

crop by means of a glass rod. The birds were then placed in the experimental cages and left for sixty hours. Kaupp and Ivey (1923)<sup>1</sup> studied the length of time required for food to pass the entire digestive tract in fowls and found that eleven hours were sufficient. The pigeons were therefore kept in the experimental cages long enough to assure the passage of digested seeds. The excreta were examined carefully by teasing under a binocular microscope.

Of the forty apple seeds fed to the pigeons, two seeds were regurgitated and all the rest were thoroughly digested. Brown flakes of seed coats were found here and there in the excreta.

Similar results were experienced in the trials with strawberry seeds. No trace could be found of any portion of the seeds.

Grape seeds, however, gave slightly different results. Of the forty seeds, four retained their shape, but were soft and flaky. The other seeds appeared in the excreta in pieces of various sizes, all soft and flaky. Although the seeds appeared incapable of germination, they were planted, but none sprouted.

Five cherry seeds were fed to each of two birds and all but one were regurgitated within a few hours and the other was regurgitated a day later. Birds that eat a number of large seeded fruits probably regurgitate most of the seeds, as Proctor (1896) observed. The above result suggested that if a smaller number of seeds was fed that they might be retained rather than regurgitated. One cherry seed was fed to one Pigeon and was retained and located in the gizzard after three weeks had elapsed. The seed was markedly smaller in size and showed that it had been used in the gizzard as grit, gradually wearing and dissolving away, until the seed became small enough to pass out with the feces. M. R. Curtis (1914)<sup>2</sup> found the same result in observing the ability of chickens to digest pieces of aluminum.

It would appear, then, that the combination of the mechanical grinding of the gizzard and the action of the digestive juices changed the seeds to such an extent that they would not germinate.

Although some birds may be able to pass seeds through the digestive tract without rendering them incapable of germination, the writer's experiments indicate that the Pigeon could not (judged by the four seeds tested) be included in the list of such birds. The voided seeds were crushed and digested beyond power of germination. The Pigeon, therefore, cannot feature in reforestation resulting from the distribution of seeds that have been voided in excreta and there may be some doubt as to whether other birds are able to do so.—MARY SAYLE, *University of Wisconsin, Madison, Wisc.*

**Black Vulture (*Coragyps urubu*) nesting in Maryland.**—April 28 to May 6, 1921, Mr. Herbert W. Brandt, Cleveland, Ohio, and the writer collected oological material in St. Mary's County, Maryland. Our work

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<sup>1</sup>Jour. Agric. Res. 23, pp. 721-725.

<sup>2</sup>Ann. Rept. Maine Agric. Exper. Sta. Bull., 29, pp. 314-318.

was mostly along the shore of Chesapeake Bay from Cedar Point to Point Lookout and up the Potomac River to Piney Point.

This locality is very low and the greatest height is not over twenty feet above sea level. The greater part is under cultivation, with many large tracts of the virgin timber, mostly large yellow pines and quite a few white oaks. On April 29, while collecting sets of the Fish Hawk (*Pandion haliaetus carolinensis*), we saw a great many Vultures roosting in the dead chestnut trees on the east side of Harpers Creek. Thinking them at first to be the Turkey Vulture, we did not pay much attention to them, but as we came close by they flew around and we immediately recognized them as Black Vultures (*Coragyps urubu*). Having had considerable experience with this species in the coastal region of southern Texas, Carolinas, and Florida we were absolutely certain of our bird.

The same time in 1922 Mr. A. Ernest Sikken, Hyattsville, Maryland, and I collected twenty miles farther south and we succeeded in finding a very handsome set of two eggs of this species. The set was taken April 29, on Mr. W. H. Ridgell's Farm, Deep Creek, St. Mary's County, Maryland. The eggs are typical and handsomely marked with chocolate to reddish brown of different tints with a wreath of underlying markings of lilac and lavender spots, while one egg is evenly spotted over the entire surface. Incubation was fully one-half completed. The nest was in a very large white oak stump, in a cavity about two feet below the level of the ground.

1923 we again collected on this tract and found the birds had occupied the old nest. This set was heavily marked and both eggs well matched and was fresh on May 3, 1923.

This stump had been used for many seasons by a pair of Turkey Vultures, but they shifted a hundred feet back in the woods under a large fallen tree.

The Black Vulture nests quite plentiful in this county, as I have seen it at various places. While after *Haliaetus leucocephalus* in February 1924 at Aquia, Stafford County, Virginia, I saw nine Black Vultures flying towards the Potomac River just at dark. This locality is only forty miles from Washington, D. C.—EDWARD J. COURT, *Washington, D. C.*

**A Set of Three Eggs of the Turkey Vulture.**—May 4, 1924, I found a set of three eggs of the Turkey Vulture (*Cathartes aura septentrionalis*) in Prince George County, Maryland. The eggs were resting on a well matted carpet of dry leaves on the ground under an overturned bifurcated root stump of a large dead chestnut tree, the stump being densely covered and draped with honeysuckle vines. The entrance to the nest was on the northwest side, facing a heavily pine wooded knoll. Leading to the entrance was a well defined path about five inches wide obviously made by the Vultures themselves, extending for some four or five feet through the mass of honeysuckle vines covering the ground for that distance in front of the entrance. Just inside and crosswise to the entrance lay a primary feather of one of the Vultures. The area about the nest for something like half an acre was overgrown with honeysuckle vines running over the ground and