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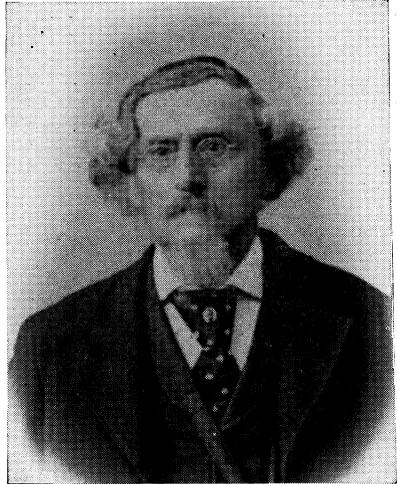
## Dr. Benno Matthes: An Early Texas Herpetologist

*S. W. Geiser*

Texas has long been known as the herpetologist's paradise. A large number of species are distributed through the great distances from Amarillo to Brownsville, and Texarkana to El Paso. Naturalists have collected reptiles for many years in the State; and Texan species are in museums throughout the world. The notable collectors of the 'fifties who were connected with Mexican-Boundary Survey or Pacific Railroad explorations, gave Baird & Girard, Agassiz, Holbrook, and others new species for description. So well did they work, that seventy years later (after having passed through the vicissitudes incidental to all "species" described in an era of hasty and feverish species-making) there are still some 62 valid species and subspecies of amphibia and reptiles whose type-localities are Texan. Twenty-two species each of lizards and snakes were described first from specimens collected in Texas; and to this number should be added five species of turtles, eleven species of frogs and toads, and two species of salamanders. To these last belong the notable blind cave-salamander, *Typhlomolge rathbuni* of the San Marcos region; and Benno Matthes' *Ambystoma texanum*. The later species was first described from Fayette County in 1855. It has a wide distribution: its range extends from Ohio and Illinois south to Tennessee and Texas.

Most of the zoological collectors in Texas, from the time of Berlandier to the present day, have collected reptiles. It must be said, however, that we have had but few who maintained over the years a keen interest in reptiles. The botanist Lindheimer collected reptiles at New Braunfels, and sent them to the Smithsonian Institution; but he was primarily a botanist. The same may be said of Charles Wright,

who helped John Henry Clark and Arthur Schott collect reptiles for the Boundary Survey. Ferdinand Roemer and Thomas Drummond collected a few reptiles. Gabriel William Marnoch at Helotes and Jacob Boll at Dallas collected many for Edward Drinker Cope. But their collections in this field were not as notable as, say, Boll's collections of Permian vertebrates of Texas, or Belfrage's collections of insects, or Bruckisch's studies on the honey-bee. J. D. Mitchell of Victoria and John K. Strecker of Waco, both dead, are the ones who most consistently collected reptiles in Texas, and this within recent years.



Dr. Benno Matthes (1825-1911)

Charles Hooten, English novelist, in his "St. Louis' Isle, or Texiana . . .," (London, 1847) tells of an indefatigable English naturalist, one of his friends, who went out from London to collect *naturalia*, and especially reptiles, in Texas. The account (pp. 80-83) is evidently intended to be accepted as truth. The name of the naturalist is "R"; after having collected in Texas, he was said to have left Galveston for New Orleans, but died of Yellow Fever, and was buried at sea. "R" is said to have had a particular friend in the Stamp Office, Somerset House, London. I am not sure that Hooten's account is not fictitious: the British Museum catalogue of accessions gives no clue, nor can Dr. Malcolm Smith of the British Museum or Dr. Leonhard Stejneger of the U. S. National Museum cast any light on the matter of "R". The earliest devoted herpetologist who worked in Texas appears to have been a Silesian physician, Dr. Benno Matthes. He came to Texas in the 'fifties, and died here in 1911, at the advanced age of eighty-six years. Before

he came to Texas (1853) he had devoted himself to a long investigation of American salamanders, and had collected natural-history specimens in New York State, New Jersey, Ohio, Indiana, and Kentucky for the Royal Saxon natural-history cabinet in Dresden.

Benno Matthes was born at Liegnitz, Silesia, 15 September, 1825; and died at Comfort, Kendall County, Texas, 30 April, 1911. But little information can be obtained at this time concerning his family. Such fragmentary material as is obtainable seems to show that the family was in comfortable circumstances economically. The two sons of the family obtained good educations. Certainly before 1851, and doubtless before 1848, Benno had obtained some sort of graduation from the then-existing *Chirurgisch-medicinische Akademie* at Dresden; for in 1851 we find him coming to America, and in January, 1852, setting up in medical practice at Broadway and Third Streets in Cincinnati. Matthes had an M. D. degree at the time, although I have no direct evidence as to its source. His printed card at the time shows that he was an obstetrician; and it is possible that his certificate or diploma designated him as *Geburts-helfer*, and not as *Artz*. It is probable, however, that his title was that of M. D.; Matthes signs himself as such in a letter to Spencer F. Baird, and as grantor on some deeds in Fayette County. His name appears as "Dr. Benno Matthes" on his published scientific papers; and Dr. Voigtlaender of Dresden refers to him as such in his own osteological papers on certain reptiles sent him by Matthes. Thus, while the source of his degree is at present uncertain, his possession of a degree respectable among his contemporaries is not.

Dr. Matthes doubtless was at one time a student at the surgical-medical academy at Dresden, and came under the influence of the great naturalist and polymath, Heinrich Gottlieb Ludwig Reichenbach (1793-1879). For forty-two years Reichenbach was professor of natural history in the Academy; and for a longer time, director of the Royal natural-history cabinet, and the Botanical Garden. He was

a man of very extended interests and great abilities; and wakened in Matthes the ability to see scientific problems and to partake of his teacher's wide enthusiasms.

Matthes may have taken his M. D. in 1848. He came to America, probably in 1850 or 1851, with a commission to collect natural-history specimens for the cabinet in Dresden. Where he first resided in America is uncertain. Our first dated record of him is in January, 1852, when we find him in Cincinnati (*supra*). We are certain, from statements in his published papers, that he had come to Cincinnati only a short time before. Previously, he had lived in New Jersey—perhaps in present Jersey City—"near the Hudson", and had collected natural-history specimens at Pendleton, Ohio (now a part of the city of Cincinnati), and at Newport, Kentucky, across the Ohio River from Cincinnati.

Matthes sought to explore the Southwest and Mexico for herpetological specimens. He had already developed a keen interest in the amphibia and reptiles, as may be seen from his extended salamander paper, referred to below. On 18 April, 1853, he wrote to the great naturalist of the Smithsonian Institution, Spencer F. Baird, that he proposed taking a trip to Louisiana, Texas, and Mexico, "merely for the sake of natural science."

He left Cincinnati for New Orleans on Monday, 1 August, 1853; and arrived at his destination on the twelfth. He had planned to collect extensively in the environs of New Orleans before going on to Texas. Unfortunately, he arrived at New Orleans at the peak of the terrible Yellow Fever epidemic of 1853. He was obliged, therefore, to forego collecting in Louisiana. Two days after his arrival he shipped for Galveston (14 August). It was represented then as free from Yellow Fever. He arrived there the eighteenth of the month; and here the ship went into quarantine. Later, Matthes got to Houston, where he took the fever, and spent three weeks in recuperating. About the middle of September he left Houston by stage for the home of an old friend at Round Top, in Fayette County. Here Matthes lived, and collected *naturalia* for about ten months. His

observations made at that time were later printed in his 'Excursion' paper (*infra*), and in his *Reise-Bilder—Bilder aus Texas*, one of the most delightful of Texan travel-accounts.

Early in August, 1854, Matthes made his first return-journey to Europe, going by way of Havana and New York. He arrived loaded with natural-history specimens for the Dresden museum, about the first of December. Part of his reptiles he gave to Professor Voigtlaender of Dresden for anatomical study. He made but a brief stay in Dresden, and set out soon for his return to Texas. We know that in September of 1855 he was back in Fayette County. During the months of August to December, 1856, he bought ten lots of land in the town of Round Top. He is supposed by some to have returned to Germany in July, 1857—Professor Rudolf Zaunick, medical historian at Dresden, believes that he did, in a courteous note. I doubt that he was in Europe in the interval of December, 1856, to June, 1859, for in that interval he sold all of his land-holdings in Round Top—the last of the deeds was dated "6 June, 1859."

Matthes appears to have returned to Germany a second time, in 1859; and to have remained there until after the close of the Civil War in America. Dr. Zaunick tells me that Dr. Matthes received a second Doctorate—a Ph.D. degree—in 1860 but does not state from what source. He published in this interval his three papers on the *Elapidae*, *Scotophis*, and *Heterodon*; and his book the *Reise-Bilder*. The Chirurgical-medical Academy at Dresden was closed in 1862. . . . On the sixteenth of June, 1865, Matthes left Germany again for Texas. It was his last trip. Subsequently he bought (1866-70) several parcels of land adjoining the town of Fayetteville in Fayette County; and on the fifth of July he married. In this little frontier town (which had, however, a good sprinkling of *Lateiner*) he settled, was for many years a physician and apothecary, and for some time conducted a nursery. In 1907 he sold his Fayetteville holdings and moved to Comfort, Kendall

County. Here he died, 30 April, 1911, in his eighty-sixth year.

Matthes wrote at least five herpetological papers of merit, all dealing with Texan animals. Two of these papers appeared in 1855, in volume I of the *Allgemeine deutsche naturhistorische Zeitung*, at pages 152-63 and 249-80. Of these two, the first deals with his trip from New Orleans to Fayette County ("Excursion von New Orleans nach dem Urwald am Rio Colorado in Texas"). The second paper is an extended monograph on salamanders, especially those of America ("Die Hemibatrachier im Allgemeinen und die Hemibatrachier von Nord Amerika im Speciellen") . . . In 1860, in the *Denkschrift* of the "Isis" natural history society in Dresden (their "Festschrift" to celebrate the 25th anniversary of the society) he published three papers, all herpetological: ("Beobachtungen und Betrachtungen ueber *Scotophis Lindheimeri*, *Scotophis alleghaniensis*, und einige andere Schlangen"; "Abhandlungen ueber den Zahnbau und die Lebensweise von *Elaps fulvius* Cuv., *Elaps tenere* B. & G., und *Elaps tristis* B. & G. aus den Vereinigten Staaten von Nord Amerika, und *Elaps corallinus* Pr. Max. aus Brasilien"; "Einiges ueber Heterodonen," pp. 45-62). The book, *Reise-Bilder—Bilder aus Texas* (vii + 104 pp.) was published at Dresden by H. J. Zeh, in 1861.

Matthes' papers have much general and special interest. In his *Hemibatrachier* paper (1855), for instance, he noted the voicelessness of salamanders (p. 252) and turtles (p. 254); observed that certain lizards change their color while laying eggs, or may have one color when collected in the field, and another when they are brought into the laboratory (pp. 257-8). Near Taylor's Creek, Newport, Kentucky, he found a species of salamander, now known as *Desmognathus phoca* (Matthes); and in Fayette County (on bank of the Colorado River and in the Cummins Creek Bottoms) he found another new salamander-species, now known as *Ambystoma texanum* (Matthes). He shows (p. 259) the enthusiasm of the true naturalist in his delight over the finding of the specimens: "So much greater is the pleasure

where one finds a beautiful or an unknown species after a long search. I rejoice after today over the two salamanders which I have found after fourteen months in the primeval forests of Texas, since not a one has up to this time been known in Texas, and this is a new species. The thousands of rotten tree-trunks that I have turned over and hacked to pieces in vain, and all the weariness associated therewith are forgotten—on account of two salamanders.”

His “Excursion to Texas” (1855) gives a noteworthy account of the trees, plants, and animals of the forest of the Colorado River Bottom. Matthes knew his botany, as would be expected of a pupil of Reichenbach. . . . The *Elaps* paper (1860) deals especially with the osteology of the heads of the coral-snakes; and shows powers of observation and deserves praise. Matthes demonstrated that (contrary to the usual opinion) the *Elapidae* were poisonous with immovable fangs, and that the jaws can be opened widely enough to permit swallowing of small rodents, lizards, and occasionally snakes as large or larger than themselves. . . . The *Scotophis* paper (1860) showed that not all snakes are constrictors (the type of food eaten often made that superfluous); that snakes may devour their own species (even rattlesnakes their young); that not all snakes “run down” their prey, nor catch it by leaping “like a cat” after it; and that even some small snakes are constrictors, but most snakes are not. Matthes showed that often the snake approaches its prey very calmly, and shows haste only in the act of seizing. . . . The *Heterodon* paper (1860) offers nothing of especial novelty today, but his observations on the “blowing” habits of the American blow-snake or spreading-adder were of great interest to his European readers. The European species of *Heterodon* do not have this blowing habit.

Matthes spoke of himself as a “layman”, although his work in herpetology was excellent in quality and highly competent for its day. He promised to publish from time to time every observation he made on the habits of the reptiles; but I have found no other papers than the five

above listed. Looking back at his work after the lapse of eighty years, we can only regret that he published no more.

Of his book, "Reise-Bilder von Dr. Benno Matthes. Bilder aus Texas," much deserves to be said. It is one of the most attractive travel-books of early Texas, and should be translated. It is packed with material of interest to the present-day naturalist. His accounts of the effect of the drought of 1856-7 on plant- and animal-life in Texas (pp. 1ff.); the rainy season (16ff.); the prairie (31ff.); hunting mustangs, deer, and turkeys (49ff.); a botanical-zoological excursion (57ff.); the account of a fight between a wasp and a tarantula (78ff.); and the buzzard (83ff.); are especially interesting. The book is full of keen observations in out-of-the-way places. Thus (pp. 54-55) his observation that wild-turkeys are usually loaded down with wood-ticks (*Ixodes*) which he correlates with their abundance on the favorite food of the turkey, all grape-species, and *Callicarpa americana*; the observation of a great *Vitis labrusca* vine in Fayette County, ten inches in diameter and thirty-one inches in circumference; the fact that Texans of that day judged the value of a prairie soil by the plants and animals that lived upon it. Thus, those prairies upon which *Euphorbia marginata* grew were considered the best soil (p. 34). He also noted that "*Bulimulus schiedeanus*" was frequently so abundant on prairie plants that "often the plants looked like corals."

The later performance of Dr. Matthes did not carry out the promise of his youth. When Matthes came to Texas for the last time (1865) he was already forty years old, and (as it turned out) his scientific work was done. A marriage that offered him complete domestic happiness, and the frontier environment which made necessary a concentration of his energies on gaining the bare necessities of life, left little or no time for the cultivation of science. Had he been less happy in his home life, or more favorably placed in the world, in contact with scientific workers in the field of herpetology, his production of research might

have continued. He remains, however, our earliest herpetologist, just as John K. Strecker, perhaps, was our greatest.

### **Lerodea tyrtaeus (Ploetz), New to the United States (Lepidoptera, Rhopalocera, HesperIIDae)**

*H. A. Freeman*

On March 22, 1940, a female *Lerodea tyrtaeus* (Ploetz) was caught by the writer one mile north of West Columbia, Brazoria County, Texas. Mr. E. L. Bell, American Museum of Natural History, New York, N. Y., kindly determined my specimen and gave much information on the species. Laguayra, Venezuela, is the type locality for this species. Specimens in the United States National Museum examined by Bell for me, gave the following localities: Mexico; Tlalpam; Paso San Juan, Vera Cruz; Colima; Guatemala; Zecapa; Costa Rica; San Mateo; Panama; Toboga Island. This species appears more abundant from Vera Cruz to Colima in Mexico than anywhere else. Vera Cruz, Mexico is nearer West Columbia than any of the other localities, but, at that, it is some six hundred and fifty miles distant.

This record increases the number of species of the genus to six in the United States. They are:

- 1) *Lerodea eufala* (Edwards)—Florida, west to California; north to Arkansas, Kansas, Iowa, and Nebraska.
- 2) *L. arabus* (Edwards)—Southern Arizona.
- 3) *L. vherminier* (Latreille)—Gulf States to New York, Arkansas, Missouri, and Kansas.
- 4) *L. neamathla* (Skinner & Williams)—Florida to Texas along the Gulf and northward to Missouri.
- 5) *L. tripunctus* (Herrich-Schaeffer)—Florida.
- 6) *L. tyrtaeus* (Ploetz)—West Columbia,, Brazoria County, Texas.

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