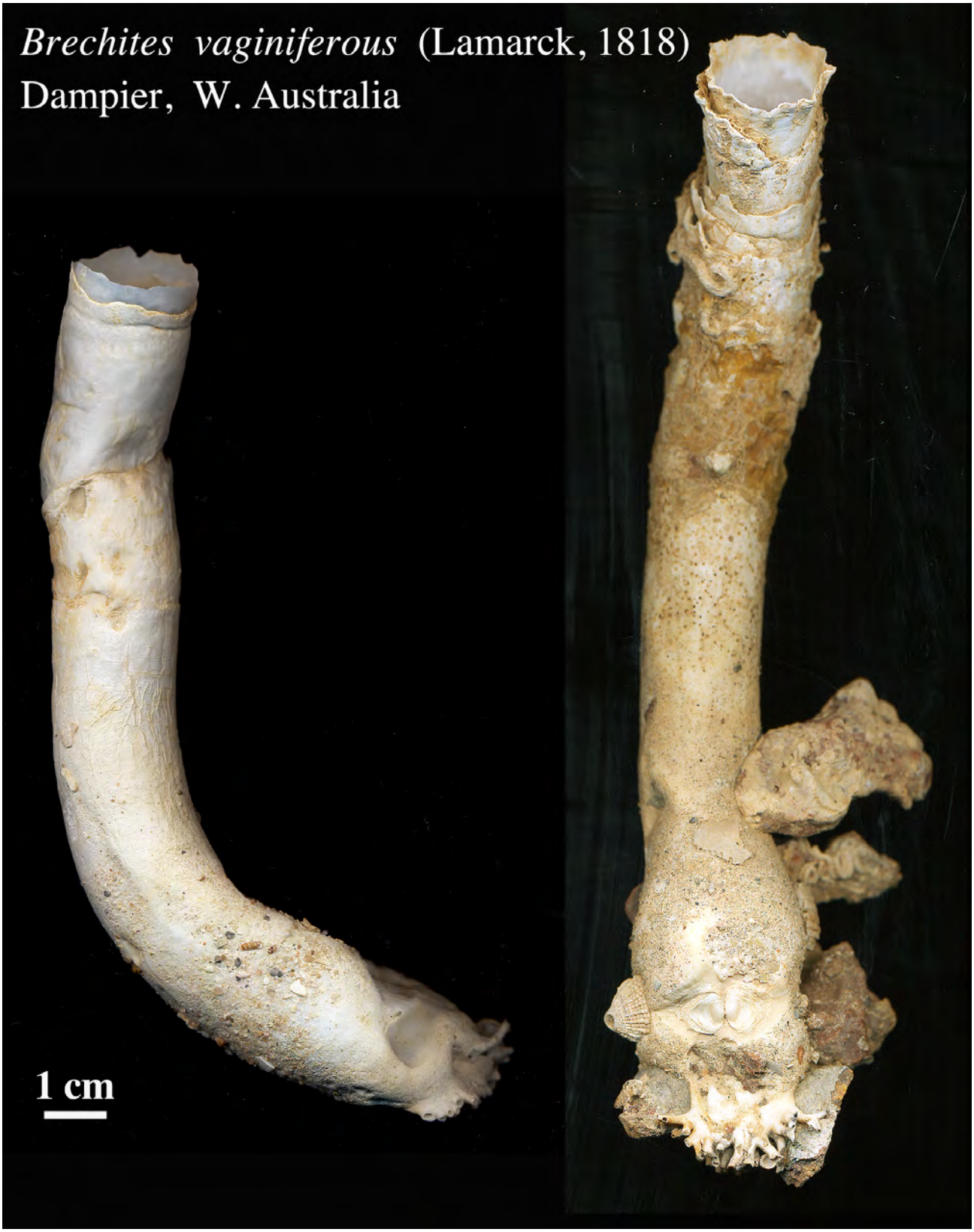
Animalia + · Mollusca + · Bivalvia + · Anomalodesmata + · Clavagelloidea + · Penicillidae + · Brechites +.

Watering Pots




1 cm
Brechites penis
(Linnaeus, 1758)
SE Asia, Philippines

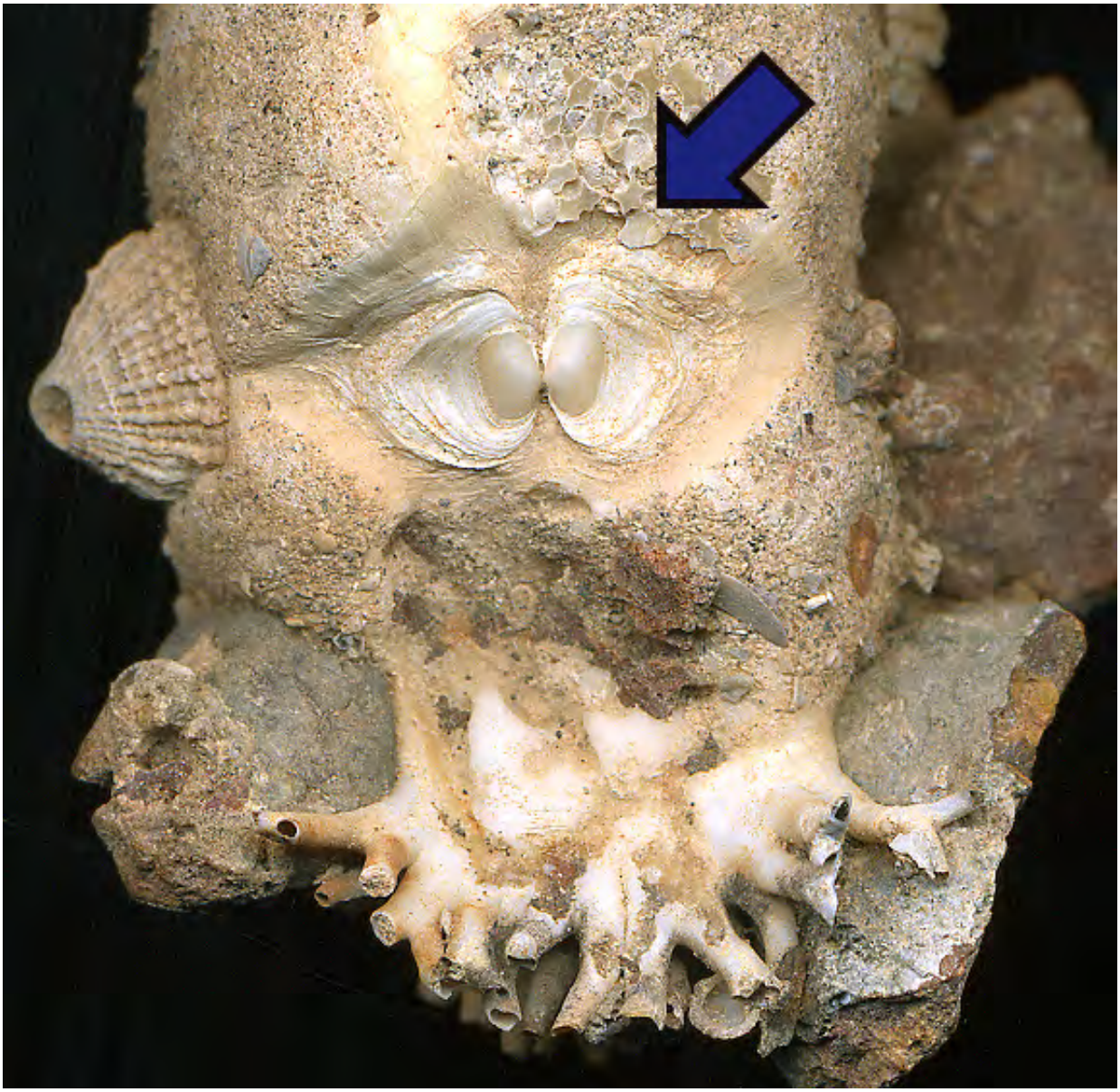
Never shy when it came to naming their species, the early taxonomists called a spade a spade, or a watering pot a watering pot, when that was what the plant, the animal, or, in this case, a shell, reminded them of. Here, the bottom part of this group of strange molluscs looked like the spout of a garden watering can to them, hence the entire group is known as Watering Pots.

The so-called “pedal disk” of the watering pot *Brechites penis*, showing various perforations, some of them extended into tubules.

The species names “*penis*” and “*vaginiferous*” should be self-explanatory, but, perhaps, we moderns lack the easy associative powers of earlier (male) minds …

Brechites is one genus in a very strange group of molluscs. On first glance, one would assume these shells to belong to some sort of tubeworm, and only close scrutiny and, if available, the inspection of soft body parts will reveal that this is a highly specialized bivalve : a clam !

One clue is given by the shells themselves : they all started out as typical bivalved clams, and their baby-shells are preserved on all specimens (arrow) :

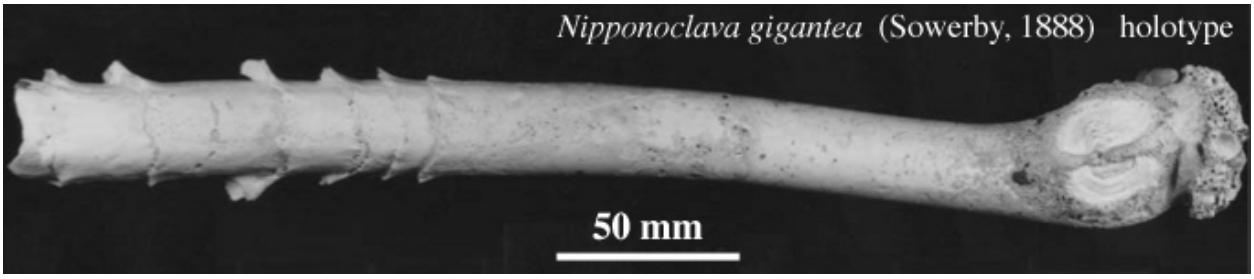


The best model, offering some explanation as to what processes could have resulted in what appears to have been a tiny clam growing an enormous calcified cylinder, is a comparison with the familiar geoduck (*Panopea generosa*). In this large clam, the two shells are very inadequately covering the soft body and the enormous syphon.

Imagine such a clam (a geoduck specimen is pictured on the following page) somehow acquiring the ability to secrete shell material surrounding the syphon and entire body.

Such a dramatic mutation could turn a geoduck into something resembling a watering pot !

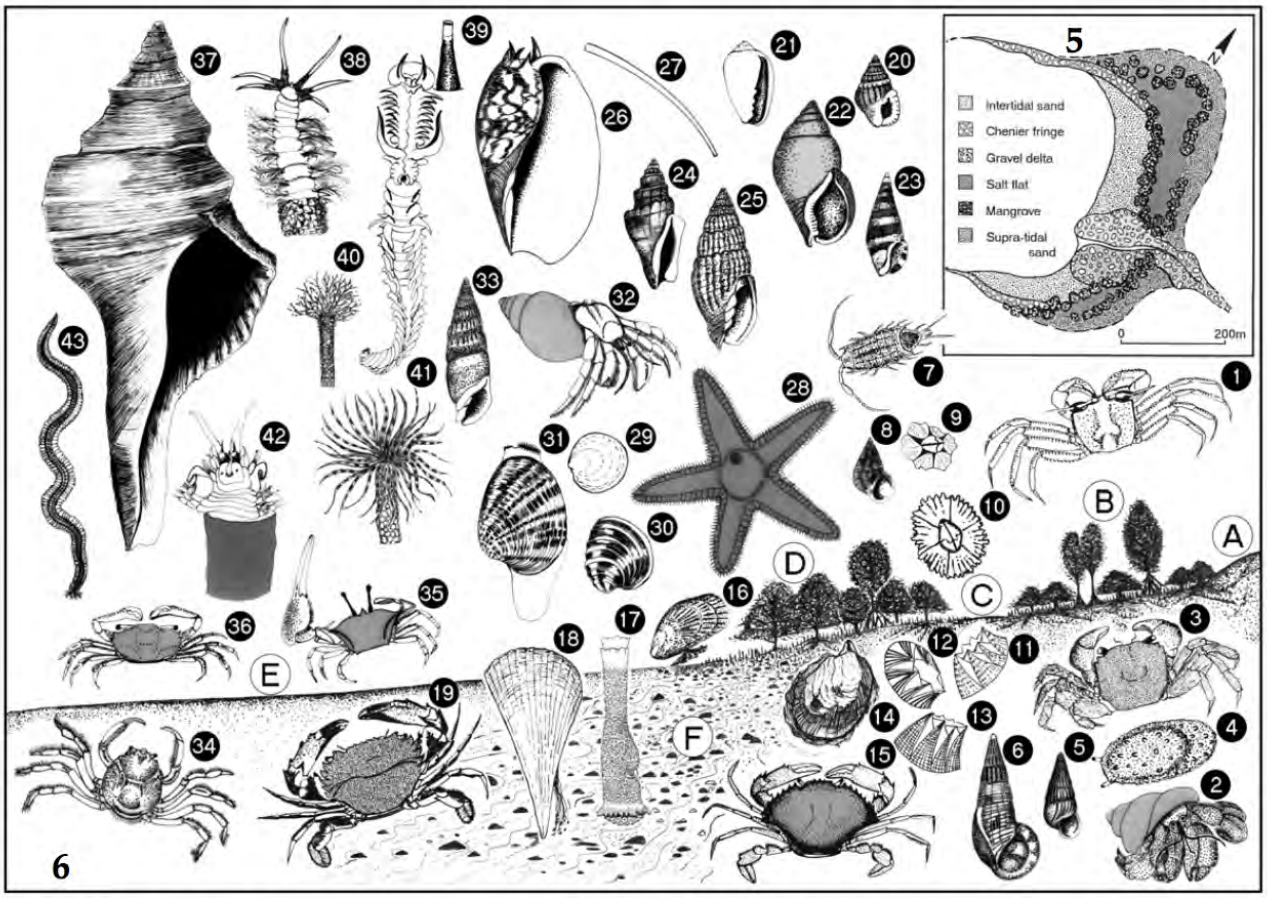
Compare the geoduck above with the largest watering pot (found in the waters off Japan) :



One curious natural history factoid : the immature stage of watering pots, i.e. the small bivalves themselves, looking and living like real clams, have not yet been observed.

P.S.
Another bivalve to have strayed far from the standard *Bauplan* of clams is the familiar Shipworm *Teredo navalis,* common in the Atlantic - or its local equivalent *Bankia setacea*.

Here is a sketch of a typical habitat for *Brechites vaginiferous*, together with a sampling of the coexisting rich intertidal fauna of Western Australia.



Figures 5–6 **5** Withnell Bay, Western Australia, in plan view. **6** A profile of the mangrove and mudflat at Withnell Bay, Western Australia, showing: **A**, the rear supratidal sand; **B**, the mangrove of *Bruguiera*, *Ceriops* and *Avicennia*; **C**, the high intertidal salt flat; **D**, the seaward mangrove of *Avicennia* and *Rhizophora*; **E**, the intertidal sand and **F**, represents the gravel delta. The illustrated species are: 1, *Ocypode ceratophthalma* (Pallas, 1772); 2, *Coenobita variabilis* McCulloch, 1909; 3, *Neosarmatium meinerti* (de Man, 1887); 4, *Onchidium dämelii* Semper. 1882; 5, *Cerithidea largillierti* (Philippi, 1848); 6, *Terebralia semistriata* Mörch, 1852; 7, *Ligia australiensis* Dana, 1853; 8, *Littoraria articulata* (Philippi, 1846); 9, *Microeuraphia withersi* (Pilsbry, 1916); 10, *Chthamalus malayensis* Pilsbry 1916; 11, *Balanus reticulatus* Utinomi, 1967; 12, *Balanus amphitrite* Darwin, 1854; 13, *Balanus cirratus* (Darwin, 1854); 14, *Saccostrea cuccullata* (Born, 1778); 15, *Scylla serrata* (Forskål, 1775); 16, *Brachidontes ustulatus* (Lamarck, 1819); 17, *Brechites vaginiferus* (Lamarck, 1818); 18, *Pinna muricata* Linnaeus, 1758; 19, *Thalamita crenata* Rüppell, 1830; 20, *Nassarius albinus* (Thiele, 1930); 21, *Mesoginella australis* (Hinds, 1844); 22, *Nassarius dorsatus* (Röding, 1798); 23, *Mitrella essingtonensis* (Reeve, 1859); 24, *Strombus urceus* Linnaeus, 1758; 25, *Vexillum amanda* (Reeve, 1845); 26, *Melo amphora* (Solander, 1786); 27, *Laevidentalium lubricatum* (Sowerby, 1860); 28, *Astropecten sumbawanus* Döderlein, 1917; 29, *Dosinia lucinalis* (Lamarck, 1835); 30, *Placamen gravescens* (Menke, 1843); 31, *Callista impar* (Lamarck, 1818); 32, *Diogenes avarus* Heller, 1865; 33, *Rhinoclavis vertagus* (Linnaeus, 1758); 34, *Mictryis longicarpus* Latreille, 1806; 35, *Uca mjoebergi* Rathbun, 1924; 36, *Macrophthalmus* cf *crassipes* H. Milne-Edwards, 1853; 37, *Syrinx aruanus* (Linnaeus, 1758); 38, *Diopatra dentata* Kinberg, 1865; 39, *Chaetopterus variopedatus macropus* Augener, 1914; 40, *Lanice conchilega* (Pallas, 1766) (tube); 41, *Loimia ingens* (Grube, 1878); 42, *Polyodontes australiensis* (plus tube) (McIntosh, 1885); 43, *Phyllodoce madierensis* Langerhans, 1880.

A Necklace of Fish Scales (courtesy Sabina Mense)

The **Arapaima (***Arapaima gigas)* a.k.a. Pirarucu, a.k.a. Paiche, from the Amazon basin, is one of the world's largest freshwater fish (it can grow to over 3 meters (10 feet) in length), with large bony scales that have hard rough surfaces, used as files by indigenous people and, as in the necklace depicted above, as jewelry.

This remarkable fish lives in often oxygen-poor waters and has evolved the ability to breathe air with the aid of a modified swim bladder - in addition to using its gills like other fish.

Exocochleate Cephalopods

(Squid-like molluscs with external shells)

As attested to by countless records and Renaissance paintings, no Curiosity Cabinet would be complete without at least one **Chambered** (or **Pearly**) **Nautilus** shell (usually *Nautilus pompilius*).
Witness this Georg Hainz oil painting of 1666 :

The specimen exhibited in the Museum's Curiosity Cabinet is a member of a dwarf population, known from the Sulu Sea SW of the Philippine Islands. Its technical name, recognizing its sub-species status occurring only in this one location, is ***Nautilus pompilius suluensis***.

Few people know (or perhaps care) that there are at least 5 extant species in the SW and Indo-Pacific. The well-known and wide-spread Pearly Nautilus is *N. pompilius*. Then there is a species with a wide open umbilicus, *N. macromphalus* ; one with narrow open umbilicus, *N. stenophalus* ; a large and beautiful type that may or may not deserve its own species name, *N. belauensis*, from the Palau Islands ; one shell pattern type that used to be referred to as *N. repertus* ; and two forms that have been given their own genus, *Allonautilus scrobiculatus* and *A. perforatus*.
Here is a photograph by Peter Ward, University of Washington, of two living specimens of *N. pompilius* and *A. scrobiculatus*, side by side (note open umbilicus of the latter) :

It is a matter of debate, whether the term “living fossil” should ever be applied to an animal living today. Evolution never stops, and surely a modern Nautilus has changed in many ways, since its basic *Bauplan* appeared sometime in the Cambrian. But from the perspective of a palaeontologist (or even a shell collector - conchologists, they used to be called), dealing only with the easily fossilized hard parts of an organism, the shell’s shape and internal organization into many chambers has not changed at all.
This is readily apparent, when looking at the nautilus fossil Ian Disney donated to the Museum in 2016 (see write-up here : https://cortesmuseum.com/why-this-museum-fossil-is-not-an-ammonite/).

It was found by Ian Disney’s father on Sucia Island in the San Juans, in 1926. Based on details of shape and shell structure, the specialists (e.g. Shimansky, 1975) have assigned it to the species of *Cymatoceras suciensis*. It is from the Late Cretaceous of the Nanaimo Group and ca. 70 million years old.

Cymatoceras swam in oceans populated in its day by the familiar shelled cephalopods, well known as Ammonites. A classic type of “Ammon’s Ram’s Horn” from the Upper Jurassic of Germany is included in the exhibit. It is approximately 150 million years old - so the twain never met : separated from each other by immensities of space and time.

Bactrian Bowl

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A BACTRIAN FOSSILIFEROUS LIMESTONE BOWL
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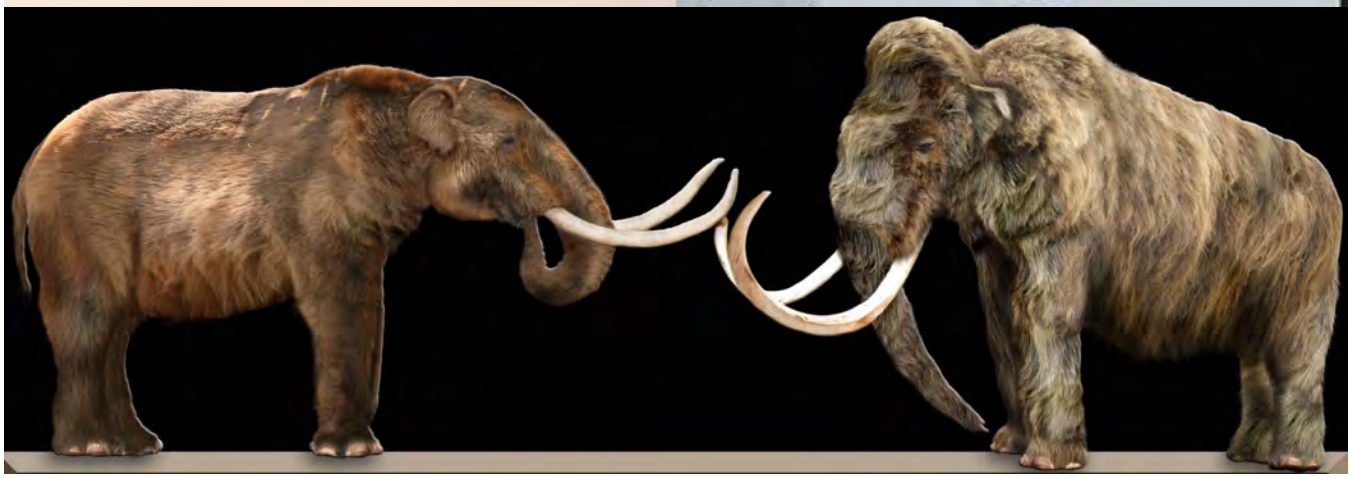
The Fossiliferous Limestone Bowl in the Curiosity Cabinet was cut very recently from a block of limestone originating in Pakistan. It was marketed under the oxymoronic and entirely false label of “Onyx Marble”.

The ancient Bronze Age culture of Bactria occupied much of what today is Pakistan, as well as Afghanistan and areas beyond.

It is certainly possible that the people of the old Greco-Bactrian Kingdom were capable of working the local soft limestone into “well-hollowed hemispherical forms”. The bowl offered by Christie’s for USD 4,000, despite its claimed age of over 2000 years, looks none the worse for wear, and it might prove difficult to distinguish ancient tool marks from more contemporary ones …….

Mastodon (*Mammut americanum*) **and Mammoth** (*Mammuthus primigenius*) **teeth**



The teeth (molars) of a Mastodon resemble those of a Pig, while those of a Mammoth are very much like a modern Elephant's. The diets of both extinct animals are thought to have been similar - perhaps the Mastodon was a bit more omnivorous than its more specialized relative.

The Mastodon tooth in the Curiosity Cabinet was found in Colorado, while the Mammoth tooth was dredged up from the bottom of the North Sea.
Both are on loan from Rex Weyler.
The two specimens show the effects of weathering and are incomplete : the Mastodon tooth misses the tips of its roots, while the Mammoth tooth has lost perhaps two thirds of its grinding surface due to the breaking off of numerous "ridge-plates". Compare with the complete tooth pictured below :

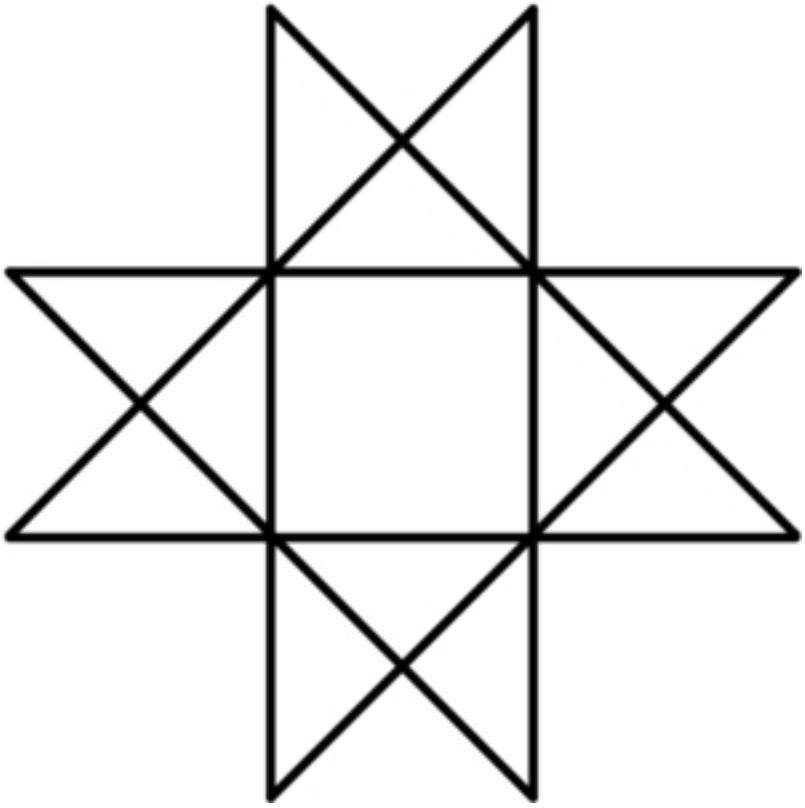
The Curiosity Cabinet specimen is locally encrusted with modern Bryozoans : evidence for its time spent at the bottom of the North Sea :

Oil Lamp from Tunisia
on loan from Rex Weyler

A classic example of a Roman-style North African oil lamp, common in the **5th** century CE, when Rom's official religion had become Christianity. The piece certainly looks old - perhaps it is a genuine antique …
The design elements are familiar, even though they are worn down :
concentric circles are prominent, occasional small plant (?) designs are interspersed. As in this example, containing the Christian fish-symbol :

Remarkably, and perhaps mysteriously, the oil lamp on display in the Curiosity Cabinet carries the faint, but still recognizable line-drawing of an eight-pointed star in its centre dish : this is a frequently encountered symbol in Islam's Sufi community. Sufism is a distinction, made originally and chiefly by Europeans to distinguish a certain group of **7th** century CE Muslims from the rest.

Perhaps this is Aladdin's Lamp. A little mystery to contemplate and be curious about …



Moroccan Trilobite Platter

We have a “Bactrian Bowl” looking just like Christie’s auction item valued at USD 4,000 on display ; we have a “Roman-style North African oil lamp” looking just like the real thing - and here is a Moroccan piece that is the genuine article : a genuine **fake** ! Or, if one wishes to be charitable : a well-made replica of a number of trilobites, known from the Middle Devonian of Morocco and familiar to even the most casual visitor to rock and fossil shops. The markets are flooded with specimens like these !

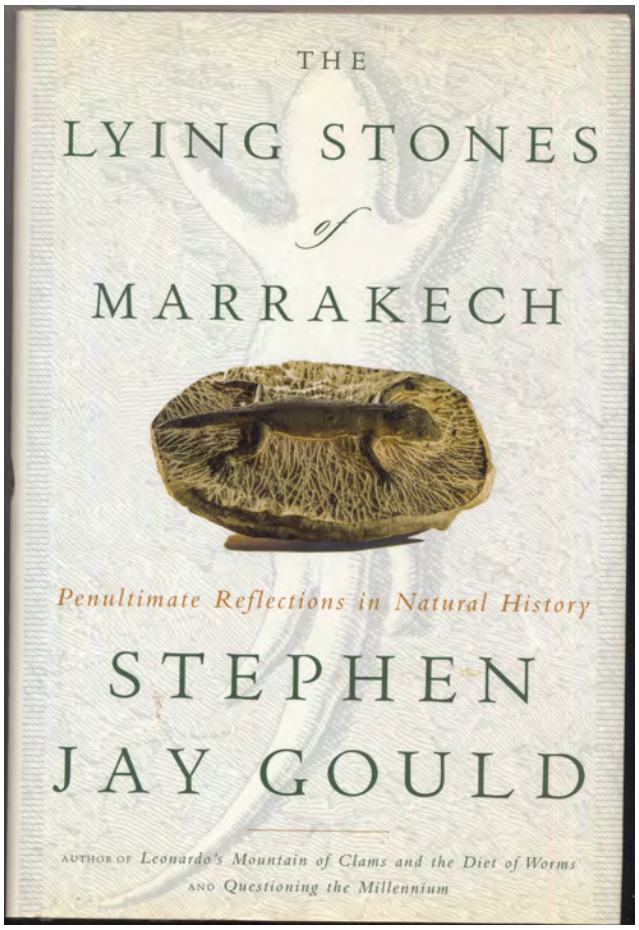
A number of familiar species are arranged in a more-or-less pleasing pattern, with the famous *Dicranurus monstrosus* in the centre. Also present are several individuals of *Crotalocephalus gibbus*, a *Scabriscutellum furciferum* with convincing-looking damage to the end of the pygidium, as well as two phacopids, one with nicely-done flaking of the glabella.

If a piece like this should be offered anywhere below $ 2,000 (and believe me : this one was **way** below) it is <u>not</u> a real fossil. There is nothing wrong with it being sold as a cast or a replica, but if it is passed off as genuine, then we are looking at fraud.
As is apparent from the piece above : several trilobites are partially embedded in the rock matrix : trying to extract them more completely will immediately reveal the truth : there is nothing more to excavate !

Another example of a fake trilobite assemblage. Some of the individuals may have been cast from the very same mould as the ones in the first illustration.

If a fossil dealer has the nerve to display his wares like seen in the picture above, the advice of "*caveat emptor"* is easily followed.

The late and quite fabulous Stephen Jay Gould was so impressed by what he referred to as “a major industry dedicated to the manufacture of fake fossils” that he titled one of his (many) books ***The Lying Stones of Marrakech*** :



As was his style, in this essay too, he wanders far and wide across the historical and palaeontological landscape, but begins his sojourn in the market stalls of Morocco, where he encounters “a kind of ‘industry standard’, as defined by constant repetition and presence in all shops. … These ‘standards’ feature small (up to four or six inches in length) flattened stones with a prominent creature spread out in three dimensions on the surface.”

He buys one of those fabrications - featured on the dustcover of his book - knowing full well that “such delicate features as fingers and eyes … cannot be preserved in the geological record”.

Elsewhere he refers to “a full range of plausible ‘trilobites’ ” - which might describe the samples discussed earlier.

Papua New Guinea artifacts

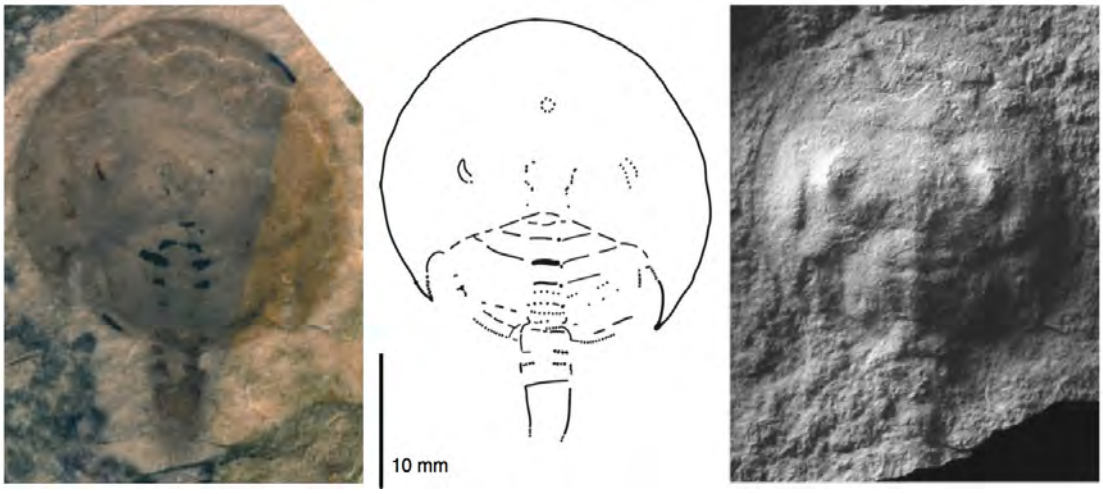
on loan from George Sirk

Resting on an intricately braided Rattan belt, from Papua New Guinea's Mt. Hagen area, is a so-called Pumpkin Penis Sheath with support string attached. Called a *koteka*, this rather moderately-proportioned example is part of a gourd, hollowed out and dried, with a woven Rattan ring (*obo*) attached to a twisted fibre string, designed to suspend this traditional male adornment in an upright position. The gourd of preference is the Calabash (*Lagenaria siceraria*). It comes in a great variety of shapes and sizes (see following page), and tribal preferences determine the specifics of what kind of fashion-sense ought to be expressed.

Horseshoe Crab

(*Limulus polyphemus*)

An old photograph by the author on a New Jersey beach in 1972 … As a student of palaeontology, with a special affection for arthropodes, encountering these still living relatives of the once mighty tribe of trilobites was a moving experience : such ancient aristocracy, still swarming the beaches, practically within sight of New York City ! The basic Horseshoe Crab design remained nearly unaltered since it first appeared in the Ordovician, 450 million years ago. *Lunataspis aurora*, Churchill, Manitoba :



One of the truly remarkable peculiarity of Horseshoe Crabs is in their blood : oxygen transport is facilitated not by iron-based hemoglobin, but by a copper compound called hemocyanin : their blood is blue ! Their blood also has the most powerful antibodies for fighting infections : Horseshoe crab amebocytes coagulate around as little as one part in a trillion of bacterial contamination. Even better, the reaction takes 45 minutes, not two days as with mammalian equivalents.

Inevitably, these talents have drawn the attention of the pharmaceutical industry, and blood-letting is one of the fates that has befallen this group of arthropods :

A Tip of the Hat to Georg Wilhelm Steller

First portrait ever of the German/ Russian botanist, zoologist, physician and explorer Georg Wilhelm Steller (born Stöhler, then Stöller, * 10. März 1709 in Bad Windsheim, † 23. November 1746 in Tyumen). The scientist, who worked in Russia, is considered a pioneer of Alaskan natural history.

No portrait at all existed so far of G. W. Steller. Russian historians and artists in cooperation with the Tyumen State University reconstructed this painting based on historical information. It was in a ceremony for the first time presented to a public on 10 March 2016 at the Tyumen State University.

Georg Wilhelm Steller, who lived long before cameras (never mind ubiquitous smart-phones) were invented, and who, apparently, was too busy during his short life of 37 years, to sit down for his portrait to be painted, nonetheless is a well-remembered explorer. His name lives on in a number of animal species he described and some that were named in his honour.

For instance the extinct **Steller's Sea Cow** (*Hydrodamalis gigas*). The Latin name, curiously, translates into "giant water-deer" - and a giant this odd gentle creature was, growing up to 9 meters (30 feet) in length, with superbly strong bones (heavy and solid, the bones exemplify osteosclerosis, the opposite of osteoporosis). The partial rib (courtesy of Sabina Mense), exhibited on the bottom shelf of the Curiosity Cabinet is a good example.
Within twenty-seven years of its discovery by Steller, the slow-moving and easily caught mammal was hunted into extinction for its meat, fat, and hide.

Aside from bone-density, another peculiarity of the Sea Cow's skeleton is the absence of any wrist or hand bones, as well as no trace of pelvis or hind legs. By these criteria, the Sea Cows had adapted more thoroughly to their aquatic environment than even the Whales. (Surely this does not represent a contemporary repetition of the "legless" Birds of Paradise !)

Museum of Natural History, Helsinki, Finland.

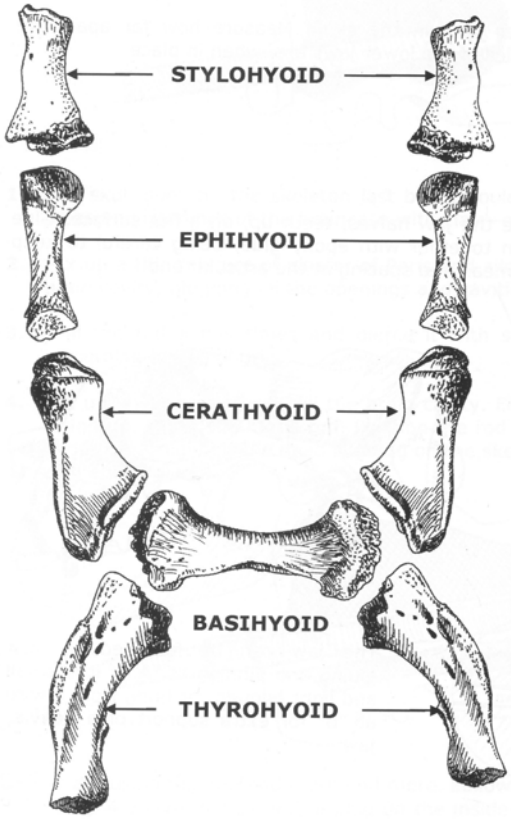
The order in which the Sea Cows are placed is **sirenia** : the Sirens. The name contains echoes and allusions to the ancient maritime folklore of Mermaids and Sirens, luring sailors to a watery death with their seductive songs. One wonders how desperate for female company those sailors must have been to mistake a Sea Cow, floating on the waves, for a woman …

Still extant are the Dugongs (*Dugong dugon*) of Northern Australia, Pacific Islands and the east coast of Africa. Steller's Sea Cow belonged in that same family, dugongidae.
Also still with us are the Manatees (family trichechidae) : the Amazonian manatee (*Trichechus inunguis*), the West Indian manatee (*Trichechus manatus*), and the West African manatee (*Trichechus senegalensis*).

Another marine mammal named after our hero, familiar to all locals and most visitors of the west coast, is **Steller's Sea Lion** (*Eumetopias jubatus*).

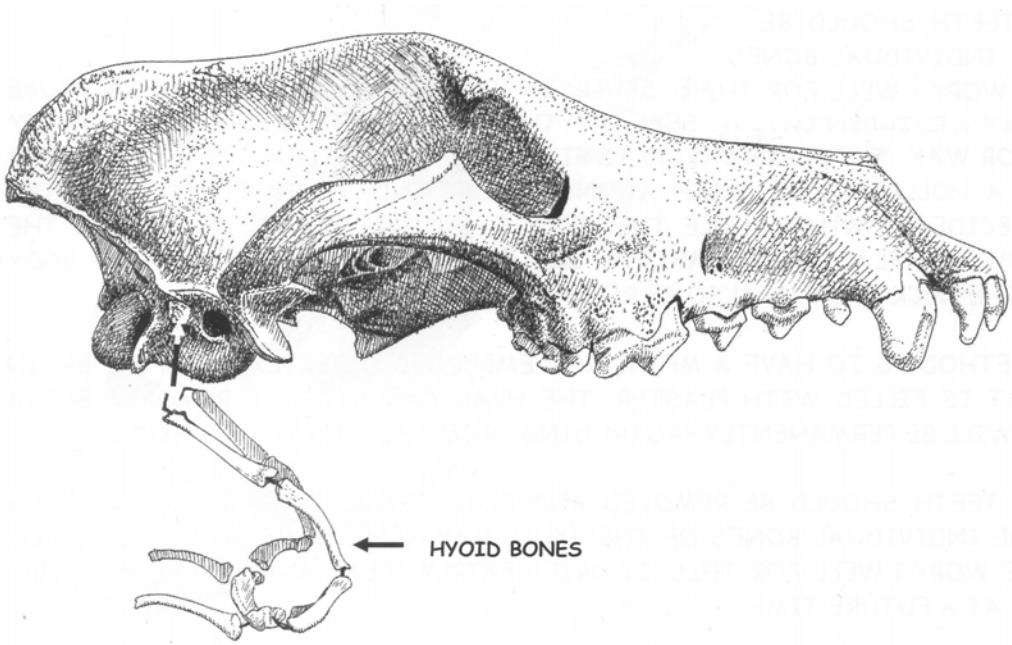
Impressive in bulk and endowed with a deep sonorous growl, the species is represented in the Curiosity Cabinet by the roughly articulated hyoid bones of an adult male. This apparatus, a.k.a. "tongue bones", is located in the throat of the animal and contains a number of interconnected bones and cartilages (not preserved) that suspend the larynx and the base of the tongue.

Drawings are courtesy of “The Boneman”, Lee Post, from Homer Alaska, author of a number of manuals on skeletal re-articulation.



The hyoid apparatus of a Steller’s Sea Lion, with component bones named individually.

The position of these bones is identical in canines, as seen in this sketch of a Wolf skull (again, by Lee Post) :



Perched on the Basihyoid bone of Steller's Sea Lion is what is perhaps the most familiar animal named for Georg Wilhelm : the locally common **Steller's Jay**, *Cyanocitta stelleri* (Gmelin, JF, 1788).

Mounted specimen provided by Laurel Bohart.

Arguably the most magnificent of all eagles, **Steller's Sea Eagle** (*Haliaeetus pelagicus*) lives along the shores of the northwestern Pacific, notably on Russia's Kamchatka Peninsula.
With a wingspan of over 2 meters and a body weight of up to 9 kilograms, a massive beak and striking colouration, this is a most impressive bird. The heaviest of all eagles, this species is known as a glutton : when food is abundant, this bird will eat so much that it loses its ability to fly.

The skull in the Curiosity Cabinet, found on Pribilof Island, was provided by Dennis Mense.
By comparison, the skull of the **Bald Eagle** (*Haliaeetus leucocephalus*), a locally familiar species in the same genus as Steller's, is considerably smaller. This second skull is part of the Museum collection.

Another bird bears Steller's name : **Steller's Eider** (*Polysticta stelleri*), named in his honour by Pallas in 1769 (originally *Eniconetta stelleri*).
It is the smallest of the Eider Ducks, considered vulnerable in its northern Pacific nesting range, with active recovery plans in place in Alaska.

Internet image of a beautiful male.

In recognition of this bird and the famed eider down of its cousin, the Eider Duck (*Somateria mollissima*), a small dish of down feathers is presented.
(The scientific name of the Eider Duck is derived from Ancient Greek *somatos* "body" and *erion* "wool", and Latin *mollissimus* "very soft", all referring to its down feathers.)

One more animal can be mentioned in this context : though not discovered and/or described by Steller himself, a locally familiar snail, called **Gumboot Chiton**, has been named in his honour by Middendorf in 1847 :
Cryptochiton ***stelleri*** (originally *Chiton stelleri*).

The Curiosity Cabinet contains the 8 plates (sometimes called “valves”) of a Gumboot Chiton.
Unlike other chitons, in the live animal, these plates are covered entirely by the snail’s mantle :

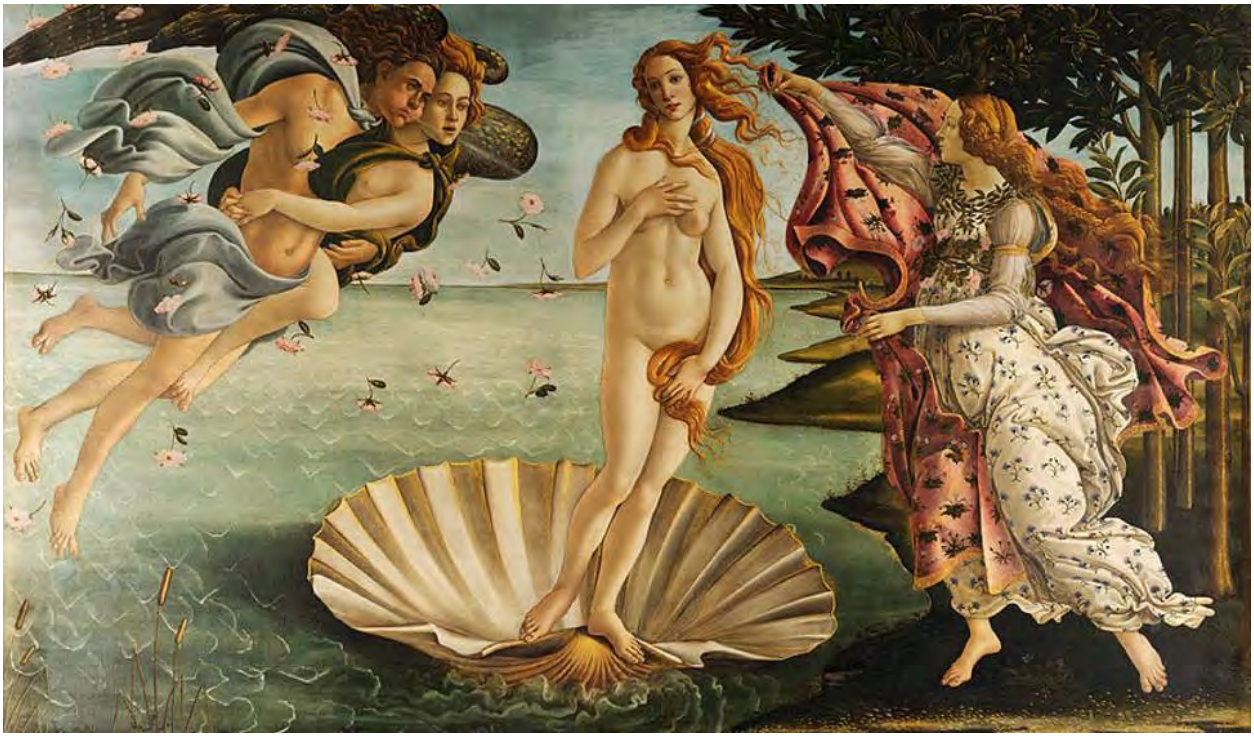
“Sea Biscuit”

Clypeaster rosaceus

A relative of our local Sand Dollars, this urchin is far less flattened and has a surprisingly thick test (which is a kind of endoskeleton composed of many small ossicles), which is the reason for it being washed ashore intact quite often. This is a fairly common Caribbean species, known from Panama to Florida. In life this species is covered with short spines, similar to our Sand Dollars.

On loan from Rex Weyler and students

The Beauty of Venus



The Birth of Venus (Sandro Botticelli, ca. 1485)

Many natural objects of beauty, plant and animal, have been dedicated to the goddess Venus — and some are represented in the Curiosity Cabinet :

Venus Flower Basket (*Euplectella aspergillum*), a glass sponge.

Venus Sea Fan (*Gorgonia flabellum*), a soft coral.

Venus Comb (*Murex pecten*), a very spiny marine snail.

Three species of Venus Clams (fam. veneridae) with their peculiar and politically incorrect common names :
Prostitute Venus (*Pitar lupanaria*), a very spiny bivalve.
Partially-rough Venus (*Anomalocardia subrugosa*).
Half-imbricate Venus (*Chione subimbricata*).

The well-known local Manila Clam (***Venerupis*** *philippinorum*) contains the name of Venus in its Latin genus.

The Venus Flower Basket

Euplectella aspergillum

Deep waters around the Philippines, Japan and other West Pacific areas.

Eu – plectella = well made – little weaving (basket)

aspergillum = little (holy water) sprinkler

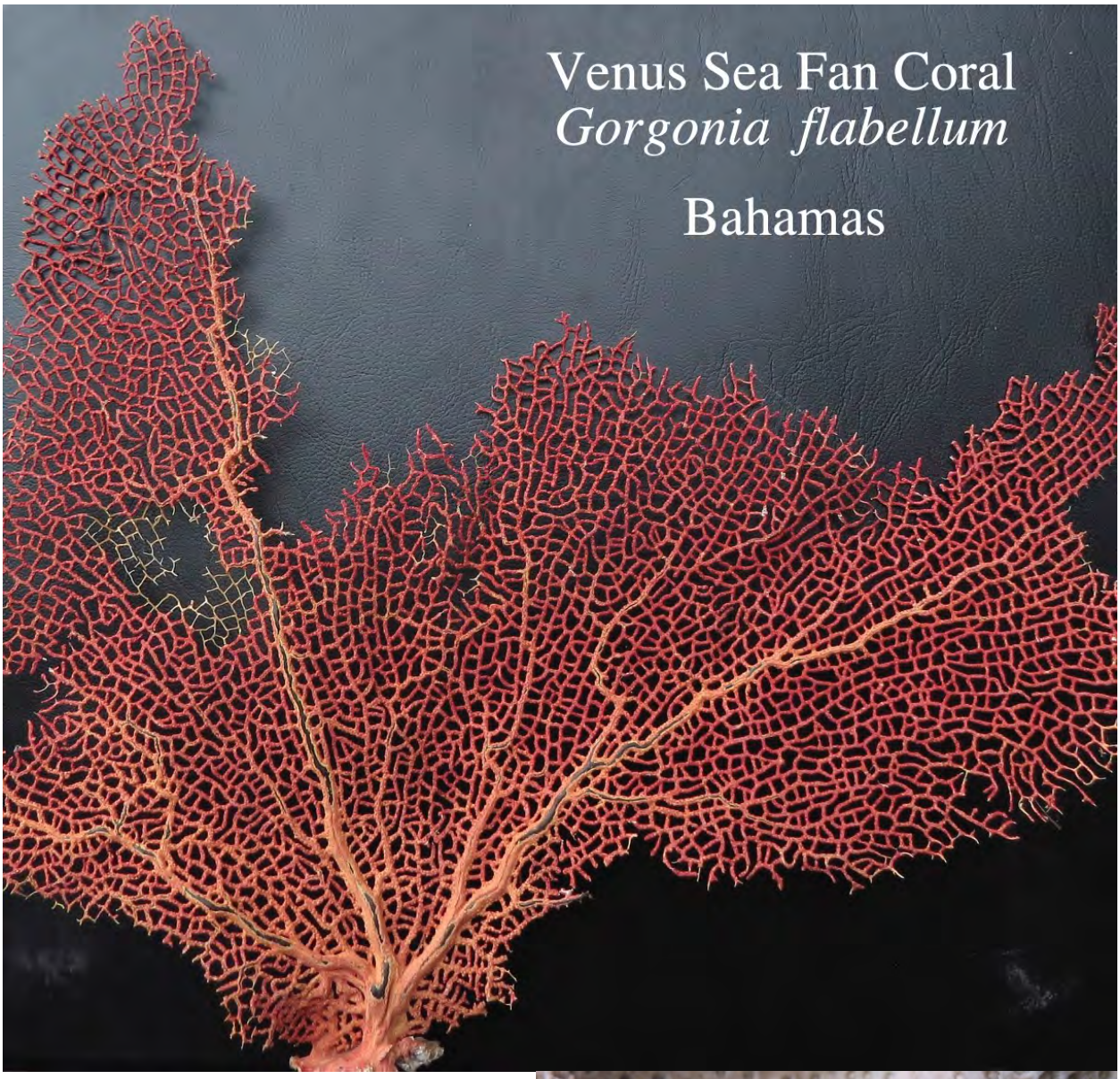
The specimen on show is a loan from Dennis and Sabina Leader-Mense. There is a curious story of natural history to be told about this beautiful deep sea glass sponge, involving a pair of tiny shrimp :

Most symbionts of sponges use their hosts only for space and protection, but some rely on the sponge's water current for a supply of suspended food particles. A classic example of this phenomenon is the male-female pair of shrimp (*Spongicola venusta*) that inhabit the hexactinellid sponges known as Venus Flower Basket (*Euplectella aspergillum*). The shrimp enter the sponge when they are young, only to become entrapped in their host's glass-like case as they grow too large to leave. Here they spend their lives in bonded bliss – or perhaps as prisoners of love.

Appropriately, this sponge is a traditional wedding gift in Japan – a symbol of the lifetime bond between two partners, or their interminable entrapment.

after BRUSCA & BRUSCA, 1990

The Venus Sea Fan
Gorgonia flabellum



Soft Corals vs. Stone Corals …
As the names imply, the former have a degree of flexibility, which the latter lack.
Gorgonians are commonly found in tropical and subtropical oceans, but a few species occur in the deeper parts of local waters.
Three examples are offered here.

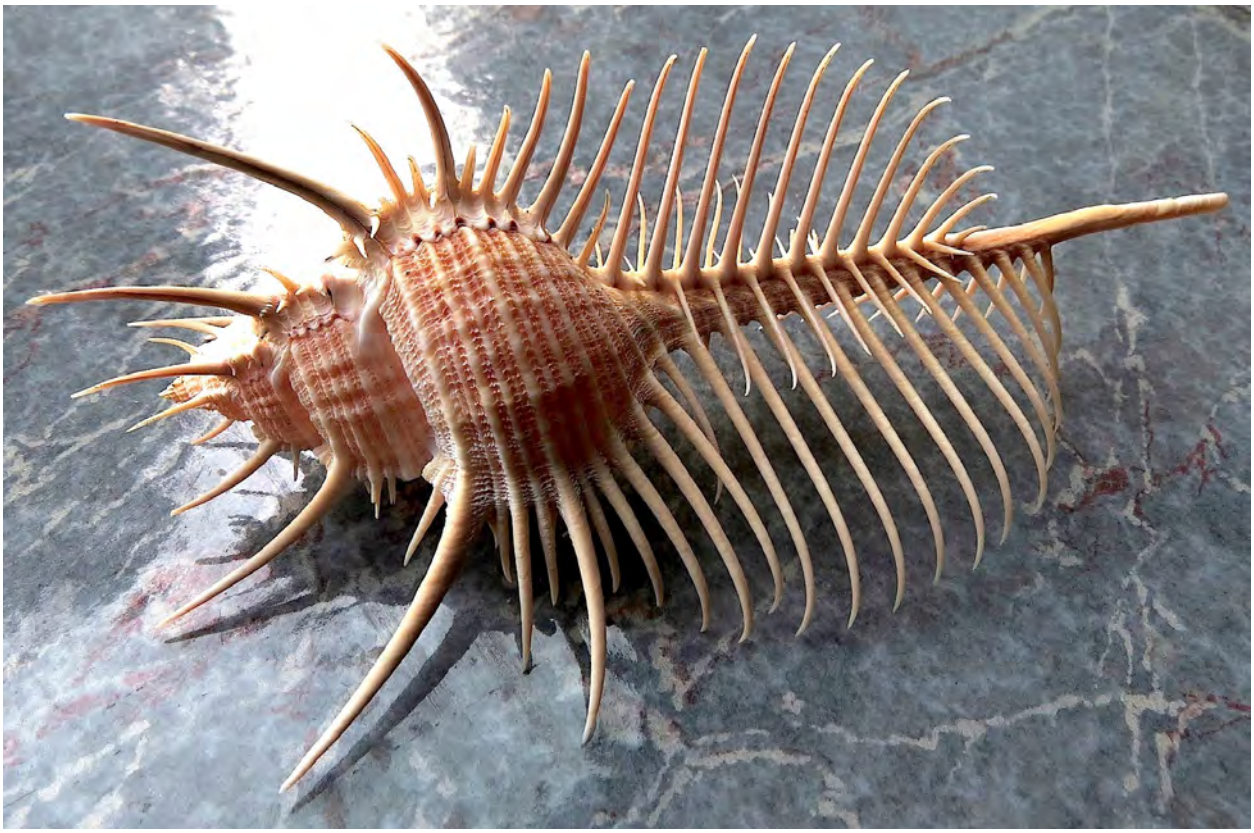
Pulled up inadvertently by deep-set prawn traps, the reddish specimen will be familiar to coastal people : **Pink Gorgonian** (*Calcigorgia spiculifera*). The pale samples are **Deepwater Gorgonians** and are two different species belonging in the genus *Primnoa*. (Possibly - left to right : *P. willeyi* and *P. pacifica*.)

The impressive chunk of Stone Coral on display comes from an era when such pieces were routinely sold as home-decor - long before awareness of climate change had become common knowledge, as well as its impact on water temperature and acidity, causing coral reefs worldwide to slowly bleach to the same deathly white pallor …

As we approach the human-caused end of one great coral reef building era, we might reflect on the fact that throughout Earth's history, several major episodes have come and gone, during which coral reefs dominated the oceans of the world. The Devonian period (ca. 420 to 360 million years ago) was such a time.

Acknowledging this, a river cobble, containing Lower Devonian *Acinophyllum* sp. corals from the Southesk Formation of the Canadian Rockies is included in the Curiosity Cabinet :

The Venus Comb Shell
Murex pecten
Indo Pacific



Noteworthy :
the limpet-like snail shell to the right (the so-called **Barnacle Rock-shell**, *Concholepas concholepas* from Chile) belongs in the same family as the extremely spiny form above : **muricidae** !
Softbody anatomy trumps shell shape : a difficult concept for palaeontologists to apply to their work with fossils, which is almost exclusively on hard body parts.

Venus Clams

Three of the species listed at the start are displayed in a Petri dish : the spiny “Prostitute” the radially sculptured and ribbed “Partially-rough” one, and the “Half-imbricated” Venus with its voluptuous folds.
All specimens are from the Pacific coast of Mexico. Note that two shells have been drilled by local Moon Snails.

And a drawing by Linnaeus himself of ***Venus*** *dione*, colloquially known as the **Elegant Venus Clam**, today put in the same genus *Pitar* as the “Prostitute” we already encountered.
Wikipedia notes :
‘This drawing of *Venus dione* (now *Pitar dione*) by Linnaeus in his Fundamenta Testaceologiae, 1771, is labelled with overtly sexual descriptors:
a: vulva; d: labia; e: hymen; f: nates (buttocks); g: anus.

And just for a show of diligence (not completeness), here are two more living things, named in the honour of the Goddess of Love, sadly not represented in our Curiosity Cabinet :

Termitotrox ***venus***, a scarab from Cambodia, recently discovered and named as the companion species to the similarly odd-named *T. cupido*. Both are blind beetles, living in association with termites.

— — — — — — — — —

More familiar will be the **Venus Flytrap** (*Dionaea muscipula*), a carnivorous plant, capable of rapid movements in its attempts to trap insects.

Again, we have to thank the unbridled imaginations of early naturalists for the juicy nomenclature.

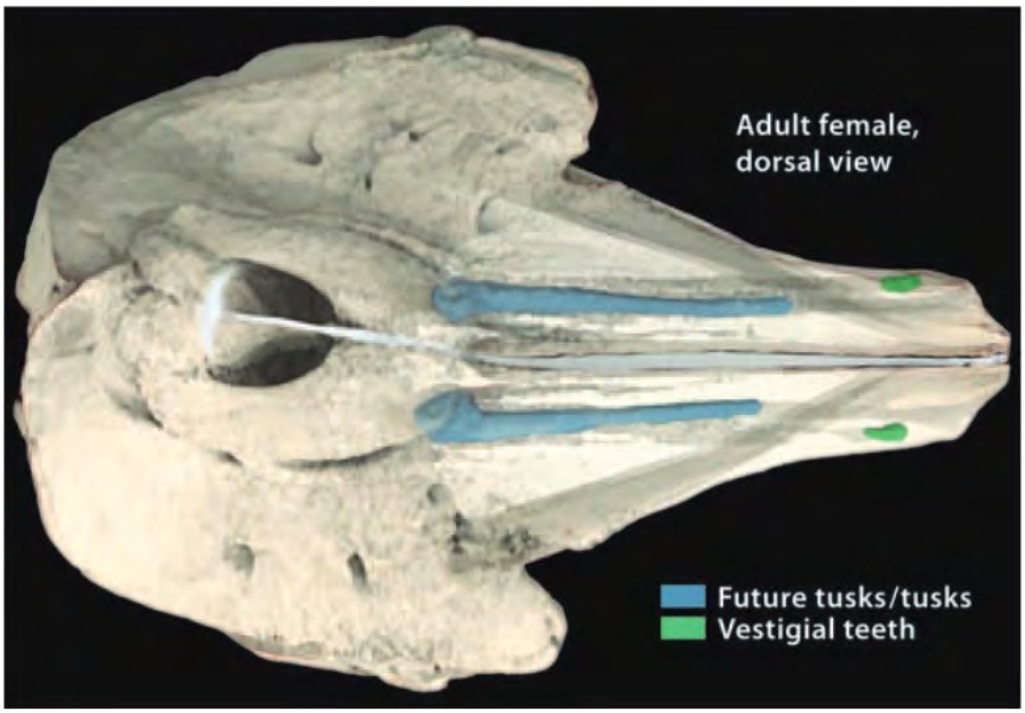
Wikipedia has this to say :

‘The plant's common name refers to Venus, the Roman goddess of love. The genus name, *Dionaea* ("daughter of Dione"), refers to the Greek goddess Aphrodite, while the species name, *muscipula*, is Latin for "mousetrap".

Historically, the plant was also known by the slang term "tipitiwitchet" or "tippity twitchet", possibly an oblique reference to the plant's resemblance to human female genitalia.’

Strange Bone

This peculiar “bone”, which could easily be mistaken for a Baculum (or Penis Bone) actually is the tooth of a **Narwhale** (Monodon monoceros) - or should that be tusk ? Two such teeth were given to Niko Mense by friendly Inuit of Greenland. There they are called “*Tugaroosaq*”, which means “little tusk”, and in this case it is one of the two unerupted tusks of a female. Occasionally female Narwhales carry a proper tusk (usually a bit smaller and smoother than the male’s), and sometimes a male will have two tusks.



From : THE ANATOMICAL RECORD 295:1006–1016 (2012). NWEEIA et al. Wiley Periodicals.

Both sexes carry the potential for two tusks in their upper jaws (maxilla), as revealed in this tomography of a female’s head.

The similarities with two bear baculi are made obvious by this comparison between Brown Bear (Grizzly), Narwhale and Polar bear :

The Curiosity Cabinet contains the baculum of a **California Sea Lion** (*Zalophus californianus*) : there the difference in appearance is more typical and distinct.

It would be an oversight not to mention, in the context of Curiosity Cabinets and the many creative interpretations certain natural history objects and observations inspired in the early years of random collecting and chaotic proto-museums, this fabled beast, the **Unicorn** :

From the book The History of Four-footed Beasts and Serpents by Edward Topsell, 1657.

The Unicorn's horn is nicely rendered in this old wood cut, spiral ornamentation and all. It clearly was modelled after the tusk of a Narwhale.