



PROFILE

William E. “Bill” Haast: Venom Collector and Herpetologist

Ariel Collis

Capital Trade, Inc., Washington, D.C. (acollis@captrade.com)

In March of 1967, William Haast, venom collector and owner of the Miami Serpentarium reptile attraction, was flown from Florida to Venezuela to attend to a five-year-old boy who had been bitten by a coralsnake (1). Coralsnake venom is highly toxic (2) and the boy was in critical condition (1). The governments of the United States and Venezuela thought Haast’s presence was important enough that they provided an air force jet fighter and a helicopter to take Haast into the Venezuelan jungle where the boy’s family lived (1). Haast donated a pint of his own blood to the boy that saved his life (3).

Haast had built up an immunity to the venoms of a variety of snakes, including coralsnakes, because he regularly injected himself with a diluted cocktail of snake venoms (4). Just as a flu vaccination builds up the body’s defenses against the flu, Haast’s injections allowed Haast to produce antibodies in his blood. Because Haast’s blood type was compatible with the child’s blood type, Haast was able to donate his blood directly to the child (4). The antibodies in Haast’s blood neutralized the effects of the coralsnake venom, allow-

ing the boy to regain consciousness a short while after the transfusion. The next day, Venezuela made Haast an honorary citizen in appreciation of his life-saving effort (3).

William Edward Haast was born in Patterson, New Jersey on 30 December 1910 (5). From a young age, venomous snakes — and the power of snake venom — fascinated Haast. Describing his initial impressions of venomous snakes in an interview, Haast said: “The snake would bite the mouse ... The mouse would die. I found it intriguing” (6).

Haast also gained experience with the power of snake bites firsthand. He received his first bite from a Timber Rattlesnake at age eleven while at Boy Scout camp. At age twelve, a bite from a copperhead put Haast in the hospital for a week (6). He had tried to grab the snake by the tail (7).

Haast dropped out of school when he was sixteen and began his work life with a series of odd jobs, devoting his spare time to collecting snakes. Soon, he joined a travelling carnival as a snake handler (5). Following the collapse of the carnival,



Fig. 1. William E. “Bill” Haast capturing a King Cobra (*Ophiophagus hannah*) at the Miami Serpentarium in 1971. Photographs by Jack Facente.



Fig. 2. Extracting venom from an Eastern Coralsnake (*Micrurus fulvius*) at the Miami Serpentarium (left) and two residents of the Serpentarium: An Indian Cobra (*Naja naja*) (center) and a Timber Rattlesnake (*Crotalus horridus*) (right). Photographs by Jack Facente.

he worked as a moonshiner in the everglades, a cashier at a chophouse, an engine tester, and a flight engineer with Pan Am (8). During his travels with Pan Am to Africa, Asia, and South America, Haast further built up his collection, transporting the snakes he collected back to the United States, and past customs (9) in his toolbox (6). Of his snake-smuggling, Haast said, “In those days there were no laws prohibiting it, but the crew members didn’t appreciate it” (10).

In 1946, at the age of 35, Haast used his savings from these jobs to purchase three acres of undeveloped land in southern Miami on which he built a zoo to display his collection of snakes. This facility, which Haast named the Miami Serpentarium, opened on New Year’s Day in 1948 (9).

The main attraction of the Serpentarium was not the displays of venomous snakes, turtles, and crocodiles. The main attraction of the Serpentarium was the snake-milking shows performed by Haast. Five times per day visitors to the Serpentarium would watch Haast, wearing a white lab coat, catch venomous snakes with his bare hands. Haast would then force the venomous snake he was holding to bite down on a rubberized membrane to release its venom into a glass vial (5).

The Serpentarium was a popular attraction that made Haast a national celebrity. Every year from 1948 to 1984, the Serpentarium drew tens of thousands of tourists (6). Haast was featured in local and national newspapers, including Walter Winchell’s syndicated column (6). LIFE Magazine profiled him (11). His snake handling abilities also made him a frequent TV show guest, where he could be seen sparring with snakes on shows such as The Mike Douglas Show (a clip is available at: <https://www.bing.com/videos/search?q=bill+haast+mike+douglas&view=detail&mid=57805DD6A480F1F5C66357805DD6A480F1F5C663&FORM=VIRE>), The Tonight Show, the Merv Griffin Show, and Ripley’s Believe It Or Not (6,9).

Haast claimed not to like the attention. He insisted that the shows were just a way to financially support the work of venom collecting (12). It was the power of venom to cure dis-

eases that drove him. He believed that venom held the cures for multiple sclerosis, arthritis, and polio (6,9).

He hoped that his extensive venom collection would encourage venom research by making it easy for scientists to obtain a variety of snake venoms from a reliable source. “This venom has got to be useful ... It can’t affect every nerve in the body like this and not be useful. It must be. Someday, someone will find a use for it” (13). Indeed, his work helped to advance science. For example, over three years and 69,000 venom extractions, Haast collected one hundred grams of coralsnake venom. In 1967 the National Institutes of Health used this venom to develop the first coralsnake antivenom approved in the United States (14).

The Centers for Disease Control and Prevention estimate that each year between 7,000 and 8,000 people receive venomous snake bites in the United States, but only about five people die from snake bites annually (15). One important factor in this low mortality rate is the availability of antivenom (also known as antivenin) to treat bites from the wide variety of venomous snake populations in the United States (16).

When a snake injects venom through a bite, the only treatment for snakebite is antivenom that is made to neutralize that venom. The antivenom production process was developed in 1895, and antivenoms became available in the U.S. in 1927. This process, which remains in practice to this day, entails injecting snake venom into a horse, cow, or sheep in small quantities so that a unique antibody is produced by the host animal and harvested from the blood serum (17). Antivenoms come in two basic formulas, monovalent (an antivenom made from one species of snake to cover several species of snakes) and polyvalent (antivenom made from several species of snakes to cover several species of snakes). Today most species are covered by polyvalents. For example, one of the antivenoms made for North America uses venoms from four species of snakes to covers bites by all native pitvi-



Fig. 3. More residents of the Miami Serpentarium: An albino Eastern Diamond-backed Rattlesnake (*Crotalus adamanteus*) (left), an Eastern Copperhead (*Agkistrodon contortrix*) (center), and a Desert Horned Viper (*Cerastes cerastes*) (right). Photographs by Phil Gross.

pers (rattlesnakes, water moccasins, and copperheads). The North American coralsnake venom is a monovalent using only Eastern Coralsnake venom to produce coverage for both native coralsnakes (18).

Haast's most lasting legacy may be his role in the creation of a venom-collection infrastructure to ensure the continuous supply of venom in the United States. Seven U.S. laboratories supply the vast majority of venom used in the production of antivenom as well as the venom used for medical research in the United States. One of these facilities, The Miami Serpentarium Laboratories in Punta Gorda, Florida was opened by Haast in 1990 (19) and is operated by Nancy Haast, William Haast's widow. The other major venom-collection facilities in the United States (with owners and locations) are: George Van Horn, Biotoxins, Inc., St. Cloud, Florida; Jim Harrison, Kentucky Reptile Zoo, Slade, Kentucky; Carl Barden, Medtoxin Venom Laboratories, DeLand, Florida; Ken Darnell, Bioactive Laboratories, Gordon, Alabama; Elda Sanchez, National Natural Toxins Research Center, Kingsville, Texas; and Jack Facente, Agritoxin, St. Cloud, Florida (20). The owners of five of the six other major venom collection facilities in the United States cite Haast as a teacher and role model, and three of these laboratories were modeled on the Miami Serpentarium.

George Van Horn (Biotoxins, Inc., St. Cloud, Florida) claims that he discovered his life's calling as a venom collector during a Cub Scout trip to the Miami Serpentarium (21). At age twelve, Van Horn broke into the Serpentarium after hours with a friend to check out the snakes. Haast caught him and yelled at him (22). However, when Van Horn came back to the Serpentarium as a teenager, Haast offered him a job. Van Horn now refers to Haast as his mentor. In 1972, along with fellow Serpentarium alum Jack Facente, Van Horn founded Biotoxins, a venom collection laboratory, and Reptile World Serpentarium, a reptile attraction, featuring reptile displays and daily venomous snake milkings. Facente and Van Horn modeled both the zoo and the laboratory after the Miami Serpentarium (18).

The venom collected in these seven labs is used to manufacture antivenom to combat pitviper and coralsnake

envenomation. In addition, U.S. venom collection labs supply venom to universities and research centers for projects on cancer, immunological diseases, diabetes, blood coagulants, and blood thinners (18,23).

Around the same time that Haast opened the Miami Serpentarium, Haast began injecting himself with cobra venom (9). He continued to inject himself for the rest of his life, slowly adding venom from additional species to the formula that he devised himself. In his later years, his weekly shots included 30 different venoms (24). The antibodies he built up through these injections kept him alive through 172 snake bites (5). Donations of his antibody-rich blood saved the lives of twenty-one snake bite victims, including the boy Haast saved in Venezuela.

Haast suspected that the injections also helped him to stay healthy (7). He claimed never to have been sick a day in his life or have had arthritis or bursitis. Haast joked that, "I could become a poster boy for the benefits of venom ... If I live to be 100, I'll really make the point" (9, see also 3,12,25). Haast died in Punta Gorda, Florida at age 100 (6).

References

- (1) *Ogden Standard Examiner*, 24 November 1967. <https://www.newspapers.com/image/?clipping_id=258124&fcfToken=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJmcmVILXZpZXctaWQiOiJlOTg4MjY5LCJpYXQiOiJlE1NjYyMjU4MDYsImV4cCI6MTU2NjMxMjIwLnN0.wwZ6mSvUYaK-D1LUIQKQXoX8MArQZAlrrNDBALSyT3yk->>
- (2) Szalay, J. "Coral Snakes: Colors, Bites, Farts & Facts." *Livescience.com*, 16 December 2014. <<https://www.livescience.com/43938-coral-snakes-colors-bites-farts-facts.html>>.
- (3) Sides, A.G. "Bite Me" (interview with William Haast). *Outside Magazine*. 1 July 1997.
- (4) Lenin, J. "The Snake Guru." *The Hindu*, 24 June 2011. <<https://www.thehindu.com/features/metroplus/the-snake-guru/article2131775.ece>>.
- (5) Schudel, M. "Bill Haast dies at 100: Florida snake man provided venom for snakebite serum." *The Washington Post*, 18 June 2011. See also: Rosenberg, C. "Bill Haast dies at 100; snakes were the charm for south Florida celebrity." *Los Angeles Times*, 21 June 2011. <<https://www.latimes.com/local/obituaries/la-xpm-2011-jun-21-la-me-bill-haast-20110621-story.html>>.
- (6) Martin, D. "Bill Haast, a Man Charmed by Snakes, Dies at 100." *New York Times*, 17 June 2011.
- (7) Wells, T. "Poisonous Venom May Be Just What the Doctor Ordered, Says Octogenarian." Associated Press, 1996. <<http://cobras-org.runwithluke.com/>>

- article.htm>.
- (8) Attitude. The Official Website of W.E. "Bill" Haast. <<http://billhaast.com/life/attitude.html>>.
 - (9) Yanez, L. "Bill Haast, Once the Main Attraction at the Miami Serpentarium, is Now 95 and Still Studying Snakes." *Miami Herald*, 3 August 2006. <<http://www.cobraman.net/33581.html>>.
 - (10) Melissa. "Bill Haast: The Snakeman Who Was Bitten Nearly 200 Times and Lived to Be 100." *Today I Found Out*, 10 January 2016. <<http://www.todayifoundout.com/index.php/2016/01/bill-haast-snakeman-bitten-100-times-lived-100/>>.
 - (11) Smith, M. "Most Snake-Bitten Man, Close Up: William Haast, Sparring Partner to Cobras" *LIFE Magazine*, 21 June 1968, pp. 39–43. <<https://books.google.com/books?id=2VQEAAAAMBAJ&pg=PA42&clpg=PA42&dq=venezuela+haast&source=bl&ots=ZKOWAgOX93&sig=ACfU3U0nWtBcVTdXYZQOKtd8zku0b7yb-Q&hl=en&sa=X&ved=2ahUKEwixvevo9Y7kAhVRwFkKHZguAfo4ChDoATACegQICBAB#v=onepage&q=venezuela%20haast&f=false>>.
 - (12) Levy, A. "Icon: Bill Haast Snake handler, venom researcher" (interview with William Haast). *Florida Trend*, 1 August 2008. <<http://www.cobraman.net/33581.html>>.
 - (13) Rosenberg, C. "Serpentarium Owner Dies at 100." *NBC Miami*, 18 June 2011. <<https://www.nbcmiami.com/news/Serpentarium-124125999.html>>. See also: Russell, K. "Mithadites of Fond du Lac." *Believer Magazine*, no. 99, 1 June 2013. <<https://believermag.com/mithradites-of-fond-du-lac/>>.
 - (14) Moseley, T. "Coral Snake Bite: Recovery Following Symptoms of Respiratory Paralysis." *Annals of Surgery*, June 1966, p. 945. <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1477049/pdf/annsurg00456-0137.pdf>>. See also: "About Us." Miami Serpentarium Laboratories. <<http://miamiserpentarium.com/about.html>>, and: "Coral Snakes & Antivenom FAQs." <<http://www.poisoncenterfla.org/poison-topics/coral-snake-antivenom/antivenom-faq/>>.
 - (15) The National Institute for Occupational Safety and Health (NIOSH). "Venomous Snakes." Centers for Disease Control and Prevention. <<https://www.cdc.gov/niosh/topics/snakes/default.html>>.
 - (16) See, for example: "Snakebite." World Health Organization. <<https://www.who.int/health-topics/snakebite#tab=overview>>.
 - (17) The National Museum of American History: The Antibody Initiative. "Antivenom." <<https://americanhistory.si.edu/collections/object-groups/antibody-initiative/antivenom>>.
 - (18) Personal communication with Jack Facente, herpetologist, venom collector, and venom expert.
 - (19) Spinner, K. "Snake man is master of poison and cure." *Herald-Tribune*, 11 July 2008. <<https://www.heraldtribune.com/news/20080711/snake-man-is-master-of-poison-and-cure>>.
 - (20) Davis, J.M. (compiler), Snake Harvest Working Group Reference Documents. Texas Parks and Wildlife Department, Austin, Texas. 4 January 2016. <https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/media/TPWD-SHWG-Report.pdf>.
 - (21) Christiansen, K. "National Serpent Day: Slink into Reptile World Serpentarium to see snakes." *Orlando Sentinel*, 1 February 2019. <<https://www.orlandosentinel.com/travel/attractions/os-et-s4-serpent-day-20190201-story.html>>.
 - (22) Wyatt, G. "The Story of a Serpentologist." *Orlando Magazine*, August 2011. <<http://www.orlandomagazine.com/Orlando-Magazine/August-2011/The-Story-of-a-Serpentologist/>>.
 - (23) Personal communication with Carl Barden, venom collector.
 - (24) Snakebites and immunization. The Official Website of W.E. "Bill" Haast. <http://billhaast.com/serpentarium/immunization_snakebites.html>.
 - (25) Martin, D. "Bill Haast, a Man Charmed by Snakes, Dies at 100." *New York Times*, 17 June 2011. <<https://www.nytimes.com/2011/06/18/us/18haast.html>>.