Prehistoric California Birds

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The saber-tooth cat snarls and lunges towards a pack of dire wolves. The big dogs are closing in with hopes of having seconds on a ground sloth carcass the lioness has extracted from the goo and killed. A few small La Brea Caracaras scampers in from behind to try to grab bites but squeal away as the big cat skids back in.

Patiently perched on a nearby juniper snag, a Merriam’s Teratorn dries its wings in the early morning sun. This gigantic carrion vulture weighs 40 pounds and has a wingspan of 12 feet. Soon many individuals of several species of condors and eagles, as well as mammalian scavengers, will stealthily circle down for last dibs on bone marrow, skin or gristle. This is a place of dark termination.

But then a White-crowned Sparrow sings from a nearby rabbitbrush thicket above a gopher snake probing the lodge of a dusky-footed woodrat. A California Thrasher scratchs in leaf litter on the shoulder of a well worn camel track.

It is a typical late-Pleistocene morning at the tar pits — 15,000 years ago on the coastal plane of Southern California. It is also a birder-naturalist’s dream: the best of two epochs.

Birds through time

Earth’s fossil record of “birds” dates back 150 million years, to the Jurassic Period. Paleontological artifacts that old are often a hard call between avian and reptilian. The first known birds (like Archaeopteryx) were lizards with long, branched, feather-like scales along the trailing edge of the “wings.” Animals from this far back are only ancestors of living forms, each one entirely unique from all birds here today.

Later, through the Cretaceous Period, bird skeletons such as Hesperornis (a flightless, loon-like bird) and Ichthyornis (a strong, flying predator) are more easily identified as such, and by the Miocene Epoch in middle of the Tertiary, about 60 million years ago, true birds were becoming common. Skeletal and impressed remains appear more like the birds we see today, and by the end of the Tertiary (1,000,000 years ago) all but four of the orders of birds now living, and about half of the families, are known to have been present.

The Pleistocene Epoch persisted up until 14,000 years ago — just prior to the Recent Epoch in which we now live. Many avian fossil bricks from the Pleistocene are identical to what is here now and are members of the same species.

When not molested by geologic upheaval (or the arrival and over-success of Homo sapiens), a species of bird may go 30 or 40 thousand years before it passes naturally into time. From the fossil records, avian paleontologists have projected that perhaps 150,000 species of birds have lived on Earth since the Cretaceous Period. Given that there are only about 1800 documented prehistoric species and that they are mostly big ones, we can deduce that smaller and more fragile kinds were not saved... even in the most perfect preservation situations.

Very few passerines (perching birds) have been found previous to the Pleistocene deposits in Southern California due, in part, to the fact that the shelf-life for their dainty skeletons is short no matter how tight the packaging and, more, to the surmise that, of all birds, they are the most recently evolved.

In the Miocene Epoch, much of California (and other portions of North Amer-
were under waters of what is now the Pacific Ocean, and many fossil deposits from now-interior localities of the state contain mainly, or exclusively, seabirds! The earliest California birds are from this epoch.

Solids (boobys) of six species were common, while cormorants were rare. Miocene tubenoses include three shearwaters, a storm-petrel, and an albatross. The Diatomite Shearwater (compacted, single-celled diatom mud held the imprints of many fossils in Southern California) was the size of a Black-vented but had shorter wings and longer legs. It was abundant. The Miocene Albatross was smaller even than a Black-footed, and the Hubb's Storm-petrel had big feet. Single leg- and foot-bone imprints of the Dubious Auklet are similar to those of a Rhino. An old lake bed near Barstow gave up bones of a flamingo-like bird that also occurred in Idaho. The only Miocene landbirds are a quail (genetically different from anything today) and three hawks — two extinct buzzards and Miohierax stocki, different from any present-day raptor.

The next epoch, the Pliocene, was similar to the Miocene both in the types of birds (mostly seabirds) and in the inundation of California's lowlands. Some interesting finds from the Pliocene are two species of extinct loons; a grebe intermediate in size between a Horned and a Red-necked; Manacalla, the Flightless Auk; fewer Sulas and more cormorants; and the big Kern Vulture, most closely related to the current King Vulture.

Pleistocene scene

The Pleistocene Epoch, alias the Ice Age, is that era when periodic glaciation came further south and to lower altitudes than it does today. Earth, however, was not frozen solid, and some areas, even in North America, were spared glacial penetration. Lowland California was such a place.

It is no surprise that the fossil record of birds is best represented in the Pleistocene, because it is relatively modern and because birds had evolved (perhaps to their peak) during that time. The huge fossil record in California, the finest in the world, is a surprise and is mostly attributable to beds of soft taphs sped from within the ground, forming pits. From three spots in Southern California, Rancho La Brea, Mckettrick, and Carpenteria more that 140,000 individuals of over 150 species of birds have been exhumed from their tarry tombs and catalogued into museum collections. Including birds from several other Pleistocene sites, the number of California species is more like 180, and of these about 30 (including the recently extinct Passenger Pigeon) have no living descendants.

The avifauna of the Pleistocene was very large and diverse. It is thought, there may have been 2000 more species, worldwide, than there are today. Among the more outrageous of these in California, the Sinclair Owl was a Bubo larger than a Great Gray. The Incredible Terat long was a meat eater 35% bigger than the huge Merriam's Terat; its wingspan was 16 feet (excessive "fishing" would not have been a good idea at this place). If this seems tame by present-day standards, consider the terat's relative from South America, Argentavis magnificens: with a 23-foot spread, it was the largest known bird able to fly! The Asphalt Stork of Pleistocene California was slightly more petite than the present-day Jabiru. It is curious that only one Brown Pelican and three individual gulls have been located; these kinds must have evolved and flourished elsewhere and recently come to California.

The tar pits attracted and swallowed-up large numbers of animals, including many mammals and waterfowl. It is possible that some of these were entrapped because they were attracted to pools of rainwater that formed on the surface of the tar. Others, especially mammals and reptiles, no doubt walked right into it, perhaps at night. Some must have died on the edges or pulled themselves free only to be whacked by a predator. Because of the abundant death, predators and carrion eaters were very common, and many of them also became fatally stuck in the goo.

Two-thirds of all the birds of the tar pits were birds of prey. Specimens of Bald (170) and Golden (900) eagles suggest they must have been abundant, and five extinct eagles are also represented. Several scavengers, most now extinct, were common. Turkey Vulture was very rare. Conversely, of nine owl species recovered at La Brea, eight are living today. Only Strix brea (like Spotted Owl but bigger) is no longer with us. Most of the landbirds recovered are those we see commonly in California today — but it would have been nice to get a look at Pipilo angeliensis, the L.A. Towhee.

One hundred years ago virtually nothing was known about prehistoric birdlife, and now 1800 species have been identified worldwide. The Western Field Ornithologists' 1996 official Field List of California Birds contains 592 species, including eight introduced and three extirpated. (In the U.S. this total is second only to Texas.) Given that California's inventory of extinct species is superb, wouldn't it be nice to know the numbers of all the local bird species, not just those that still exist?

References
Webster, Richard, 1979. "Birding the Tar Pits: 12,000 BC." Western Tanager Volume 45, Number 10, Los Angeles Audubon Society.

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