

BOOK REVIEW

California's Frontier Naturalists. 2006. Richard G. Beidleman. University of California Press, Berkeley. \$39.95, hardbound; i-xv, 484 pp. ISBN-10: 0-520-23010-8.

In *California's Frontier Naturalists*, author and biologist Richard Beidleman has written a well-researched and powerful book detailing how various scientists and explorers from around the world tackled the naturalistic enigma known as California. At one time California was sparsely explored, mapped, and settled, making it a unique landscape for some of the greatest naturalist minds to explore and in which to discover new species, geological features, and native human cultures.

The author divides the book into 7 sections, which adequately chronicle how naturalists took to the California frontier and described in earnest its plethora of flora and fauna: (1) The Oceanic Expeditions, (2) The Early Peripatetic Naturalists, (3) The Overland Expeditions and Their Naturalists, (4) Iron Horses and River Steamers: The 1850s Surveys, (5) The California Geological Survey, (6) Institutions and Naturalists, and (7) The Postwar Naturalists. In addition to a preface, prelude, and postlude, there are 40 illustrations and a selected references section for further reading.

Everything the 1st naturalists encountered in California was new; the 1st roadrunner, redwood, oak, ground squirrel, boa snake, and California poppy were shipped back to Europe for careful study. The naturalists encountered grizzly bears, rattlesnakes, skunks, and Indians, all of which provided them with plenty of surprises. As he became impressed with the diversity of plant and animal life, explorer Alessandro Malaspina wrote that California was very convenient for the exhaustless studies of the naturalist, and it would be "difficult to find another place better adapted"; "variegated hills with assorted greenery and flowers were found," where "peacefully whirled a thousand types of birds, while the rabbit, hare, and

squirrel jumped lightly and timidly" (page 18). The Malaspina Expedition had on board a Bohemian named Thaddeus Haenke, the 1st PhD to visit California and also the first to obtain specimens of the magnificent redwood, which he called "red cypress." He observed on the higher summits a "red pine, a tree much taller than the rest" (page 20).

Thorough attention is given to 1st discoveries of a variety of species. For example, Archibald Menzies, a botanist sailing with Captain George Vancouver, collected the 1st California Condor (*Gymnogyps californianus*) on the Monterey Peninsula in 1792 while it feasted on a beached whale carcass and sent it to the British Museum of Natural History; it serves as the type specimen (Wilbur 2004). Many other firsts are detailed in the book, such as the 1st scientific paper on California flora, published in 1826. Written by Dr. Johann Friedrich Eschscholtz, after whom the California poppy (*Eschscholzia californica*) is named (pages 51, 53), it was the 1st paper to use the word *Californiae* in the title. Note the misspelling of Eschscholtz's name in the genus; under botanical rules, it will remain misspelled! Besides plants, Eschscholtz also collected and wrote about many animals he encountered, including the western spadefoot toad and the brush rabbit. Later, Spencer Baird would name the spadefoot *Scaphiopus hammondi* (now *Spea hammondi*) after surgeon John F. Hammond of Fort Tejon (page 291).

Some stories in the book contradict traditional thought in zoological circles. For example, Alexander Collie, surgeon and zoologist for a ship piloted by Captain Frederick William Beechey in 1827, described a strange animal occurring in Monterey that remarkably resembled the Virginia opossum right down to the prickles on the tongue (page 68). Unfortunately, no specimen was collected, and traditional thought claims that the Virginia opossum was introduced into California during the 1st part of the 20th century (Hall and Kelson 1959,

McManus 1974). Incidentally, the California ground squirrel, *Spermophilus beecheyi*, was named after Captain Beechey, but the genus was listed in the book incorrectly as *Citellus* (page 70).

Descriptive quotes abound in the book, allowing for a joyful read. Dr. Paolo Emilio Botta observed in the coastal heath in 1827 “pretty species of hummingbird . . . a little ball of glowing iron throwing off rays of sparks. When several of them light on the same branch, the Arabian amateur of marvels might take it for a bough covered with precious stones, as in a dream from *The Thousand and One Nights*” (page 84). Botta was also perhaps the first to record the presence of the Western Burrowing Owl, and a common pocket gopher bears his name (*Thomomys bottae*).

Although the book is a scholarly work, humor is sprinkled throughout. For example, an encounter with a skunk lends itself a chuckle (pages 90–91): The commonly encountered “zorillo,” a “curious little animal,” elicited the comment that it “even sometimes lets itself to be taken and petted.” But soon the black-and-white mammal would spray a liquid “whose odor is so stinky and so acrid that it is impossible to bear it without nausea, and even vomiting . . . cloths [*sic*] often had to be burned!”

Encounters with grizzly bears were equally amusing (page 98): Charles Pickering in 1841 observed many large mammals in the Sacramento area, including lynx, tule elk, deer, gray foxes, wolves, and bears, and an aggressive badger that was unsuccessfully pursued. The unarmed Pickering was strolling along the river edge looking for plants, and a huge grizzly bear rushed out of the bushes at him. He ran back toward camp yelling, but before his companions could muster, the bear had disappeared. The Hungarian named János Xántus deserves special mention; during his stay at Fort Tejon, he had a pet grizzly bear which ate the commandant dog (page 253). This didn't help Xántus much in his already stressed relationship with the military command at the fort! Xántus' most memorable discovery was a new family and genus of lizards closely associated with Joshua trees that Baird named in his honor: *Xantusia vigilis*, the desert night lizard (page 255).

The author mentions wolves in the book on several occasions, which makes for interesting reading. Although the controversy of wolf

presence in California rages on, Beidleman provides plenty of evidence that wolves indeed were regular occupants within various regions of California (pages 98, 104, 168; Schmidt 1991).

All the top naturalists and explorers are chronicled in the book, including Douglas, Nuttall, Menzies, Gambel, and Frémont. Likewise, the various plants and animals named after these scientists are mentioned in the text: Douglas-fir (*Pseudotsuga menziesii*), Gambel's Quail (*Callipepla gambelii*), Nuttall's Woodpecker (*Picooides nuttallii*), and Fremont cottonwood (*Populus fremontii*). The California Geological Survey proved to be a very important time for California natural history, with famous names like Josiah Whitney and William Brewer topping the list (see Brewer 2003).

The book also chronicles the foundation of the University of California and all the colorful characters that made these institutions possible. Joseph LeConte is one of these characters. On his way to Yosemite, during his ride through Corral Hollow at the southern end of the Mount Diablo range across the San Joaquin plains, LeConte recorded seeing a badger and thousands of horned lizards. LeConte paused to rest at a sawmill and to chat with “a man in rough miller garb, whose intelligent face and earnest, clear blue eye” captured LeConte's interest (page 366). That workman was John Muir. It took little persuasion to encourage Muir to join LeConte for the rest of the Yosemite trip. Briefly mentioned are LeConte encounters with C. Hart Merriam and Joseph Grinnell.

One of the book's strengths is the author's ability to tell an exciting story. Details of how explorers traveled the countryside collecting plant and animal specimens and risking their lives in the name of science come to light in vivid descriptions. However, the book does have a few drawbacks. Maps throughout the chapters providing the travel routes of the explorers and naturalists would have been most useful. Additional chapters on the lives of C. Hart Merriam and Joseph Grinnell beg to be written. In all the time the various aforementioned naturalists (Douglas, Nuttall, Menzies, Gambel, and Frémont) spent in the San Joaquin Valley, they never came across many valley species that are now rare, such as the San Joaquin kit fox, which was described in 1902 by Merriam (Merriam 1902). Many of the species about which Grinnell inquired

when interviewing local ranchers and landowners in 1911 and 1912 within the San Joaquin Valley are now extinct, rare, or listed as a special-status species (Kelly et al. 2005).

The frontier known as “California” is long gone, but Beidleman provides us with an excellent book that gives a thoughtful glimpse into California’s natural history past and the men that risked their lives trying to describe it. Botanists back east, like Torrey and Gray, were busy for years with all the plant specimens shipped to them by a variety of pioneer botanists like Parry, Parish, Orcutt, and Lemmon. I cannot imagine how much work it must have been to describe all those plants! It saddens me to read about the wild California that once existed. I can only imagine the large herds of tule elk, pronghorn, and deer, moving across the California prairie with California Condors flying overhead. Distant smoke from Indian camp fires blend with the snow-capped Sierra in the distance. The lone howl of the wolf along with the recent tracks of a passing grizzly enter our imagination with the picture of a dangerous but beautiful past California landscape. Fortunately, we have authors like Beidleman writing about this exciting period in California history in an extremely readable and affordable book.

LITERATURE CITED

- BREWER, W.H. 2003. Up and down California in 1860–1864: the journal of William H. Brewer. 4th edition. University of California Press, Berkeley.
- HALL, E.R., AND K.R. KELSON. 1959. The mammals of North America. Volumes 1 and 2. The Ronald Press Company, New York.
- KELLY, P.A., S.E. PHILLIPS, AND D.F. WILLIAMS. 2005. Documenting ecological change in time and space: the San Joaquin Valley of California. Pages 57–78 in E.A. Lacey and P. Myers, editors, Mammalian diversification: from chromosomes to phylogeography. University of California, Berkeley.
- MCMANUS, J.J. 1974. *Didelphis virginiana*. Mammalian Species 40:1–6.
- MERRIAM, C.H. 1902. Three new foxes of the kit and desert fox groups. Proceedings of the Biological Society of Washington 15:73–74.
- SCHMIDT, R.H. 1991. Gray wolves in California: their presence and absence. California Fish and Game 77:79–85.
- WILBUR, S.R. 2004. Condor tales: what I learned in twelve years with the big birds. Symbios, Gresham, OR.

Howard O. Clark, Jr.
H. T. Harvey & Associates
 423 West Fallbrook Avenue, Suite 202
 Fresno, CA 93711
 E-mail: hclark@harveyecology.com