

[Roy Chapman Andrews \(1884-1960\)](#) [1]

By: Madison, Paige Keywords: [Dinosaur eggs](#) [2] [Fossils](#) [3]

Roy Chapman Andrews traveled the world studying fossils, from mammals to dinosaurs, during the first half of the twentieth century. Andrews worked and collected fossil specimens for the American Museum of Natural History (AMNH) in New York City, New York. Throughout his career, Andrews collected bones of many animal species, including a previously undiscovered species of a horned and herbivorous dinosaur, later named *Proceratops andrewsi* in his honor. Andrews published widely read narratives about his travels and field experiences, such as *On the Trail of Ancient Man and Across Mongolian Plains*. Andrews led expeditions for the Central Asiatic Expeditions in the Gobi Desert, which recovered many previously unknown fossil specimens. His Central Asiatic team discovered the first scientifically recognized dinosaur eggs, which provided scientists with information about the eggs that dinosaurs produced.

Andrews was born to Cora May and Charles Ezra Andrews in Beloit, Wisconsin, on 26 January 1884. His father sold pharmaceutical drugs wholesale. Andrews later wrote in his autobiography that throughout his childhood he dreamt of becoming an explorer and naturalist. As a child he spent time in nature, hunting, studying wildlife, and camping. Andrews also taught himself taxidermy and earned money by preparing animals for display, often for local hunters. In addition to spending time in nature and working in taxidermy, he also read books on exploration and natural history.

Andrews attended his hometown college, Beloit College in Beloit, Wisconsin, and he graduated with a Bachelor of Arts degree in English in 1906. Andrews then traveled to New York City to seek employment at the AMNH. He met with director Hermon Carey Bumpus, who said that there were no open positions suitable for Andrews's talents in taxidermy. Andrews later stated that he wanted to work at the museum in any capacity, even if that meant scrubbing the floors. Bumpus hired Andrews as an assistant in the taxidermy department and instructed the head taxidermist to find Andrews work.

During his employment at the AMNH, Andrews also furthered his education. In 1913, he received a Master's of Science degree from [Columbia University](#) [4] in New York, New York. Andrews's thesis work reflected his research on whales with the AMNH. Andrews later received an honorary doctorate of science from Beloit College in 1928 for his expeditions, discoveries, and [natural history](#) [5] travel narratives.

Andrews began his scientific career at the AMNH by collecting animal specimens from various regions of the world. The museums assigned him to measure and study different whale species, and to collect their skeletons for the museum. He conducted his whale studies in countries throughout the Pacific, including Korea, Japan, and Alaska. Publications such as *Whale Hunting with Gun and Camera* in 1916 established Andrews as an expert about whales and elevated his position at the museum from taxidermy assistant to specimen collector. Andrews's travel stories and his personality, often described as charismatic, earned him a central place in New York society. His travels made headlines, and he attended many social events to garner funding for the museum. Andrews's coworkers described his position as celebrated explorer.

Despite beginning with research on whales, Andrews stated in his 1943 autobiography that his true dream of scientific exploration was on land searching for mammals, possibly even fossil evidence of ancient people. Andrews stated that he had wanted to travel to Asia to find evidence to support a hypothesis of [Henry Fairfield Osborn](#) [6], then AMNH's president, on the origin of mammalian life. Osborn's research compared the anatomy and locations of species and he argued that mammals, including [humans](#) [7], originated in central Asia. Andrews worked to provide the fossil evidence for that hypothesis.

After he received his Master's of Science degree in 1914, Andrews married Yvette Borup. According to Andrews's biographer Charles Gallenkamp, his wife shared Andrews's adventurous spirit. With the support of his wife, the newlywed Andrews proposed a series of expeditions to China and Mongolia in 1915 to collect fossils for the museum. Andrews recruited the help of donors such as New York businessmen and financiers John Pierpont Morgan and John D. Rockefeller to raise money for the endeavors. The trips, later called the Central Asiatic Expeditions, occurred from 1922 to 1930.

During Andrews's first Central Asiatic Expedition in 1922, his team recovered fragments of dinosaur eggshell in southern Mongolia at a location the explorers called the Flaming Cliffs. Andrews and his team collected the eggshell along with many other [mammal](#) [8] and dinosaur fossils, but the expedition departed the following morning, not exploring the site. The following year the team returned to the Flaming Cliffs to further excavate the sediments. That expedition yielded more eggshell fragments in addition to whole dinosaur eggs, including eggs that were part of nests called clutches.

Andrews's [egg](#) [9] discoveries marked an early scientific study of dinosaur reproduction. The eggs were largely complete, in the shape of elongated ovals, with a rough bumpy texture to the eggshell. Although the eggs did not contain embryonic remains, scientists studied the microstructure of the fossilized eggshell to confirm that they were dinosaurian. The discovery that some dinosaurs laid eggs in clutches provided the first information about reproductive strategies of dinosaurs. Scientists noted that

dinosaurs laid many eggs at one time to maximize reproductive success, much like their close relatives, crocodiles.

Andrews and his team did not find any eggs containing fossilized embryos, so to identify the species that the eggs belonged to, they relied on the frequency of other fossil species recovered at the site. Andrews and his team said that the eggs likely belonged to a horn-faced and herbivorous dinosaur *Proceratops andrewsi*, later named after Andrews because he was the researcher who discovered the species. The team recovered many other *P. andrewsi* fossils from the sediments that contained the eggs, so the team concluded that the eggs were of the same species. Osborn published the taxonomic assignment in 1924. However, scientists later revised that taxonomic assignment when in the 1990s a team lead by Mark Norell from the AMNH recovered identically shaped eggs from the Djadochta Formation in the Gobi Desert containing embryonic remains. The embryonic remains more closely resembling a bird-like species of dinosaur named *Oviraptor philoceratops*.

The dinosaur eggs that Andrews and his team brought back to the United States from Mongolia generated media attention across the country, in part due to the high profile fundraising Andrews had secured for the expedition. In the midst of the media attention, Andrews auctioned off an [egg](#)^[9] in New York City to raise money for future expeditions. The auction angered the Chinese government, which ruled Mongolia at the time, because Andrews had told them that while the fossils were scientifically valuable, the eggs possessed no monetary value. Although the auction was largely symbolic, with the winner donating the [egg](#)^[9] to a museum, there was a delay in the next expedition for more than a year while Andrews tried to reconcile with the Chinese government.

Despite the media attention, it took decades for the eggs to spark research about them. A few scientists described the microstructure of the eggshell. After 1993, when Norell and his team recovered more clutches of the same [egg](#)^[9] species, with one [egg](#)^[9] containing embryonic remains, scientists further examined the eggs recovered by Andrews. Those scientists celebrated Andrews for bringing the first dinosaur eggs to public attention, and for initiating the study of dinosaur reproduction and early development.

Andrews continued to head expeditions for the AMNH until 1934 when he became the AMNH's director, a position that occupied much of his time. Andrews's first wife Yvette asked for a separation in 1927 and divorced him in 1931 on the grounds of desertion, as he spent most of his time in the field. Prior to their divorce, the couple had two sons, George Borup Andrews and Roy Kevin Andrews. Andrews later married Wilhelmina Christmas in 1935.

Andrews states in his autobiography that, as director of the AMNH, he struggled with the lack of physical exercise and excitement that the position entailed. He resigned in 1942 and became honorary director, which enabled him to spend time with his second wife at a farm in northwestern Connecticut. There, Andrews returned to the same activities he enjoyed as a child, such as hunting, fishing, and building trails.

Andrews published about his travels in more than twenty books. Those included travel narratives like *On the Trail of Ancient Man* and *The New Conquest of Central Asia*, and children's texts such as *All About Dinosaurs*. In addition to his discoveries of dinosaur eggs and the *Proceratops* species that bears his name, Andrews discovered many other fossils and engaged in other research areas. That work included popular works on human origins, for example the text *Meet Your Ancestors, a Biography of Primitive Man*. Charles Gallenkamp's 2001 biography, *Dragon Hunter*, emphasized Andrews's charisma and passion for the field. Andrews was also immortalized in popular culture, some say that he partly inspired the Indiana Jones movies. Toward the end of his life, Andrews and his second wife moved to Tucson, Arizona, to avoid the cold Connecticut winters, where they remained until Andrews's death in 1960.

Sources

1. "Roy Chapman Andrews." *Encyclopedia of World Biography*. 2nd ed. Vol. 1. Detroit: Gale, 2004. 232–233. http://www.encyclopedia.com/topic/Roy_Chapman_Andrews.aspx^[10] (Accessed September 7, 2013).
2. Andrews, Roy Chapman. *The California Gray Whale / Rhachianectes Glaucus Cope: Its History, Habits, External Anatomy, Osteology and Relationship*. New York: Monographs of the Pacific Cetacea. New York: Memoirs of the AMNH, 1914.
3. Andrews, Roy Chapman. *Whale Hunting with Gun and Camera* New York: D. Appleton and Company, 1916. <https://archive.org/details/whalehuntingwith00andrrich>^[11] (Accessed January 19, 2015).
4. Andrews, Roy Chapman. *Across Mongolian Plains*. New York: D. Appleton and Company, 1921. <https://archive.org/details/acrossmongolian01andrgoog>^[12] (Accessed January 19, 2015).
5. Andrews, Roy Chapman. *On the Trail of Ancient Man* New York: G.P. Putnam's Sons, 1926. <https://archive.org/details/ontrailofancient00andr>^[13] (Accessed January 19, 2015).
6. Andrews, Roy Chapman. *The New Conquest of Central Asia*. New York: The American Museum of Natural History, 1932. <https://archive.org/details/newconquestofcen00andr>^[14] (Accessed November 13, 2014).
7. Andrews, Roy Chapman. *Under a Lucky Star*. New York: Blue Ribbon, 1943. <https://archive.org/details/underaluckystara006445mbp>^[15] (Accessed January 19, 2015).
8. Andrews, Roy Chapman. *Meet Your Ancestors, a Biography of Primitive Man* New York: Viking Press, 1945. <https://archive.org/details/meetyourancestor00andr>^[16] (Accessed January 19, 2015).

9. Andrews, Roy Chapman. *All About Dinosaurs*. New York: Random House, 1953. <https://archive.org/details/allaboutdinosaur00andr>^[17] (Accessed January 19, 2015).
10. Andrews, Roy Chapman. *All About Whales*. New York: Random House, 1954.
11. Andrews, Roy Chapman, and William Diller Matthew, eds. *Central Asiatic Expeditions*. Vols 1 and 2. New York: America Museum of Natural History, 1930. <http://dx.doi.org/10.5962/bhl.title.12034>^[18] (Accessed January 19, 2015).
12. Carpenter, Kenneth. *Eggs, Nests, and Baby Dinosaurs*. Bloomington, Indiana: [Indiana University](http://www.indiana.edu/)^[19] Press, 1999.
13. Gallenkamp, Charles. *Dragon Hunter: Roy Chapman Andrews and the Central Asiatic Expeditions*. New York: Viking, 2001.
14. Granger, Walter, William King Gregory, and Charles Peter Berkey. *Protoceratops andrewsi*, a Pre-ceratopsian Dinosaur from Mongolia. *American Museum Novitates* 72 (1923). <http://hdl.handle.net/2246/4670>^[20] (Accessed January 19, 2015).
15. Norell, Mark A., James M. Clark, Dashzeveg Demberelyin, Barsbold Rhinchen, Luis M. Chiappe, Amy R. Davidson, Malcolm C. McKenna, Perle Altangerel, and Michael J. Novacek. "A Theropod Dinosaur Embryo and the Affinities of the Flaming Cliffs Dinosaur Eggs." *Science* 266 (1994): 779–82.
16. Norell, Mark A., James M. Clark, Luis M. Chiappe, and Demberelyin Dashzeveg. "A Nesting Dinosaur." *Nature* 378 (1995): 774–6.
17. Osborn, Henry Fairfield, Peter C. Kaisen, and George Olsen. "Three New Theropoda, Protoceratops Zone, Central Mongolia." *American Museum Novitates* 144 (1924): 1–12. <http://digitallibrary.amnh.org/dspace/bitstream/handle/2246/3223/v2/dspace/ingest/pdfSource/nov/N0144.pdf?sequence=1>^[21] (Accessed November 16, 2014).
18. Roy Chapman Andrews Society. <http://roychapmanandrewssociety.org>^[22] (Accessed November 8, 2013).
19. Schmidt, Karl Patterson, Clifford Hillhouse Pope, Roy Chapman Andrews, Edmund Heller, Harry R. Caldwell, and Walter Granger. Notes on Chinese Reptiles. *Bulletin of the American Museum of Natural History* 54 (1927): Article 4. <http://digitallibrary.amnh.org/dspace/handle/2246/1754>^[23] (Accessed January 19, 2015).
20. van Straelen, Victor Émile. "The Microstructure of the Dinosaurian Egg-shells from the Cretaceous Beds of Mongolia." *American Museum Novitates* 173 (1925): 1–4. <http://digitallibrary.amnh.org/dspace/bitstream/handle/2246/4482/v2/dspace/ingest/pdfSource/nov/N0173.pdf?sequence=1>^[24] (Accessed November 16, 2014).

Roy Chapman Andrews traveled the world studying fossils, from mammals to dinosaurs, during the first half of the twentieth century. Andrews worked and collected fossil specimens for the American Museum of Natural History (AMNH) in New York City, New York. Throughout his career, Andrews collected bones of many animal species, including a previously unknown species of a horned, herbivorous dinosaur, later named *Protoceratops andrewsi* in his honor. Andrews published widely read narratives about his travels and field experiences, such as *On the Trail of Ancient Man* and *Across Mongolian Plains*. Andrews led expeditions for the Central Asiatic Expeditions in the Gobi Desert, which recovered many previously unknown fossil specimens. His Central Asiatic team discovered the first scientifically recognized dinosaur eggs, which provided scientists with information about the eggs that dinosaurs produced.

Subject

[Andrews, Roy Chapman, 1884-1960](#)^[25] [Whales](#)^[26] [Whales, Fossil](#)^[27] [Dinosaurs](#)^[28] [Natural history museums](#)^[29] [Dinosaurs--Eggs](#)^[30] [Dinosaurs](#)^[31] [Whale](#)^[32] [Archaeology](#)^[33] [Anthropology, Physical](#)^[34] [Biological Evolution](#)^[35] [Fossils](#)^[36]

Topic

[People](#)^[37]

Publisher

Arizona State University. School of Life Sciences. Center for Biology and Society. Embryo Project Encyclopedia.

Rights

Copyright Arizona Board of Regents Licensed as Creative Commons Attribution-NonCommercial-Share Alike 3.0 Unported (CC BY-NC-SA 3.0) <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Format

[Articles](#)^[38]

Last Modified

Wednesday, July 4, 2018 - 04:40

DC Date Accessioned

Friday, January 23, 2015 - 03:06

DC Date Available

Friday, January 23, 2015 - 03:06

DC Date Created

2015-01-22

- [Contact Us](#)

© 2019 Arizona Board of Regents

- The Embryo Project at Arizona State University, 1711 South Rural Road, Tempe Arizona 85287, United States

Source URL: <https://embryo.asu.edu/pages/roy-chapman-andrews-1884-1960>

Links

- [1] <https://embryo.asu.edu/pages/roy-chapman-andrews-1884-1960>
- [2] <https://embryo.asu.edu/keywords/dinosaur-eggs>
- [3] <https://embryo.asu.edu/keywords/fossils>
- [4] <https://embryo.asu.edu/search?text=Columbia%20University>
- [5] <https://embryo.asu.edu/search?text=natural%20history>
- [6] <https://embryo.asu.edu/search?text=Henry%20Fairfield%20Osborn>
- [7] <https://embryo.asu.edu/search?text=humans>
- [8] <https://embryo.asu.edu/search?text=mammal>
- [9] <https://embryo.asu.edu/search?text=egg>
- [10] [http://www.encyclopedia.com/topic/Roy_Chapman_Andrews.aspx
](http://www.encyclopedia.com/topic/Roy_Chapman_Andrews.aspx
)
- [11] <https://archive.org/details/whalehuntingwith00andrich>
- [12] <https://archive.org/details/acrossmongolian01andrgoog>
- [13] <https://archive.org/details/ontrailofancient00andr>
- [14] <https://archive.org/details/newconquestofcen00andr>
- [15] <https://archive.org/details/underaluckystara006445mbp>
- [16] <https://archive.org/details/meetyourancestor00andr>
- [17] <https://archive.org/details/allaboutdinosaur00andr>
- [18] <http://dx.doi.org/10.5962/bhl.title.12034>
- [19] <https://embryo.asu.edu/search?text=Indiana%20University>
- [20] <http://hdl.handle.net/2246/4670>
- [21] <http://digitallibrary.amnh.org/dspace/bitstream/handle/
		2246/3223/v2/dspace/ingest/pdfSource/nov/N0144.pdf?sequence=1>
- [22] <http://roychapmanandrewssociety.org>
- [23] <http://digitallibrary.amnh.org/dspace/handle/2246/1754>
- [24] <http://digitallibrary.amnh.org/dspace/bitstream/handle/
		2246/4482/v2/dspace/ingest/pdfSource/nov/N0173.pdf?sequence=1>
- [25] <https://embryo.asu.edu/library-congress-subject-headings/andrews-roy-chapman-1884-1960>
- [26] <https://embryo.asu.edu/library-congress-subject-headings/whales>
- [27] <https://embryo.asu.edu/library-congress-subject-headings/whales-fossil>
- [28] <https://embryo.asu.edu/library-congress-subject-headings/dinosaurs>
- [29] <https://embryo.asu.edu/library-congress-subject-headings/natural-history-museums>
- [30] <https://embryo.asu.edu/library-congress-subject-headings/dinosaurs-eggs>
- [31] <https://embryo.asu.edu/medical-subject-headings/dinosaurs>
- [32] <https://embryo.asu.edu/medical-subject-headings/whale>
- [33] <https://embryo.asu.edu/medical-subject-headings/archaeology>
- [34] <https://embryo.asu.edu/medical-subject-headings/anthropology-physical>
- [35] <https://embryo.asu.edu/medical-subject-headings/biological-evolution>
- [36] <https://embryo.asu.edu/medical-subject-headings/fossils>
- [37] <https://embryo.asu.edu/topics/people>
- [38] <https://embryo.asu.edu/formats/articles>