

ZOO VIEW

Herpetological Review, 2017, 48(3), xx-xx.
© 2017 by Society for the Study of Amphibians and Reptiles

Cuban Herps

Now that Cuban-US relations are more open, I was reflecting on how this important island has been represented in US zoo collections. The Cuban Revolution and Communist party rule (1959–present) had a negative effect on some of the zoos and aquariums of the world, especially in the US. Reptiles and amphibians from Cuba were rarely displayed, as there were virtually no positive interactions between the Fidel Castro government and the United States. The few Cuban taxa shown were already in collections prior to 1960 or were collected in the southeastern US areas, particularly in Florida. Both Cuban and American crocodiles were held in a number of zoos. Numerous invasive species from Cuba had established a stronghold in Florida including Knight Anoles (*Anolis equestris*, Fig. 1), Brown Anoles (*Anolis sagrei*, Fig. 2), Cuban Green Anoles (*Anolis porcatius*), Northern Curly-tailed Lizards (*Leiocephalus carinatus*), Ocellated Geckos (*Sphaerodactylus argus*), Ashy Geckos (*Sphaerodactylus elegans*), Yellow-headed Geckos (*Gonatodes albigularis*), and Flowerpot Snakes (*Indotyphlops braminus*). The Cuban Treefrog (*Osteopilus septentrionalis*) is considered to be a major threat to biodiversity in Florida.

TO SEE SO MANY CUBAN HERPS FOR THE FIRST TIME

In 1969, the American Association of Zoological Parks and Aquariums (AAZPA) organized a tour for its members to visit zoos in Belgium, Netherlands, Switzerland, Germany, and UK. As a member of this tour, I had occasion to see many Cuban herps for the first time—in the eastern section of Berlin at Tierpark Berlin. The city was divided, separated by the Berlin Wall and it took many months of negotiations to gain permission to cross into East Germany. (After the fall of the Berlin Wall, the name was changed to Tierpark Berlin-Friedrichsfelde.) My guide was Hans-Günter Petzold (Fig. 3), deputy director and a well-known herpetologist. We agreed on meeting that we would not discuss politics, only herpetology, and so we did. He was curious as to what was happening in US and European zoos as the government did not allow its citizens to travel outside East Berlin to non-Communist countries unless permission was granted beforehand—a lengthy process indeed and often unsuccessful. Petzold had arranged animal exchanges with the Havana Zoo and was proud of the successful breeding of the Northern Curly-tailed Lizards, Common House Geckos (*Hemidactylus frenatus*), Cuban Water Snakes (*Tretanorhinus variabilis*), Cuban Racers (*Alsophis cantherigerus*, Fig. 4), and Cuban Dwarf Boas (*Tropidophis melanurus*). Many of the species illustrated in this article (except sea turtles) were represented in the Tierpark collection (Figs. 5–7).

JAMES B. MURPHY

Division Amphibians & Reptiles, National Museum of Natural History,
10th and Constitution Ave NW, Washington, DC 20013-7012, USA
e-mail: murphyjb@si.edu

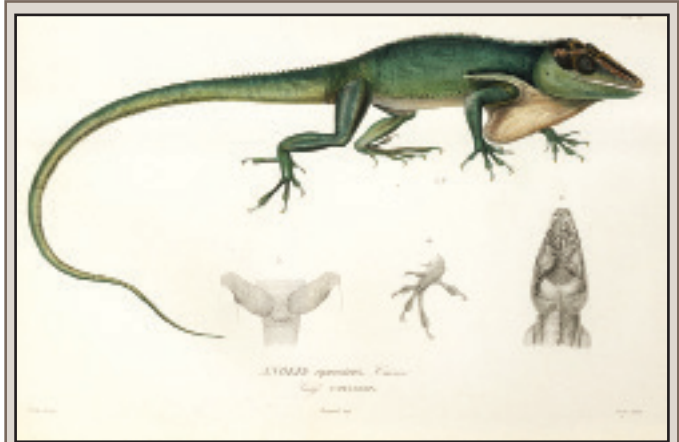


FIG. 1. Knight Anole (*Anolis equestris*).



FIG. 2. Cuban Brown Anole (*Anolis de la Sagra*, now *Anolis sagrei*).

PHOTO BY H. FIEBIG



FIG. 3. Hans-Günter Petzold with Elongated Tortoise (*Geochelone elongata*), in the late 1960s.

Petzold and I went on to exchange reprints, husbandry recommendations, zoo history, and later, animals. One of the monographs that he sent was *Aufgaben und Probleme bei der Erforschung der Lebensäußerungen der Niederen Amnioten (Reptilien)* [Tasks and Problems Encountered in Studying the Life Manifestations of Lower Amniotic Animals (Reptiles)] by Petzold. The monograph was later translated by Lucian Heichler and edited by me, published in Contributions in Herpetology series (volume 22) of SSAR. We received a Smithsonian Atherton Seidell grant for an English translation of the book in 2006. When Lucian's translation arrived, I was bewildered by the first chapter—the changing functions of zoological gardens in the different societal systems—discussing four principle tasks of modern zoo biology in the Socialist State. Lucian said that this was because of a law enacted in 1984 under the Communist regime of the former German Democratic Republic. The introduction appears to be an obligatory effort to discuss the history of menageries and zoological gardens from the perspective of the “class struggle.” Without such an introduction, perhaps bizarre to us, an author in the GDR would not be permitted to publish a book. I learned later that Petzold was anti-communist. It is truly a shame that he was not alive to see the English version, although his wife Gisela and daughter Claudia Petzold prepared the moving foreword. Curator of Herpetology Falk Dathe provided the photographs.

There are two Association of Zoos and Aquariums (AZA) initiatives currently in place to study and reproduce Cuban animals—Cuban Crocodile and Cuban Ground Iguana (Fig.



FIG. 4. Cuban Racer (*Coluber cantherigerus* now *Cubophis cantherigerus*).



FIG. 5. Outdoor view—Terrarium (“Snakefarm”) at Tierpark Berlin, 19 June 1995.

PHOTO BY KLAUS RUDLOFF

PHOTO BY KLAUS RUDLOFF



FIG. 6. Inside view – Terrarium (“Snakefarm”) at Tierpark Berlin, 24 April 1995.

PHOTO BY KLAUS RUDLOFF



FIG. 7. Inside view – Terrarium (“Snakefarm”) – part of naturalistic turtle exhibit at Tierpark Berlin, 28 July 1998.



FIG. 8. Cuban Iguana (*Cyclura Harlani*, now *Cyclura n. nubila*).



FIG. 9. American Crocodile (*Crocodylus acutus*, now *Crocodylus acutus*, above), and Cuban Crocodile (*Crocodylus rhombifer*, now *Crocodylus rhombifer*).

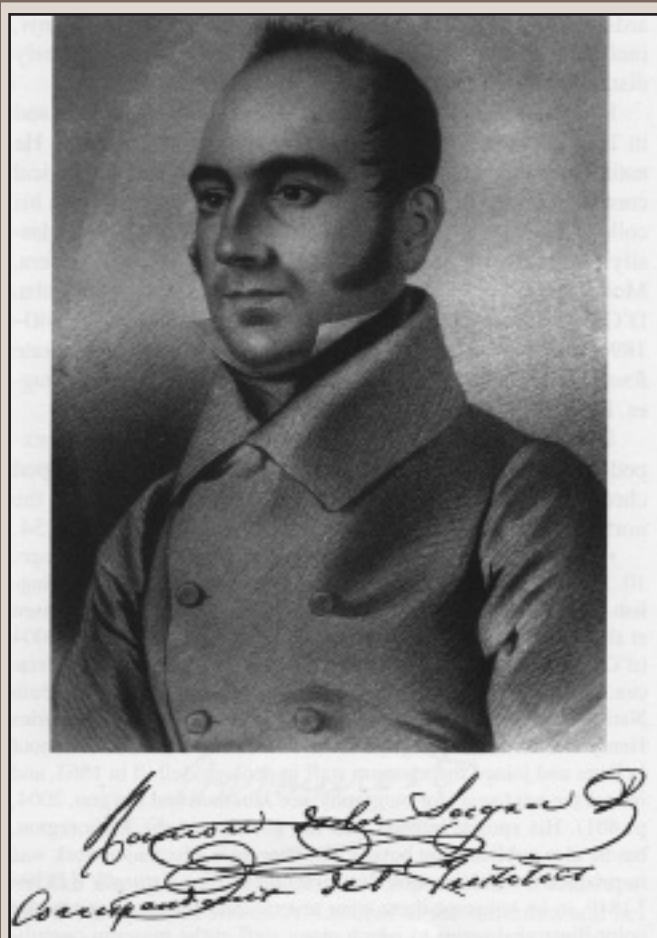


FIG. 10. Ramón de la Sagra, undated portrait.

COURTESY OF KRAIG ADLER

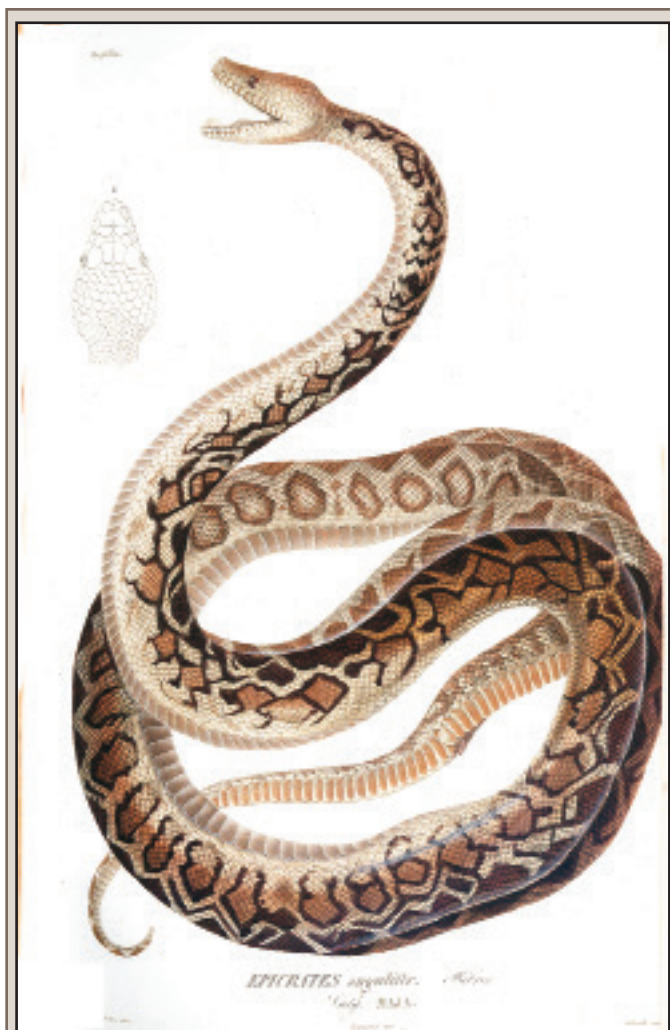


FIG. 11. Cuban Boa (*Epicrates angulifer*, now *Chilabothrus angulifer*).

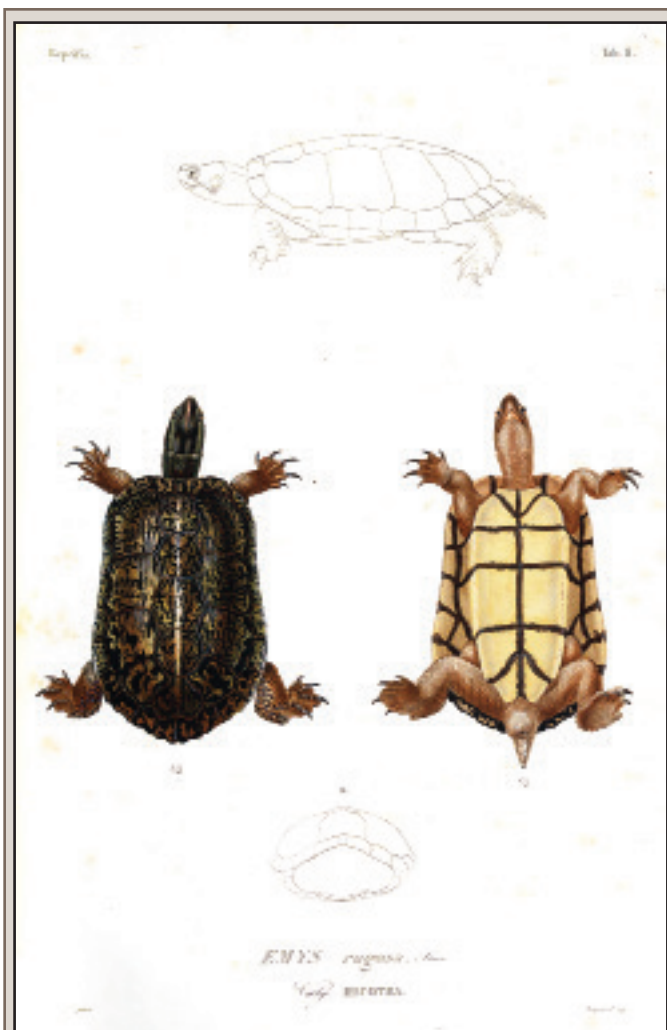


FIG. 12. Cuban Slider (*Emys rugosa*, now *Trachemys decussata*).

8). I hope that improved relations between Cuba and the US will lead to greater cooperation and joint projects, especially understanding the deleterious hybridization between American and Cuban crocodiles (see Rademacher 2017, Fig. 9).

ANARCHIST TURNED TO HERPETOLOGY: THE PEREGRINATIONS OF
RAMÓN DE LA SAGRA

My zoo colleagues and most US citizens in the latter part of the 20th century never saw many Cuban animals outside drawings such as those in the work of Ramón de la Sagra (Fig. 10). He was born on 8 April 1798 in A Coruña, a province of Spain. His brother migrated to Uruguay to start a business when Sagra was three years old. He studied physics for one year in Nautical School of A Coruña. After that brief stint, he matriculated at the military college of Santiago de Compostela until reaching adulthood. His next stop was the local university where he studied anatomy, medicine, mathematics, and pharmaceuticals. There he started spreading liberal ideas unpopular with the faculty and administrators so he transferred to the University of Madrid. He went to Cuba in 1821, working as an assistant of Agustín Rodríguez. The next year he was appointed to the position of Professor of Natural History of Cuba. For the next decade he traveled in the Americas but he moved to Paris in 1835.

He became a follower of Pierre-Joseph Proudhon—well-known French politician and founder of mutualist philosophy, and who was the first person to declare himself an anarchist. Sagra developed the world's first anarchist journal *El Porvenir* (Spanish for “The Future”), which was closed by Ramón María Narváez, Duke of Galicia. In Spain he was elected member of the parliament four times (1838, 1840, 1845, 1854) representing the Liberal Party. After the French Revolution of 1848, he created the Peoples' Bank of France with Proudhon. The next year he was expelled from France, because he was spreading socialist ideas. In 1856 he was expelled from Spain to France by Ramón María Narváez, because of his radical ideas. In Paris he met Karl Marx and Friedrich Engels and worked there as the consul of Uruguay. At the outbreak of the Franco-Prussian War in 1870, he went to Switzerland, where he died on 23 May 1871 at the age of seventy-three.

Sagra's Cuban period was ambitious as he made natural history collections, gathered data on the human population, created maps of the Cuban coastline and started organizing his extraordinary 12 volumes plus atlases. Kraig Adler (*Contributions to the History of Herpetology, Volume 3*, 2012:95–96) described the project: “From 1836, Sagra lived in Paris where he arranged his collections and data. Among the French savants who assisted him in writing his great work were leading naturalists associated

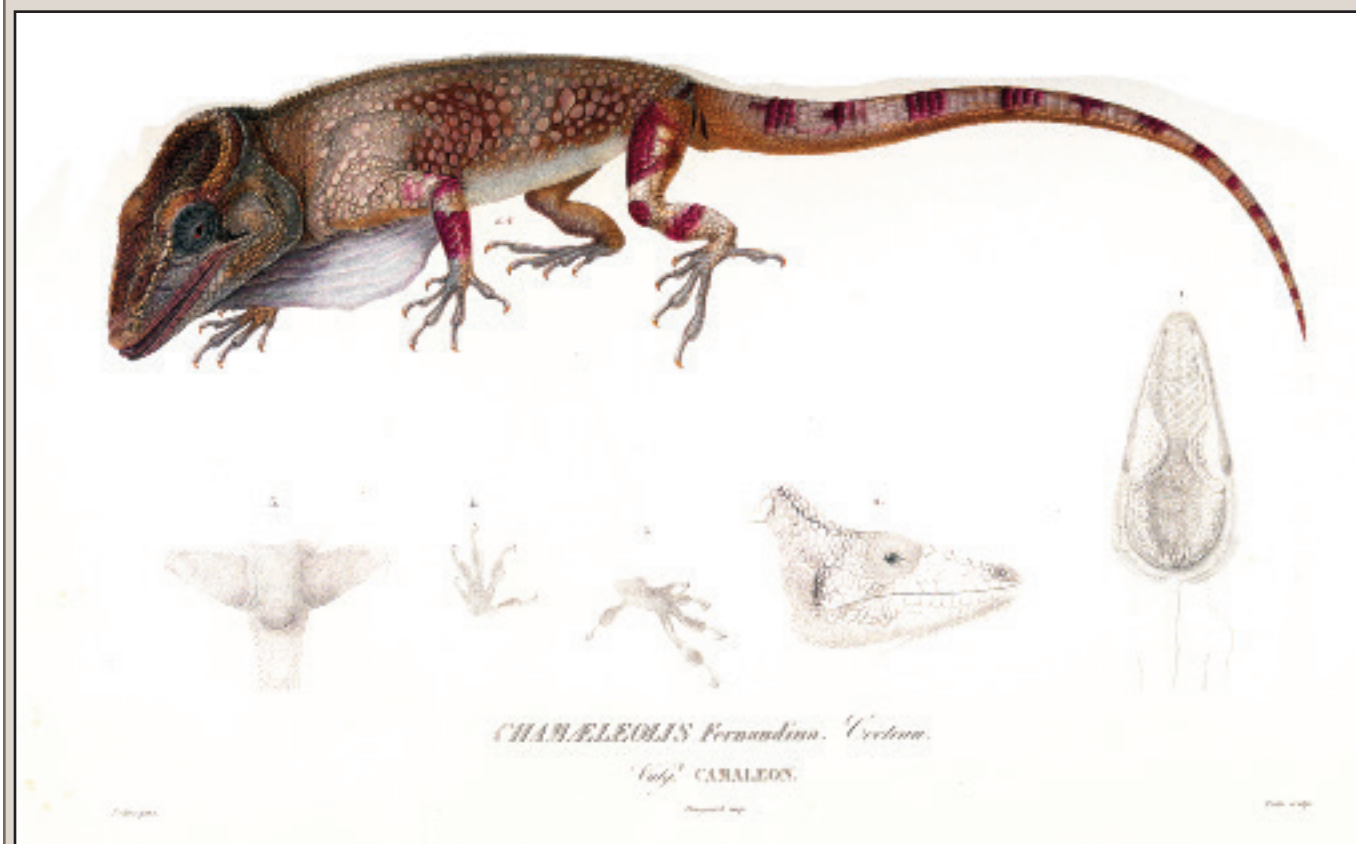
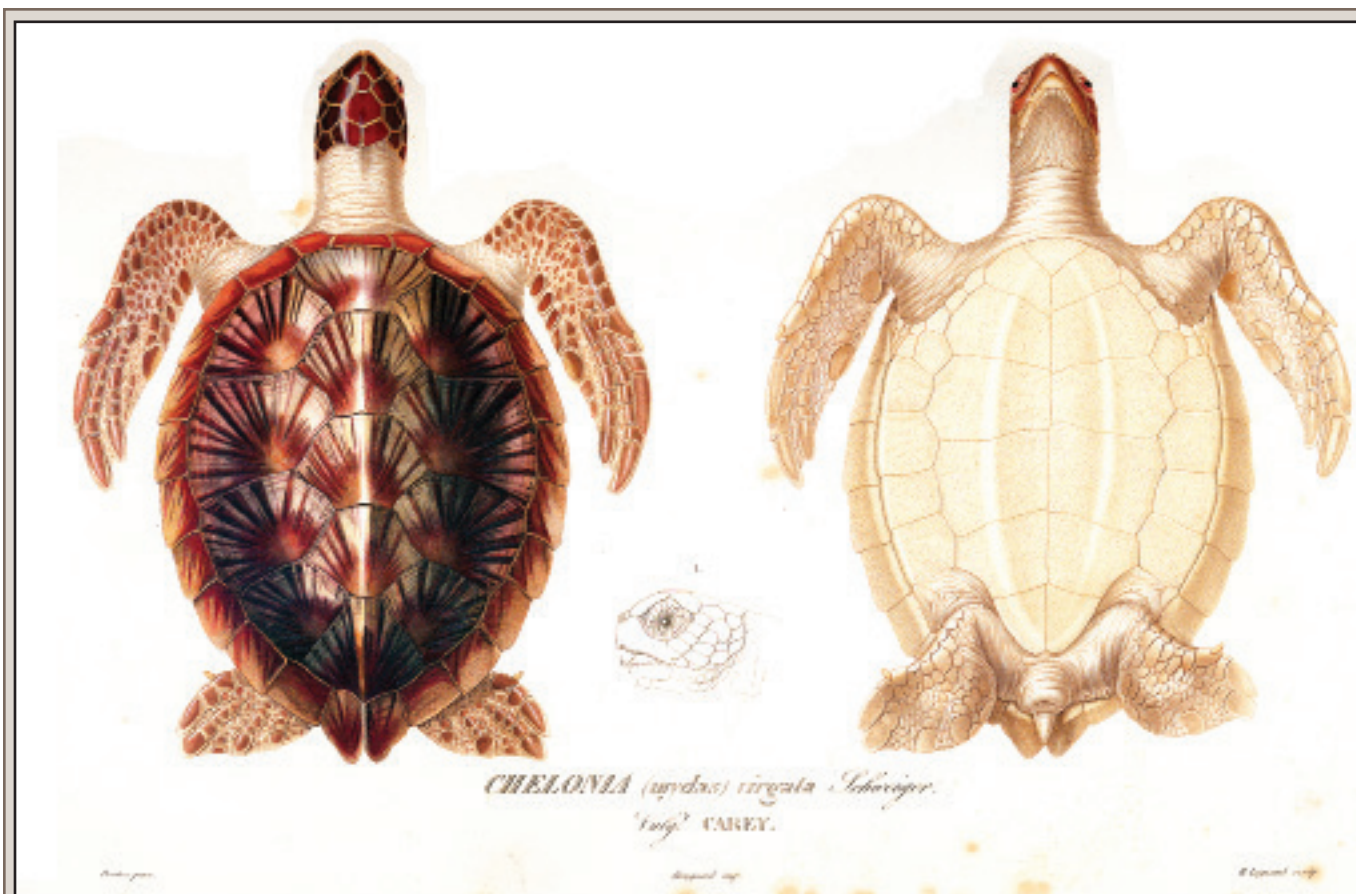


FIG. 13. (Top) Green Turtle (*Chelonia mydas virgata*, now *Chelonia mydas*). FIG. 14. Short-bearded Anole (*Chamaeleolis fernandina*, now *Anolis chamaeleonides*).



FIG. 15. Marbled Tree Frog (*Trachycephalus marmoratus*, no longer recognized).

with the Muséum d'Histoire Naturelle: Paul Gervais, F.-E. Guérin-Ménéville, Alphonse Guichenot and Alcide d'Orbigny. The herpetological section of Sagra's book was started by Théodore Cocteau, and after his premature death in 1838, finished by Gabriel Bibron; the folio atlas of 31 plates must be ranked among the finest ever produced. This section covered 34 species of frogs and reptiles, many of them new to science. These included new genera such as *Phyllobates* and *Tropidophis* and a large boa (*Epicrates angulifer* [Fig. 11]). The types of these and other Sagra specimens are today at the museum in Paris."

Adler continues: "Sagra himself wrote most of the section on mammals and part of botany, but he oversaw and edited the entire series of 12 volumes plus atlases of plates. Both the French (*Histoire Physique, Politique et Naturelle de l'Île de Cuba*, 1838–1857) and Spanish (*Historia Física, Política y Natural de la Isla de Cuba*, 1838–1861) editions were published in Paris.... Sagra's fundamental contributions have long been recognized and naturalists have honored him by naming many new species in his honor. Among these are an anguoid lizard (*Diploglossus delasagra*) and the common anole of Cuba (*Anolis sagrei*), which is now invasive in Florida."

All plates are marked "Pretre" as the artist. This refers to Jean Gabriel Pretre who worked as a natural history illustrator,



FIG. 16. Cuban Toad (*Bufo peltoccephalus*, now *Peltophryne peltoccephala*).

first for Empress Josephine's zoo, and then for the Muséum d'Histoire Naturelle in Paris. He was an illustrator for many books of animals and birds. He had several species named after him, including an amphisbaenid (*Amphisbaena pretrei*). I am showing 12 exquisitely rendered plates with the original scientific names, followed by the current name (Figs. 1, 2, 4, 8, 9, 11–16).

Acknowledgments.—I dedicate this paper to the memory of Hans-Günter Petzold, one of our most important European zoo workers who wrote about herpetology, ranking with such luminaries as Leopold Fitzinger, Johann von Fischer, Joan Beauchamp Procter, Stanley Smyth Flower, Edward George Boulenger, Gustav Lederer, Heinrich Dathe, Heini Hediger, Gerald Durrell, and Bernhard Grzimek. He was a very productive writer, publishing more than 350 research and popular science publications, both domestically and internationally. I have included a selection of some in the references below to show his breadth of knowledge, especially his skill at incorporating captive management articles with scientific literature. Also listed are the many testimonials published by his colleagues after his unexpected death on 19 November 1982 from a heart attack. I am grateful to Kraig Adler, Judith Block, Polly Lasker, and Roy McDiarmid for assistance.

REFERENCES

- ALBERTS, A. C. 1995. Use of statistical models based on radiographic measurements to predict oviposition date and clutch size in rock iguanas (*Cyclura nubila*). *Zoo Biol.* 14:543–553.
- (ed.). 2000. West Indian Iguanas: Status Survey and Conservation Action Plan. IUCN—The World Conservation Union, Gland, Switzerland. 111 pp.
- . 2002. Ten years of conservation research on Cuban rock iguanas. *Herpetol. Rev.* 33:119–120.
- , R. L. CARTER, W. K. HAYES, AND E. P. MARTINS (eds.). 2004. Iguanas: Biology and Conservation. University of California Press, Berkeley. 372 pp.
- AUGUSTINE, L., AND B. WATKINS. 2015. Reproductive behavior and longevity in 2.3.0 Cuban crocodiles, *Crocodylus rhombifer*, at the Smithsonian National Zoological Park. *Zoo Biol.* 34:278–284.
- , R. SAUNDERS, K. PRYES, M. EVANS, AND K. LOVICH. 2015. *Crocodylus rhombifer* (Cuban crocodile): aggressive behavior. *Herpetol. Rev.* 46:207–208.
- , K. MILLER, AND G. M. BURGHARDT. 2015. *Crocodylus rhombifer* (Cuban crocodile): play behavior. *Herpetol. Rev.* 46:208–209.
- DATHE, H. 1978. Dr. rer. nat. HANS-GÜNTER PETZOLD, Biologe und Kulturpolitiker (Dr. rer. nat. HANS-GÜNTER PETZOLD, biologist and cultural politician). *Aquar. Terrar.* 25:364–365.
- . 1983. DR. HANS-GÜNTER PETZOLD zum Gedenken (In memory of DR. HANS-GÜNTER PETZOLD). *Aquar. Terrar.* 30:40–41.
- FREYTAG, G. E., AND H.-G. PETZOLD. 1978. Ein weiterer Beitrag zur Kenntnis der Gattung *Paramesotriton*, insbesondere des nordvietnamesischen Wassermolches *Paramesotriton deloustali* (Bourret 1934) (Amphibia: Caudata: Salamandridae) (An additional contribution to knowledge of the genus *Paramesotriton*, especially of the North Vietnamese water moloch *Paramesotriton deloustali* (Bourret 1934) (Amphibia: Caudata: Salamandridae)). *Salamandra* 14:117–125.
- HEICHLER, L., AND J. B. MURPHY. 2007. Translation of “Aufgaben und Probleme bei der Erforschung der Lebensäusserungen der Niederen Amnioten (Reptilien)” [Tasks and Problems Encountered by Zoo Keepers in Research Concerning the Vital Manifestations of the Lower Amniotic Animals (Reptiles)] by Hans-Günter Petzold. *SSAR Contributions to Herpetology*, volume 22. New Title: The Lives of Captive Reptiles. 275 pp.
- KLEMMER, K. 1983. Hans-Günter Petzold. 28. September 1931–19. November 1982 (Hans-Günter Petzold, September 28, 1931–November 19, 1982). *Salamandra* 19:105–107.
- LEMM, J. M., AND A. C. ALBERTS. 2012. *Cyclura*: Natural History, Husbandry, and Conservation of West Indian Rock Iguanas. Elsevier/Academic Press, London. 221 pp.
- MURPHY, J. B. 2007. Hans-Günter Petzold (1931–1982). In *Herpetological History of the Zoo and Aquarium World*, pp. 82–83. Krieger Publishing Co., Malabar, Florida.
- , M. EVANS, L. AUGUSTINE, AND K. MILLER. 2016. Behaviors in the endangered Cuban crocodile (*Crocodylus rhombifer*). *Herpetol. Rev.* 47:235–240.
- PEELING, C. F. 2009. [review of] *The Lives of Captive Reptiles*, by Hans-Günter Petzold. *Herpetol. Rev.* 40:471–472.
- PETZOLD, G. 1993. Liste der Publikationen von Hans-Günter Petzold (List of publications of Hans-Günter Petzold). *Milu* 7:393–408. [Gisela Petzold compiled this bibliography.]
- PETZOLD, H.-G. 1955. Im Tierpark Berlin 1955 vorhandene Tierarten. *Milu* 1960, 1:2–14. Later: Im Tierpark Berlin 1956–1977 erstmalig gehaltene Tierformen (Animals kept for the first time in the Berlin Tierpark). *Milu* 1961–1983, continued by Klaus Rudloff. [Petzold published a number of annual accounts in this series which pictured a variety of mammals, birds, amphibians, reptiles, fishes and invertebrates.]
- . 1959. Gewölbbildung bei Krokodilen (Formation of pellets in crocodiles). *Zool. Anz.* 163:76–82.
- . 1962. Successful breeding of *Leiocephalus carinatus* Gray. *Inter. Zoo Yearb.* 4:97–98.
- . 1965. Über die Widerstandsfähigkeit von Geckoneneiern und einige andere Beobachtungen an *Hemidactylus frenatus* Dum. & Bibr. 1836. (Concerning the resistance capability of gecko eggs and several other observations made on *Hemidactylus frenatus* Dum. & Bibr. 1836)) *D. Zool. Garten (N.F.)* 31:262–265.
- . 1967. Some remarks on the breeding biology and the keeping of *Tretanorhinus variabilis*, a water snake of Cuba. *Herpetologica* 23:242–246.
- . 1968. Zur Kenntnis der kubanischen Antillen-Schmuckschildkröte (*Pseudemys terrapen rugosa*). (Information regarding the Cuban-Antilles pseudemid turtle (*Pseudemys terrapen rugosa*)). [description of systematics, morphometrics and captive management.] *Salamandra* 4:73–90.
- . 1968. Der Guppy (*Poecilia [Lebistes] reticulata*). *Die Neue Brehm-Bücherei*. Bd. 372. Wittenberg Lutherstadt.
- . 1968. Zur Fortpflanzungsbiologie asiatischer Kobras (*Naja naja*) (Concerning the reproductive biology of Asiatic cobras (*Naja naja*)). *D. Zool. Garten (N.F.)* 36:133–146.
- . 1969. *Cricosaura typica* Gundlach & Peters, eine herpetologische Kostbarkeit aus Kuba (*Cricosaura typica* Gundlach & Peters, a herpetological treasure from Cuba). *D. Aquar.-Terrar.-Zeitschr. (DATZ)* 22:82–85.
- . 1971. Blindschleiche und Scheltopusik. Die Familie *Anguidae*. *Die Neue Brehm-Bücherei*. Bd. 448. Wittenberg Lutherstadt. [2nd edition reprint 1995. Petzold described systematics, morphology, natural history, reproduction, behavior, and representatives of the family. The book series “Die Neue Brehm-Bücherei” covered aspects of various amphibian and reptile taxa by other authors.]
- . 1972. Rätsel um Delphine (The Mysteries of Dolphins). Wittenberg Lutherstadt. [9th edition published 1985.]
- . 1976. Bemerkungen zur Fütterungstechnik bei nahrungsspezialisierten Giftnattern und einige Angaben zur Haltungsdauer von Elapiden im Tierpark Berlin (Comments on the feeding techniques with elapid snakes specialized on certain foods and some data on the longevity of elapids in the Berlin Tierpark). *D. Zool. Garten (N.F.)* 46:9–23.
- . 1978. Zur Ökologie und Fortpflanzungsbiologie der Kubaschlanknatter, *Alsophis cantherigerus* (Bibron 1840) im Terrarium (Concerning the ecology and reproductive biology of the Cuban racer, *Alsophis cantherigerus* (Bibron 1840) in the terrarium). *D. Zool. Garten (N.F.)*, Jena 48:155–163.
- . 1983. Die Anakondas, Gattung *Eunectes* (The Anacondas, Genus *Eunectes*). *Die Neue Brehm-Bücherei* Bd. 554. Wittenberg Lutherstadt. [3rd edition reprint 1995. Petzold described systematics, morphology, natural history, reproduction, behavior, and representatives of the genus.]
- , H.-A. PEDERZANI, AND H. SZIDAT. 1970. Einige Beobachtungen zur Biologie des kubanischen Rollschwanzleguans, *Leiocephalus carinatus* (Gray). (Some observations regarding the biology of the Cuban flat-headed iguana, *Leiocephalus carinatus* (Gray)). *D. Zool. Garten (N.F.)* 39:304–322.
- , AND P. H. STETTLER. 1972. Zur Haltung und Fortpflanzungsbiologie der Indischen Streifenatter, *Natrix (Amphiesma) stolata* (Boie 1827). (Concerning the care and reproductive biology of the Indian striped snake *Natrix (Amphiesma) stolata* (Boie 1827)) *D. Zool. Garten (N.F.)* 41:192–195.
- RADEMACHER, A. 2017. Inside Cuba. An immersive exhibition introduces visitors to the country’s rich culture and biodiversity. *Science* 355:34. [description of *!Cuba!* exhibit at American Museum of Natural History, New York, through 13 August 2017.]