

SUCCESSION IN THE CATHARTINE DYNASTY

By LOYE MILLER

Interest in fossil birds in America experienced a very definite revival some thirty odd years ago when the great masses of material began to appear from the Rancho La Brea asphalt. Since then two additional asphalt lenses within the southern California area, supplemented by some thirty or more bird-bearing localities in other parts of the west, have been studied by a dozen workers in avian paleontology. All these data serve to give us a much clearer picture of the ancient bird fauna, and the effect of time upon the organic species has come to occupy a place of much interest in my own ornithological thinking.

The succession of species within the one phyletic group, Cathartae, birds of similar structure, similar food requirements, and similar nesting sites, would illustrate what I mean. There are living today within the borders of the United States three well marked forms of these New World vultures, the California Condor (*Gymnogyps californianus*), the Turkey Vulture (*Cathartes aura*) and the Black Vulture (*Coragyps atratus*). Mexico adds the Royal Vulture (*Sarcoramphus papa*), and South America the Andean Condor (*Vultur gryphus*), thus completing the entire roster of species of the suborder as represented today.

The California fossil beds, however, yield a large number both of species and of individuals of these cathartine birds. The Pleistocene fauna may be tabulated as follows:

Family Teratornithidae (extinct family)

*Cathartornis gracilis*—extremely rare; from but one locality.

*Teratornis merriami*—abundant; wide ranging, probably lived to Recent.

Family Cathartidae

*Gymnogyps amplus*—rare; one locality.

*Breagyps clarki*—rare; may have lived to early Recent.

*Coragyps occidentalis*—abundant; wide ranging, may have lived to early Recent.

*Gymnogyps californianus*—still living, but rare; abundant and wide ranging in Pleistocene.

*Cathartes aura*—now abundant; wide ranging and subspecifically divided; rare in Pleistocene.

*Coragyps atratus*—abundant in the tropics; not much subspecific division; very rare in Pleistocene.

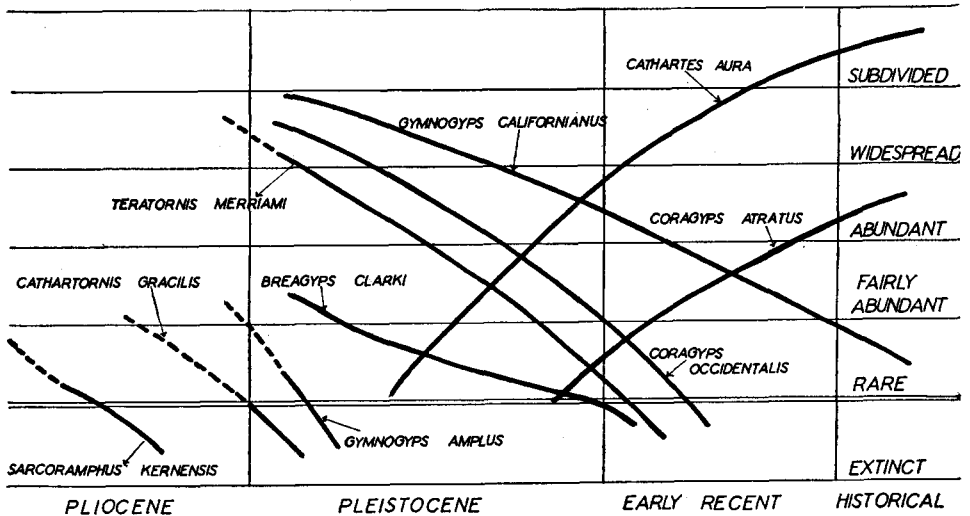


Fig. 74. Diagram showing abundance and geologic history of cathartine vultures.

What caused this come and go of the vultures? Can we avoid the conclusion that *time* is the principal factor? The hypothesis of racial senility is not in the best repute among biologists in general, but the paleontologist is almost obliged to resort to it as a solvent for some of his riddles.

Were not the teratorns an antiquated group that time had weathered away before we arrived? Is not the California Condor a senile species that is far past its prime? It was widely distributed and numerically abundant in Pleistocene time (Florida, Mexico, New Mexico, Texas, Nevada, California), but now it is restricted to one or two localities and a numberable roster of individuals within the two Californias. Is it not a species with one foot and even one wing in the grave? The Turkey Vulture, quite in contrast, was just coming into the Pleistocene picture, although it was definitely important. It now ranges from Canada to the Straits of Magellan. The Black Vulture is merely indicated in the Pleistocene (Florida); it now swarms in the tropics and it seems to be extending its range today from Arizona toward the California border along the Colorado River. Is it not the lusty and aggressive youngster of the cathartid family? May it not in the geologic future replace the Turkey Vulture as we now know it?

The present indication, however, is that the Turkey Vulture will be hard to displace. It is a species of great vigor and versatility and appears to be splitting into a number of potential future species, as we see in the Horned Owl. These offspring species may be the ones to replace at some distant time the present day Turkey Vulture.

I am glad that I shall not be responsible for the taxonomy of that remote period.

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