



SKELETON OF HESPERORNIS IN THE U. S. NATIONAL MUSEUM.

A SKELETON OF HESPERORNIS

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The announcement by Professor Marsh of the discovery of birds with teeth in the chalk-beds of western Kansas was not only important from a scientific standpoint, but aroused much popular interest. Unfortunately, toothed birds are not merely rare but usually are in a more or less imperfect condition; the teeth, too, are so small and so few remain in the jaws that a specimen of a toothed bird is apt to prove a disappointment to the few who see them. In this last particular the example of *Hesperornis regalis* (plate XXVII), which formed a portion of the exhibit of the U. S. National Museum at the Buffalo Exposition, is no exception to the general rule; it is, however, one of the most complete specimens yet discovered, being the first sufficiently well preserved to admit of its being mounted. The mounting of this specimen revealed the fact that in the position of its legs *Hesperornis* was not only different from any modern bird, but different from all other birds. In ordinary waterfowl, such as ducks and geese, the legs, when swimming, are beneath the body, and this is also the case in such highly specialized divers as loons and grebes, in which the legs are placed far back. But in *Hesperornis* the articulations of the leg-bones were such as to show that in swimming the legs must have stood out, almost at right angles to the body, suggestive of a pair of oars. This also suggests that the legs, like oars, may have been moved together and not alternately, since an alternate motion of the legs would have had a tendency to throw the body from side to side. It is a little difficult to see just what advantage could be derived from such a method of swimming unless it was for rapid movement at the surface. This peculiar position of the legs was not found in the Cretaceous diver *Baptornis*, also from western Kansas, in which the legs were situated as is customarily the case.

The present specimen of *Hesperornis* also showed that in the structure of its shoulder girdle the Cretaceous bird was more like modern birds than heretofore supposed. These details will be found described in the *Proceedings* of the U. S. National Museum for 1903, pp. 545-552.