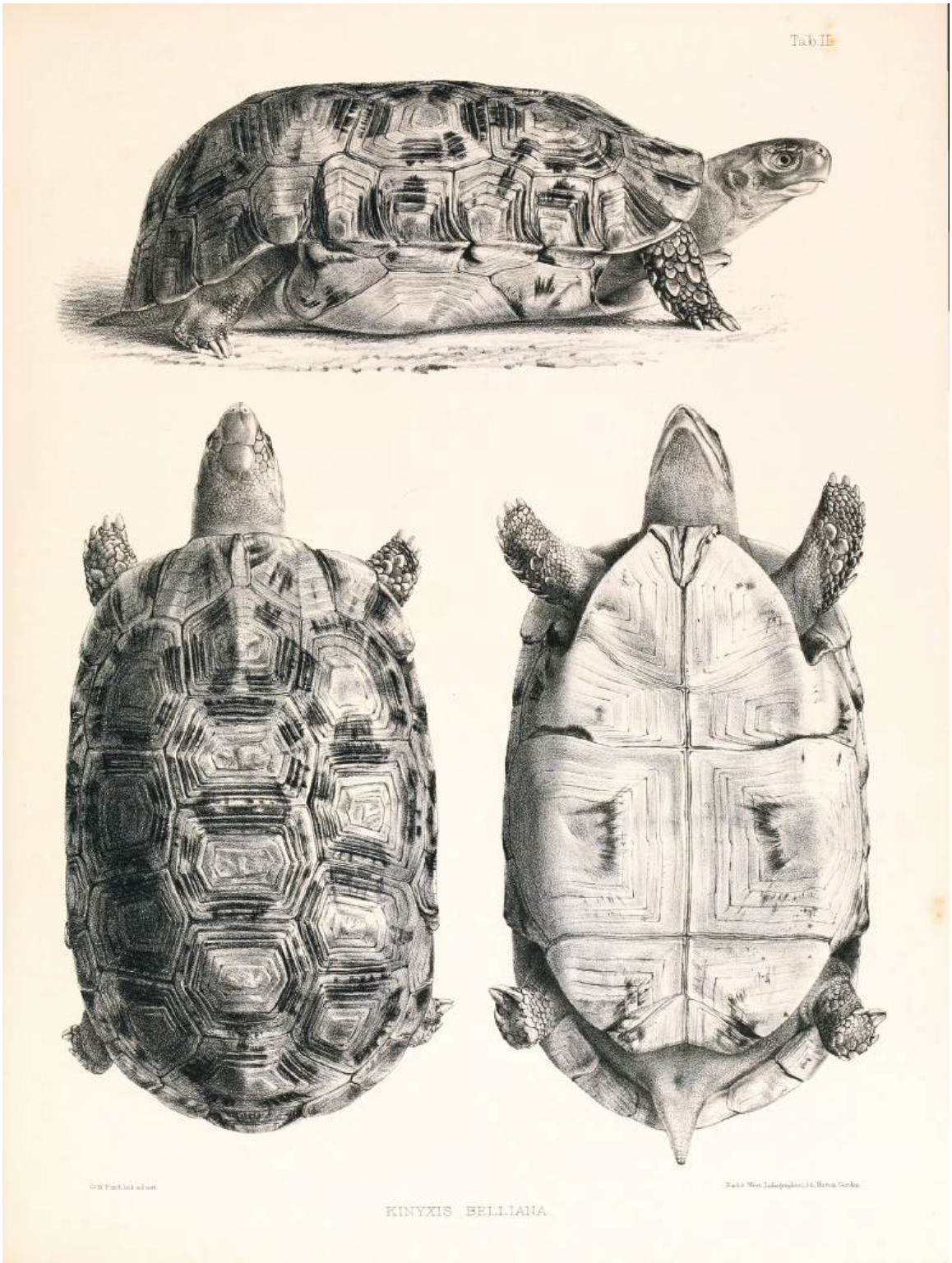
Historical Turtle Art

Stephan Ettmar

In the 19th century, people with an interest in chelonians often had a hard time to gain knowledge on their favourite animals. In Europe, chelonian diversity is rather poor compared to turtle "hot spots" such as the southeastern United States and so books were the only source for Europeans to read about turtles or tortoises and to discover what they look like. Since photography was not a mass phenomenon until the early 1900s, people with little sense of imagination were almost helpless. With the ongoing scientific exploration of the world and the need to document findings, it became more and more popular to draw animals not in a sensational way, but in a rather realistic style to accurately portray the appearance of newly described species. Scientific illustration was born! This development was probably a major reason for people to start collecting books. Unfortunately, creating scientific illustrations and methods for mass reproduction in books were rather elaborate and costly, so many books still featured only few (color) plates or the plates were published as a separate supplement. Nowadays, the content of those old books about chelonians is outdated, of course, leaving the text only interesting to either

Illustrations from Sowerby and Lear (1872). *Terrapene clausa* (now known as *Terrapene carolina*) and *Trionyx gangeticus* (now known as *Nilssonia gangetica*).

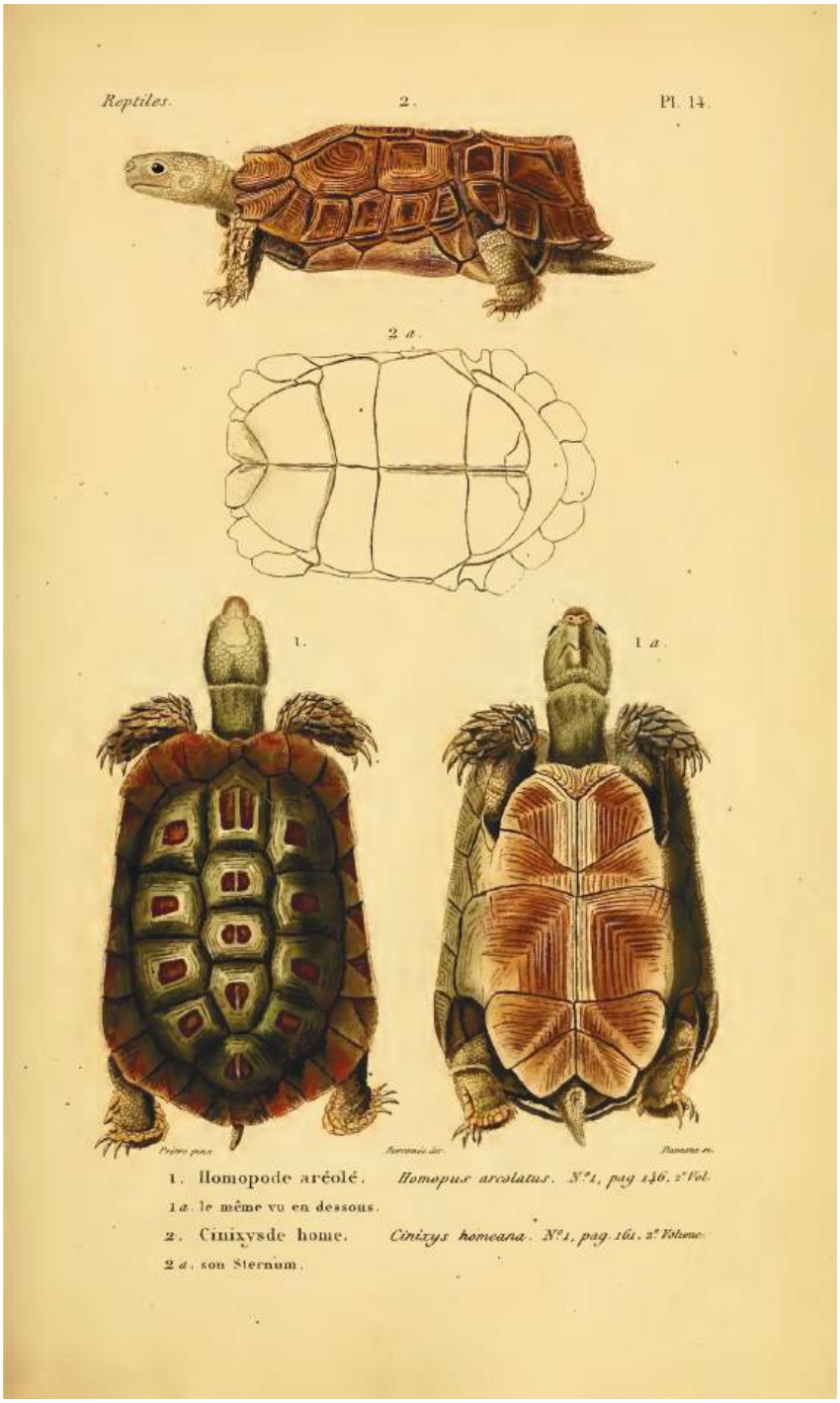


Kinixys belliana from Sowerby and Lear (1872).

historians or scientists. Illustrations, though, still are of immense value for art lovers and people who like to surround themselves with chelonian memorabilia – don't we all have a collection of turtle figures and posters? Until recently, access to these old treasures was limited by the fact that they are only available as hard copies at large libraries, e. g. in natural history museums around the world. Often, original prints were not publicly accessible due to security reasons. In the late 20th Century, efforts have been made to make old, but important books

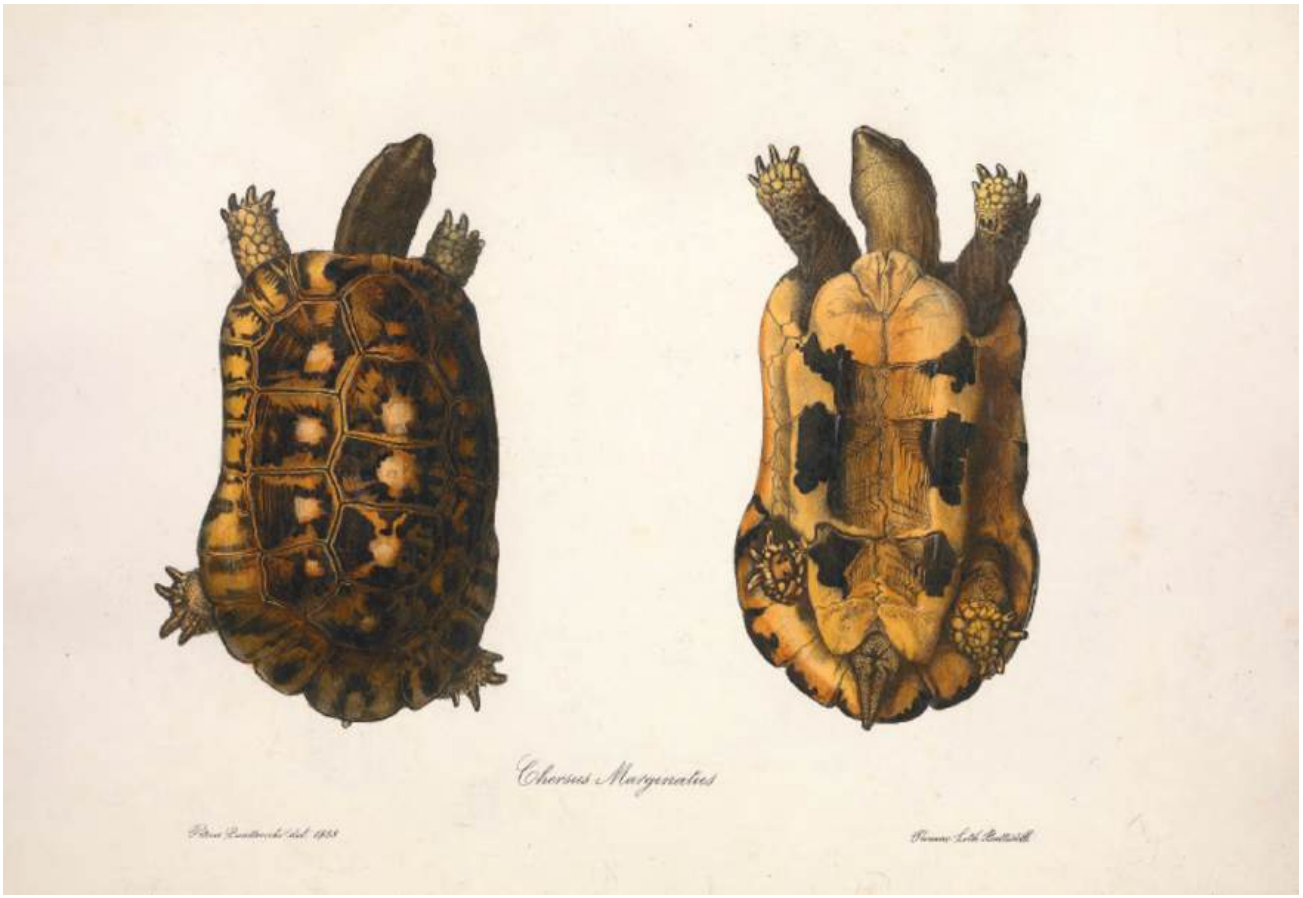
widely accessible. The originals were scanned one after another and at present, you can even buy (low quality) facsimiles of many important books in their original layouts online.

How can you get such old books or drawings without having to pay astronomical prices from collectors for original editions? For example, Sowerby & Lear (1872) was published as a reprint by the Society for the Study of Amphibians & Reptiles, a herpetological association from the United States. Google has now built up a large electronic library called "Google Books", in which you can view books (depending on the copyright regulation) in whole or in part. The link is very simple: https://books.google. Also not to be forgotten is the Biodiversity Heritage Library (https://www.biodiversitylibrary.org), a website that deals with the collection and publication of biology-related documents that are no longer copyrighted. It is particularly practical that books can be downloaded completely as a scan. On request, however, only excerpts can be created based on self-selected pages. If you are not primarily interested in the texts of such old books, but would rather only see pictures and illustrations, the photo sharing platform Flickr is recommended. There is, among other things, a “channel” from the Ernst Mayr Library with all sorts of interesting illustrations from old books (https: // www. flickr. com/photos/66257786@N03/), the Biodiversity Heritage Library also regularly presents illustrations worth seeing on Flickr (https://www.flickr.com/photos/biodivlibrary).



Kinixys homeana (above); *Homopus aereolatus* (below) from Duméril and Bibron.

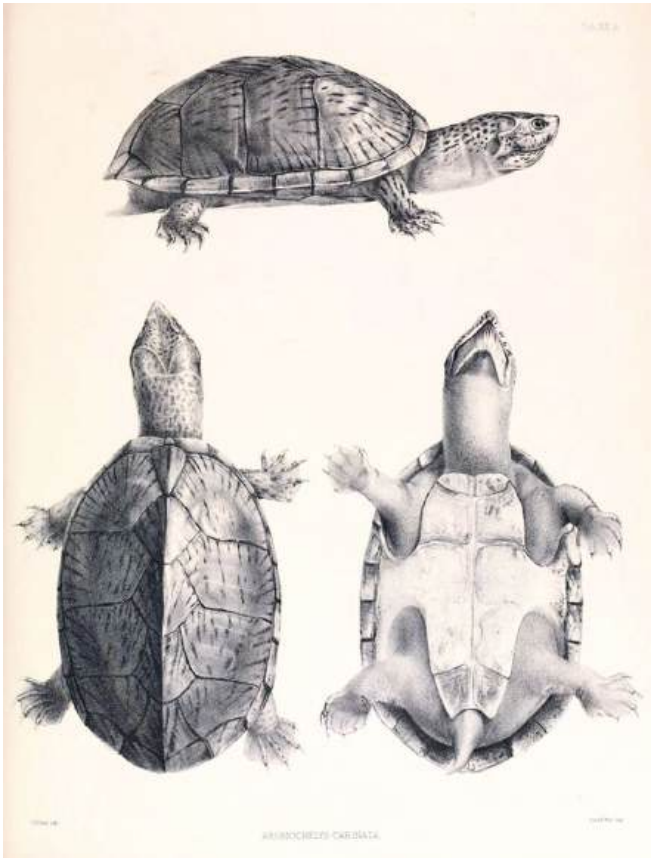
Our first image selection comes from Sowerby & Lear’s book *Tortoises, Terrapins, and Turtles: Drawn From Life*, published in 1872. This book was published as a supplement to Thomas Bell’s *Monograph of the Testudinata* (Bell 1836) because records were made for the very same work, but (for whatever reason) they were not published in the book. The illustrations were drawn by James Sowerby, lithographs were made by



Chersus marginatus (now *Testudo marginata*) from *Iconography della Fauna Italica* by Charles Lucien Jules Laurent Bonaparte (1832-1841).

Edward Lear and colored by Mr. Gabriel Bayfield and his team. For the illustrated book, John Edward Gray, who worked at the British Natural History Museum in London, then wrote explanatory texts on the plates. Interestingly, almost 36 years passed between the publication of the two books, but apparently it was decided that such beautiful and detailed drawings should not be lost to posterity, which is why they were eventually printed. An understandable and welcome decision!

Our next excursion into the history of science and art takes us to France, more precisely to the Muséum National d'histoire Naturelle Paris. The scientist, André Marie Constant Duméril (* 1774-1860) and his assistant Gabriel Bibron (* 1805-1848), worked there in the first half of the 19th Century. Duméril succeeded Bernard Germain Lacépède, the well-known curator of ichthyology and herpetology, and was very productive. He described 256 species of reptiles in the course of his life, Bibron totaled 232 described species. In doing so, they take 6th and 7th place in the all-time list of the most active describers of new Herpetotaxa (Uetz 2010). Together, they published the monumental work *Erpetologie Generale: ou, Histoire Naturelle Complete des Reptiles* in nine volumes from 1835 to 1854. A total of 223 new species of reptiles were described in these nine volumes, the last of which were published years after the death of Bibron (who died of tuberculosis in 1848). This "book" is the one with the most new descriptions of reptiles and amphibians that has been published up to now. It presents 121 species of turtles from 22 genera, divided into four families. The language of the book is French, and the description of the main characteristics of the species is not written in Latin (as was the case in previous times). In addition to the text, there are also identification keys within the families. If you do not want to search all books individually, we recommend Volume 2 (1835) and *Atlas* (1854) for turtle lovers. The drawings selected here come from the latter. There are a total of 13 partly colored plates with turtles to admire, but the other illustrations of the atlas are also worth seeing. The table of contents of the *Atlas* always contains data on where the species in

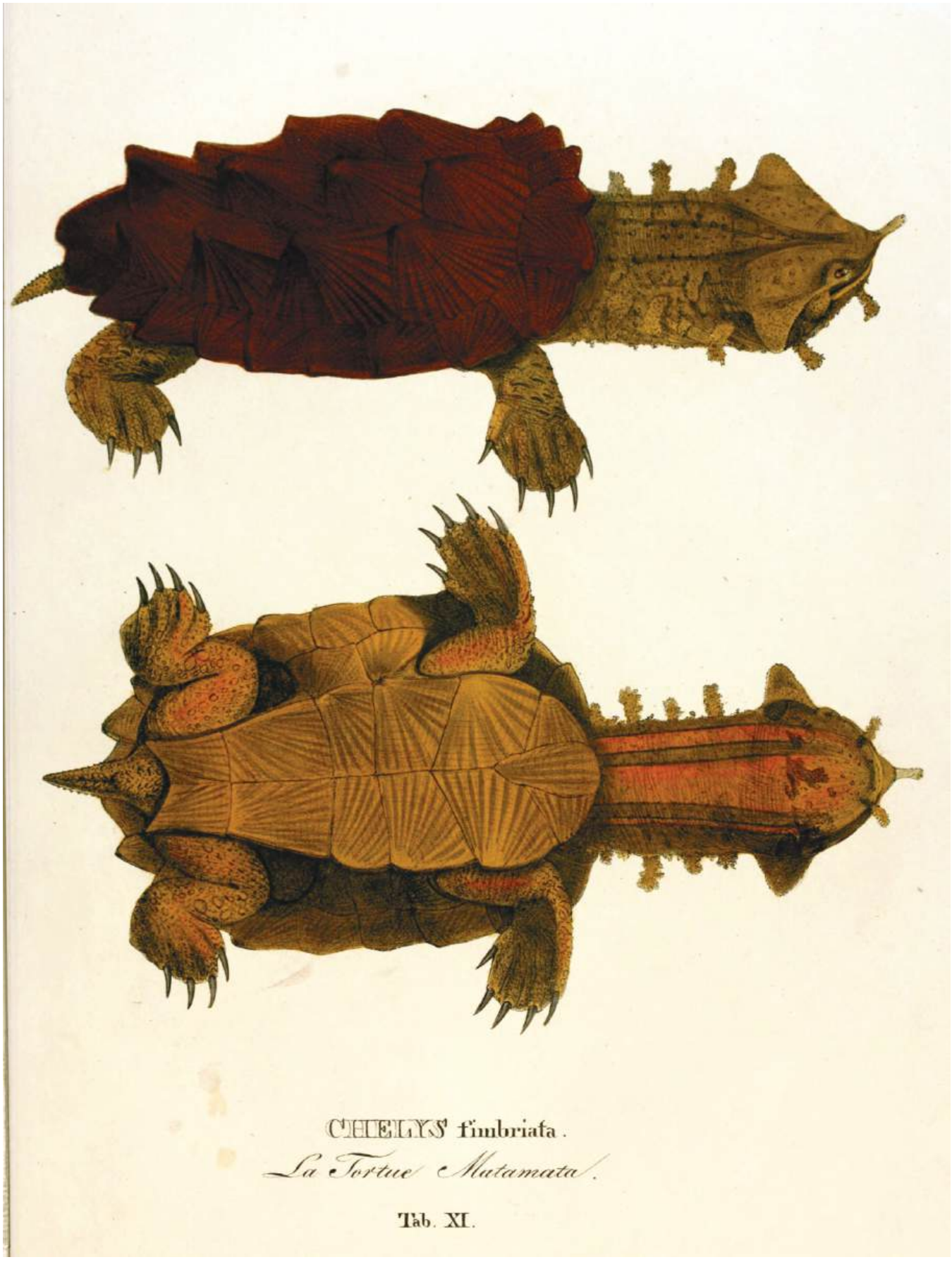


Aromochelys carinata, now known as *Sternotherus carinatus* (left) and an illustration of an Alligator Snapping Turtle *Macrochelys temminckii* skull (right) from Gray (1855).

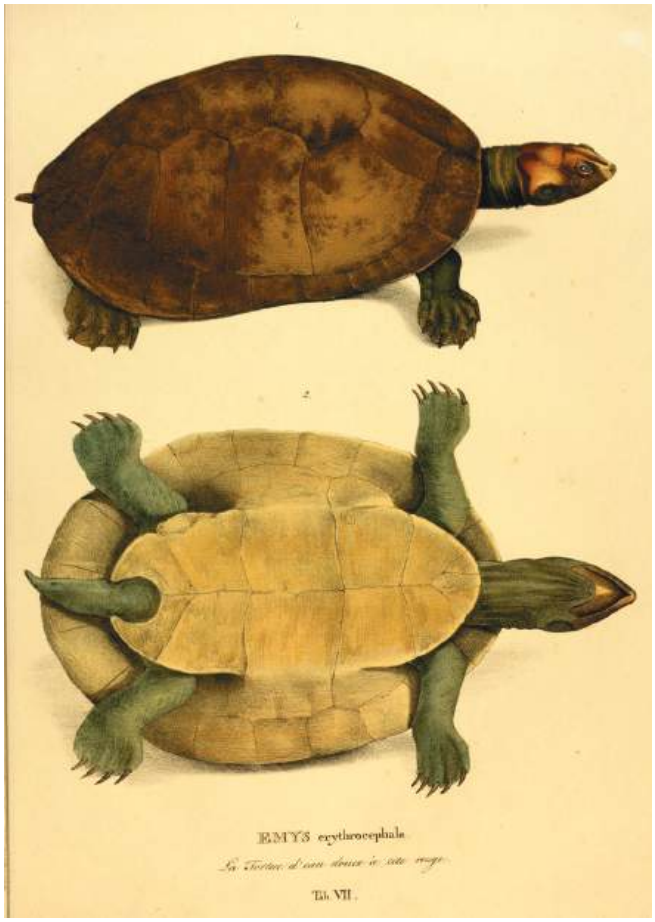
question can be found in the actual book. Unfortunately, I was unable to find out who was the artist behind all the illustrations. It can be assumed that several illustrators were busy immortalizing exhibits and types from the Paris Museum. Unfortunately, in some cases you see a "misproportion" that the illustrator was certainly not sitting in front of a living object. But the anatomical sketches are all the more detailed!

Charles Lucien Jules Laurent Bonaparte, nephew of Napoléon Bonaparte, was an Italian zoologist and ornithologist. Born in Paris in 1803, he grew up in Italy and was very interested in nature. From 1822 to 1826 he lived in America, where he mainly devoted himself to ornithology and therefore published the work *American Ornithology* after his return to Rome. His next project, *Iconography della Fauna Italica*, was to be a treatise on all vertebrates in Italy. In the 30 volumes, he described mammals, birds, reptiles, amphibians, and fish. These were gradually published from 1832 to 1841. The second volume dealt with the "Amphibi" in the sense at that time, so it also included the reptiles - including the turtles. A total of six species are presented: *Testudo graeca* (now *T. hermanni*), *Chersus marginatus* (now *T. marginata*), *Emys lutaria* (now *Emys orbicularis*), *Terrapene caspica* (now *Mauremys rivulata*), *Chelonia caretta* (now *Caretta caretta*) and *Sphargis coriacea* (today *Dermochelys coriacea*). Despite the Latin title, the book is written in Italian. Bonaparte describes in detail the appearance and life of the species discussed. Each of these descriptions also includes an illustration as a lithograph. The turtle illustrations were published lithographically in the book by Battistelli based on sketches by Alexander Capalti and Petrus Quattochi. After also being politically active in Italy for a few years, Bonaparte settled in Paris in 1850, where he managed the Jardin des Plantes (= botanical garden). He died in Paris in 1857, the city where he was born.

I would further like to introduce you to a true classic of turtle literature: British zoologist John Edward Gray left his mark on the British Museum and taxonomy like few others of his contemporaries. The botanist's son,



Famous illustration of *Chelys* (now *Chelus*) *fimbriata* from Spix (1824).



In 1824, the genus *Podocnemis* was classified as "*Emys*". *Podocnemis erythrocephala* (left) and *P. expansa* (right). Both illustrations from Spix (1824).

born in 1800, began collecting insects for the Museum in London at the age of 15. First, however, he studied medicine (like most natural scientists at the time) before starting to work in the Zoological Department at the British Museum in 1824. Together with the then head of the collection, John George Children, he began to catalog the reptile collection. In the further course of his work, he wrote over 500 scientific treatises and secured third place in the eternal "best list" of authors of scientific descriptions of species with 306 new descriptions of reptile species. In front of J.E. Gray are only Albert Günther with 333 species and George A. Boulenger with 573 new descriptions. Gray wrote several papers on turtles and described a total of 57 still valid taxa. That's about a sixth of all types! The complete list can be found here: http://reptile-database.reptarium.cz/advanced_search?taxon=-Testudines&author=Gray&submit=Search. Some of these new descriptions were made by publishing the catalog of turtle types in the London Museum, titled *Catalog of Shield Reptiles in the Collection of the British Museum Pt. 1*. This was published in 1855 and provided an overview including short descriptions of all existing turtles (Pt. 2 should then deal with the "Emydosaurians, Rhynchocephalia, and Amphisbænians". The description of the appearance and the species-specific characteristics of the turtles was possibly supplemented by well-known synonyms and notes on the origin, natural history, or other facts that may have been interesting at the time.There are a total of 42 plates of turtles to admire, some of which show skeletons or skulls, others show the dry preparations available in the museum. This colorful cross-section through the turtle diversity can be seen and are shown in great detail, created by a certain Mr. Ford.

Johann Baptist von Spix was a German scientist who dealt with zoology that emerged in the first half of the 19th Century. After his graduation from medical and natural science studies, he was appointed to the court of King Maximilian I in Munich. From 1810 on, he worked as an adjunct, later a conservator, on the organization and

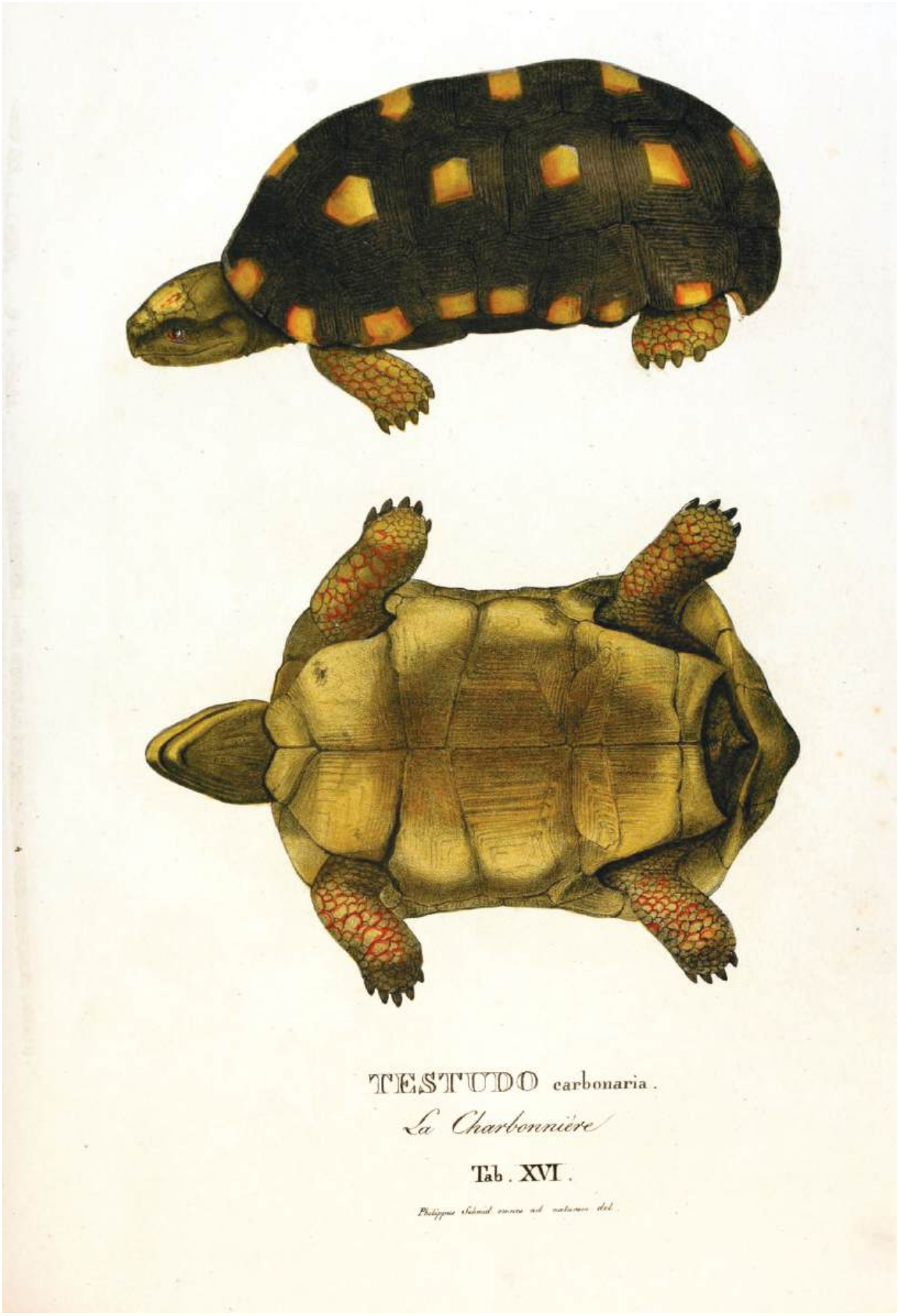


Illustration of *Testudo* (now *Chelonoidis*) *carbonaria* from Spix (1824).

expansion of the zoological collection in Munich. Due to his work and his first book on the basics of zoology, he was admitted to the Bavarian Academy of Sciences in 1813. When the king found out about the planned Austrian expedition to Brazil on the occasion of the marriage of Dom Pedro I of Portugal / Brazil to Archduchess Maria Leopoldine of Austria, he decided to send scientists as support and to pursue their own projects as well. For example, Spix was sent as conservator and Carl Friedrich Philipp von Martius as a botanist on the expedition from Munich. They were the first of two ships to reach Rio de Janeiro in June 1817, from where the journey was started. Since the second ship with the remaining researchers was due to arrive a few months later, Spix initially spent a lot of time in the southeast of Brazil. Subsequently, Spix and Martius separated from the Austrians and went their own way until 1820. They worked their way along the east coast to Belem in 1819/1820 and from there westwards almost to Peru. In 1820, they finally went home. Spix brought many species to Munich from Brazil: 6,500 plants, 2,700 insects, 85 mammals, 350 birds, 130 amphibians, and reptiles (including 19 species of turtles) and 116 species of fish. Interestingly, Spix also described *Emys depressa* in that book, which is now synonymous with *Acanthochelys spixi* (Duméril & Bibron 1835), a turtle named in honor of him. Several of the supposedly new species turned out to be already known, Spix had actually described two species for the first time. After his return, Spix was knighted, among other things, and received further honors. He published the experiences of the expedition together with Martius in the book *Journey in Brazil on the orders of His Majesty Maximilian Joseph I King of Baier*. Many animal species have been published in separate volumes, e.g. descriptions of birds, snakes or monkeys. He described turtles and frogs together in the work presented here "Animalia nova sive species novae Testudinum et Ranarum, quas in itinere per Brasiliam annis MDCCCXVII –MDCCCXX Iussu et Auspiciis Maximiliani Josephi I. Bavariae Regis suscepto collegit et descripsit". This appeared in 1824, two years before Spix died (probably from a contracted tropical disease). The book itself has almost 150 pages, on which the collected animals are first anatomically described in Latin. The description is rounded off by references to other current works and (as far as known) the habitat. There are also references to the illustrations in the back of the book. In addition to 19 species of turtles, 22 plates with amphibians are also shown here.

About the Author: Stephan Ettmar (*1984) is a long-time chelonian hobbyist with special focus on South American chelid turtles of the genera *Mesoclemmys*, *Phrynops* and *Platemys*. While doing research for his book about the natural history and husbandry of the genus *Mesoclemmys* (published in March 2019), he found lots of beautiful historical chelonian illustrations on the web. These findings are regularly shared in German in SACALIA magazine, the member's journal of the "Internationale Schildkröten Vereinigung" (www.isv.cc).