

quently proceeds so far that the birds are unable to fly and must crawl up on a perch where they can dry.

In the case of the anhinga, well-grown young, but largely in the natal down and still flightless, may leave their nests and climb to the tops of their nesting trees when disturbed by man. If further pressed, they plummet downward and swim rapidly away—a strange sight in crystal-clear water. Emerging, they climb on some snag in the vicinity, where their parents feed them until they are able to fend for themselves.

Extended field observations of both birds under a wide variety of conditions indicate that where rough fish and other acceptable aquatic animals are ordinarily plentiful, comparatively little time in and under water is required to satisfy their demands for food, even when there are hungry young to care for. This indicates extraordinary ability in the pursuit of prey, and precludes the idea that these birds are handicapped by the lack of impervious plumage. Their great fishing skill earns them much leisure and for hours on end they sun, preen, and stretch on the dead trees and other perches in the vicinity of their fishing grounds.

This getting bedraggled would appear to be a hiatus in their adaptation to aquatic life, which in various other respects seems so complete. Both groups have oil glands, but possession of those organs evidently is not the whole secret of the resistance of plumage to water. Most aquatic fowl, after submerging, pop to the surface where the little water they carry with them immediately rolls off; normally they are practically unwettable. Most of these birds spend far more time in water than do the subjects of this sketch. The wettability of the cormorants and anhingas may indicate an even closer relationship between these groups than is currently admitted, one that possibly entitles them to rank as a suborder of the Steganopodes. Their obvious and great differences, however, inform us in this, as in so many other instances, that we are dealing with far-evolved entities—tip of twigs of the tree of life, of which the branches connecting them with the main trunk have been lost in the chaos of things that were.—W. L. McATEE AND HERBERT L. STODDARD. *Chicago, Illinois, and Thomasville, Georgia.*

**Color change in *Ramphocelus flammigerus*.**—In December, 1941, the Chicago Zoological Park at Brookfield, Illinois, received two pairs of tanagers from a dealer in New York. One pair was called "Scarlet-rumped Tanager" and the other, "Orange-rumped Tanager." The male of the former was velvety black with light scarlet rump; that of the other was black with the under parts sparingly marked with traces of the yellow color of immaturity, while the rump was light orange yellow. The two females were very much alike, with blackish head and upper parts, bright orange yellow rump, orange band across the chest, and light yellow belly. We identified all four birds as *Ramphocelus flammigerus*, the Variable Tanager.

After a few months, the scarlet-rumped male and one of the females died, but the other two birds survived and eventually molted. In this molt, the male lost all traces of the yellow feathering on the under parts and acquired a much deeper color on the rump, comparable to Flame Scarlet in Ridgway's 'Color Standards and Color Nomenclature.' Now, over two years later, it still has this area decidedly vermilion.

It thus appears that at least some of the variability in the color of the rump of males of this species is due to the different ages of the individuals.—KARL PLATH, *Chicago, Illinois.*

**Whip-poor-will endurance.**—The Eastern Whip-poor-will (*Antrostomus vociferus vociferus*) is a regular and locally numerous breeding species on Staten Island

(which for nearly fifty years has been incorporated in the Greater City of New York), although Cruickshank in his "Birds Around New York City" (1942) excludes the Whip-poor-will from the greater city as a breeder, and Griscom did the same in his earlier (1923) "Birds of the New York City Region." One of the half-dozen or more localities on Staten Island where Whip-poor-wills can be heard in numbers throughout the breeding season is the sparsely settled, wooded and second-growth area to the north and northwest of our home in Pleasant Plains. From our bedroom window I have often heard the clearly articulated call which Staten Island's late much beloved 'all-'round' naturalist, William T. Davis, rightly contended sounds more like "purple rib" than "whip-poor-will."

On the night of June 1, 1944, I was lying awake in bed at about midnight when a Whip-poor-will began broadcasting from one of his favorite stations about a hundred yards from our house. He had uttered an estimated 300 calls when it occurred to me to start counting. Doubling up my right fist, I opened out my thumb at the first hundred, my index finger at two hundred, and so on. When my right digits were exhausted I started with my left. I was wondering whether I had fingers enough when the bird quit with the score at 779. Add the estimated first 300, and the grand total for that one uninterrupted run is more than 1000 "purple ribs" delivered at the even rate of almost exactly one per second. This adds up to a little more than sixteen minutes of sustained effort. Whatever the Whip-poor-will says, he says a lot of it. The listener, not the performer, becomes subject to exhaustion. I got out of bed and set down the figures on paper lest I become uncertain of them by morning.

At 11 p. m. on June 2, a Whip-poor-will, presumably the same male, called from the same station, but his high score was only 450 calls. He seemed to be 'slipping.' However, on the night of June 4 he was in good form, running up a tally of 711. It should be explained that scoring was on the basis of uninterrupted performance; a pause of as much as five seconds disqualified the additions.

Moonlight unquestionably exerts a stimulating influence on Whip-poor-wills. On dark nights, even during the height of the nuptial period, birds may call for less than an hour, beginning at deep dusk, resuming shortly before dawn. On clear, moonlit nights the resounding cry of "purple rib" can be heard all night long. It is noteworthy that the moon was at first quarter on May 29 and at the full on June 6, 1944, between which dates the peak vocal performances cited were achieved. By mid-August, or earlier, Whip-poor-wills are silent except for a few outbursts just before daybreak. August 10, a Whip-poor-will was heard in early morning, but his recital consisted merely of seven calls, three followed by a pause, then four. Even in August and September, a bright, full moon will, to some extent, revive the urge to sing.

Near our home stands the large stone building of the St. Louis Academy, the walls of which produce almost perfect echoes. Hammer blows originating in our yard come back in echo with almost startling clearness. The calls of the Whip-poor-will rebound with equal fidelity. I cannot prove it but I think the birds have, at times, been deceived by these sound effects. I have heard a Whip-poor-will increase his tempo, whereupon the echo was correspondingly accelerated, and the bird speeded up still further until his sound apparatus 'jammed' completely. I have wondered if this Whip-poor-will might not return to this echoing post in challenging mood, as cardinals, robins, orioles, and other birds have been observed repeatedly to hurl themselves against windowpanes in seeming duels with their own reflections.—HOWARD CLEAVES, 8 Maretek Court, Staten Island 9, New York.