

Taxidermy Brings to Life Works of 17th Century Naturalist

In late 2015 my naturalist and taxidermy organization, Meddling with Nature, began a collaboration with the Lloyd Library to bring to life the work of 17th century botanical illustrator, Mary Sibylla Merian. My team was tasked with using real specimens to replicate Merian's beautiful illustrations represented in her 1705 groundbreaking work, *Metamorphosis Insectorum Surinamensium*.

When the Lloyd Library and my team decided on the theme, *Off the Page*, we had no concept of the sorts of multitasking and research that would lay ahead of us. After exploring the life and work of Maria Sibylla Merian, we began to source, preserve, replicate and display the plants and animals from Merian's 1705 and 1730 works.

Species identification was not as cut and dry as one might think. Since Merian's work was produced before systematic taxonomy practices, we needed to rely on the works of scientists from the 1700s as well as very recent works on the subject. When possible, Merian preferred to use regional and local names. Adding to the complication, she also preferred to write in Dutch, even though her native language was German. Lucky for us we had quite a lot of help. Regina Edwards of the Krohn Conservatory and staff from the Cincinnati Zoo offered assistance making entomological identification of several species much easier.

So how was it done? Insect specimens were flown in from all over the world, even though all of them were native to Suriname. The process of positioning insects is very delicate. When we received the insects, they were curled up and completely dried. The first part of the work required carefully rehydrating them so they would be as flexible as the day they died, some of which were decades old. From here we used pins and foam blocks to carefully massage the legs, antennae, bodies, and wings to match the positions illustrated in Merian's work. Some of her favorite moths are members of the sphinx family, which have extremely long proboscis, or tongues, that curl in beautiful spirals. Sometimes it took as many as 15-20 pins to mimic that effect.

The plants we collected also ran a diverse range, from seeds and saplings to full grown adult plants. Tracy Blankemeyer of Meddling with Nature worked to restore

the natural color and form of the specimens. Sometimes this involved chemically altering the plant material, other times it required careful dehydration, or even freeze drying.

Good old classic taxidermy was employed as another means to prepare the Merian show. One of the more complicated pieces to complete was the caiman, plate 69 from the 1730 edition of *Metamorphosis Insectorum Surinamensium*. While not part of the first edition, we felt a piece so dynamic and loved by the public should be included. So, where do you find naturally deceased caiman corpses that are legal to import? Serendipity. One of our contacts in Iowa, who had been helping us with plant preservation, happened to have a full adult and baby caiman in his freezer he obtained from his contacts of a reptile zoo. He even had an appropriate snake.



Caiman Comes to Life through Taxidermy

Taxidermy is an in-depth process that involves skinning the specimen; no actual bones are left. From the measurements we took, we constructed a polyurethane form. After the skin underwent a weeklong process of chemical treatments to change it from skin to leather, we used various resins and epoxy clays to work in final details as the form was "dressed," stitched, and appropriately colored. The eyes were made of glass, and appropriately colored to match the living look of a caiman.

Through the course of taxidermy, we discovered the artistic license Merian had taken with the caiman. While most of her illustrations are accurate to minute detail, including size and positioning, this was not so for the caiman. In fact, the pose in the illustration depicting the caiman's curved spine does not naturally occur. Nonetheless, with taxidermy we were able to match the illustration.

Plate 69 had additional complications in terms of its accurate representation of nature. While Merian is credited with many discoveries and descriptions of ecology, there were some details that were, by intention or not, inaccurate and at times downright fanciful. The snake present in the caiman piece is one such anomaly. While the snake in the plate is described as a false coral, this species doesn't reach even half the size of the snake depicted. We needed to find an alternative snake to fit the bill. We needed to

balance art and nature. Merian (and her daughters) took many artistic licenses in *Metamorphosis*, and by her own admission this was done to capture the imaginations of her viewers, most of whom were not a part of the scientific community.

Merian focused heavily on the uses of plants and insects. In the notes accompanying her illustrations, she wrote in chastising tones about the farmers who were only interested in fast growing cash crops rather than some of the marvelous



Jeremy Johnson

other native plants that centuries later would become extraordinarily popular. She took her cue primarily from native peoples and slaves. The pineapple is one such fruit that she admired, but she also focused on plants such as vanilla and even insects that have become indispensable to painters and bakers alike. In our work, we attempted to showcase a number of those plates.

Not only did we want to replicate the plates in life, but use elements of her descriptions. Due to guild laws, women were not permitted to work in oil color in Amsterdam, thus her focus on the watercolor medium. The display explaining Carmine red pigment (derived from beetles) is visible on her pineapple plate. She describes its marvelous red color and its uses in the painting industry, particularly in watercolor. We worked to tell some of those stories in the exhibit by replicating her creation of carmine pigments and describing the vanilla extraction to methods she likely used in printing, showcasing the diversity of techniques used by artists and scientists during the 17th and 18th centuries.

In the end, the work Meddling with Nature produced for the Lloyd Library's exhibition, *Off the Page*, was a learning experience for everyone involved and required the knowledge and advice from institutions and individuals across the globe. It was truly a collaborative work that made everyone involved very proud.

Jeremy Johnson, Taxidermist and Exhibition Co-curator



Harlequin Beetle on Citron, Adapted from Merian's *Metamorphosis*

Off the Page Exhibit

Off the Page, an exhibition featuring the Lloyd Library's collection of rare works by 17th century artist and pioneering woman of science Maria Sibylla Merian (1647-1717), opened to the public on March 24, 2017. Over 500 people viewed the exhibition during its five-month run, which was extended due to popular demand.

Following a groundbreaking two-year expedition to Suriname, Merian combined her training as a botanical illustrator and painter with her interest in the life cycles of insects to create her 1705 masterpiece, *Metamorphosis Insectorum Surinamensium*. Upon discovering Merian's book at the Lloyd, taxidermist and artist Jeremy Johnson and his company, Meddling with Nature, were inspired to incorporate preserved insects, reptiles, and plants to recreate selected scenes from Merian's illustrations. The result was the Lloyd's most ambitious exhibition to date, with colorful butterflies, beetles, and caimans adorning the exhibit cases and complementing the five volumes of Merian's work that the Lloyd holds.

The year 2017 marked the 300th anniversary of Merian's death. The Lloyd Library was able to commemorate the life of this fascinating woman in a truly unique way and to bring her to the attention of many who would otherwise never know of her artistic and scientific accomplishments.

Naturalist Maria Sibylla Merian

As the daughter of a printer, engraver, and artist, Maria Sibylla Merian (1647-1717) was in a fortunate position to learn skills that most girls in her time were never allowed to pursue. Her early books contained illustrations of European flowers and insects, reflecting both her artistic training and scientific interests. As a resident of a Dutch Protestant community Merian was exposed to the exotic flora and fauna specimens that missionaries brought back from the colony of Suriname. She was so captivated with the insects that she and her daughter, Dorothea, sailed to Suriname on their own in 1699. They spent two years drawing and painting insects in their various life stages.



By 1705, Merian had published her life's work, *Metamorphosis Insectorum Surinamensium*, showing the true life-cycles of insects, a relatively new concept in early 18th century Europe. The immense cost of engraving, printing, and hand-coloring the pages required her to issue the book by subscription and once it was completed, the book contained 60 plates with descriptions in Dutch or Latin. The Lloyd Library holds one of approximately 70 copies that have survived. It also has two copies of the 1730 printing, one colored and one uncolored, which has 12 additional plates depicting reptiles and mammals.

Sample plates can be found at: <https://lloydlibrary.org/exhibits/digital-exhibits/>