

THE YELLOW RAIL IN MICHIGAN

BY LAWRENCE H. WALKINSHAW

Plate 9

A COMPLETE summary of the Michigan records of the Yellow Rail (*Coturnicops noveboracensis*) was published by Norman A. Wood in 1909 when he stated: "The Yellow Rail has so seldom been recorded from Michigan that, as I have recently obtained some additional data on its occurrence in the state, it seems advisable to publish these in connection with the review of the literature on the subject. In Michigan, as in neighboring territory, owing to its rareness, secretiveness, or both, very little is known of the habits or local distribution of this species." He summarizes the literature as: Boies, 1875; Covert, 1881; Gibbs, 1879, 1890, and 1898; Miles, 1861; Sager, 1839; Steere, 1881; and Taverner, 1908.

Bradshaw Swales (1912) recorded a specimen from Detroit and Barrows (1912) added a few additional notes about the species. He also stated: "This little rail is one of the rarest of the family in Michigan and specimens are far from common in our museums." Norman Wood (1922) collected another specimen from Berrien County in 1920 and one from Keweenaw County, the first for the Upper Peninsula, in 1931. F. W. Rapp (1931) published three records for Vicksburg, Kalamazoo County. There is a specimen in the Kent Scientific Museum at Grand Rapids taken at Fish Point, Tuscola County, by E. A. Hyer on May 7, 1927.

My personal observations of the Yellow Rail started in a unique manner. On April 30, 1933, planning to search the large Convis Township marsh in Calhoun County for the nest of the Sandhill Crane (*Grus canadensis tabida*), C. J. Henry and I entered from the east where we were joined by Mr. and Mrs. N. T. Peterson, Mrs. L. C. Nielsen and Mrs. Alfred Steinel. We crossed a mile of damp grass and sedge (*Carex*) grown marsh, and were approaching the central part, an area of deeper water, when a single crane rose from its nest and two eggs. Not wishing to disturb the bird for very long, we soon started back, flushing as we entered the drier area, a bird which none of us had ever before observed. It rose from almost underfoot and, flying weakly, dropped out of sight in the thick sedges about thirty feet in front of us, showing a great deal of white in the wings while flying. It was very yellow in color and behaved like a rail. Wishing to collect it, C. J. Henry and I rushed forward to where it landed but found only a rattlesnake. Expecting to flush it, I shot the snake, yet the bird did not fly. Then the six of us paced over an area about twenty feet square for about fifteen minutes, searching through all of the sedges and grasses carefully. Thinking it must have hidden ahead, we were about to leave when

on parting the sedges, we exposed the bird squatting motionless on the ground. It was only necessary to bend over and pick it up: a handsome male Yellow Rail.

Realizing that we did not have much chance of flushing a bird as we had done in 1933, A. B. Chanel and I visited the same area May 6, 1934, with his springer spaniel. We camped all night on a small dry peninsula, crossing, at the first indication of dawn, the same location as the previous year. Within ten minutes two Yellow Rails flushed at the same time in front of the dog, then almost immediately, another, and later a fourth. Subsequent incidents during the year satisfied me that a dog was absolutely necessary in Yellow Rail study. All but three of my other observations were made with the use of a dog.

MIGRATIONS

Many authors state that Yellow Rails are much easier to find in the autumn than in the spring but I do not agree with this. The sedges, reeds and grasses are so much higher in the autumn that not only is the going very hard for the dog but also the birds have better cover in which to hide. In the spring they have to fly when the dog approaches too closely.

The following dates in Michigan may probably be considered as representing the spring migration: BERRIEN COUNTY, May 6, 1920 (N. A. Wood); OTTAWA COUNTY (Holland), April 21 and 28, 1896 (A. C. Baumgartel); CALHOUN COUNTY (Convis township), April 30, 1933, May 6, 1934 (April 27, 1935, Bedford township), May 2, May 16 and May 19, 1935, April 19, 1936, April 18, April 25, May 23, 1937, April 28, 1938; JACKSON COUNTY (Leoni township), April 28, May 9 and May 30, 1935, May 3, 1936, May 2 and May 20, 1937; CLINTON COUNTY (Bath township), May 5, 1935, April 29, 1937, and April 24, 1938; WASHTENAW COUNTY, April 19, 1925 (N. A. Wood and A. D. Tinker); WAYNE COUNTY, March 25, 1908 (P. A. Taverner) and April 22, 1911 (Bradshaw Swales); TUSCOLA COUNTY (Fish Point), May 7, 1927 (E. A. Hyer). In addition to the above records for the Lower Peninsula, I have observed the species in the Upper Peninsula during 1937 in SCHOOLCRAFT COUNTY as follows: Manistique township, Sections 26 and 35, T. 45 N., May 6, twelve observed; Doyle township, Section 32, T. 45 N., May 10, three observed, May 11, eight and May 12, two.

In the fall there appear to be no migration dates for the Upper Peninsula of Michigan but the following are at hand for the Lower Peninsula: WASHTENAW COUNTY, September 13, 1877 (A. B. Covert), September 30, 1908 (N. A. Wood); JACKSON COUNTY, September 24, 1936 (L. H. W.), September 30, 1936 (J. Van Tyne), October 4, 1936 (L. D. Case and A. E. Staebler); CALHOUN COUNTY, October 4, 1935, September 17, 1936, and September 12, 1937, in Convis township; and September 30, 1937, and October 1, 1937, in

Bedford township; KALAMAZOO COUNTY, October 19, 1890 (Morris Gibbs), middle of September, 1900 (Morris Gibbs), October 18, 1912 (F. W. Rapp), October 24, 1913 (F. W. Rapp), September 16, 1924 (F. W. Rapp). Unless observer's name is given, observations were made by the author.

NESTING

Jerome Trombley evidently found a nest of the Yellow Rail May 29, 1894, in the township of Ida, Monroe County (Barrows, 1912). It is possible that the bird observed May 30, 1935, by Homer Bradley and myself in Jackson County may have been breeding. However, I feel sure that the majority of the Yellow Rails move farther north than southern Michigan to nest. I have never observed a Yellow Rail during June, July or August in the Lower Peninsula. In the Upper Peninsula they evidently breed more commonly, yet the nests are very hard to find with the result that only one has ever been discovered. N. A. Wood collected a specimen in Keweenaw County, June 9, 1931 (Wood, 1932). The species was abundant on the Seney marshes in Schoolcraft County during May 1937, and probably breeds there.

Arriving at Munuscong Bay, Chippewa County, in the Upper Peninsula on June 7, 1934, I was very much surprised to see two specimens, a male and a female, taken the two days previous on that marsh by Francis C. Gillett in front of his dog. The female contained an egg measuring 7.6 mm. This was certain evidence of breeding so we decided to search the few days which I spent there for a nest of the Yellow Rail. Early on the morning of June 8, I went toward the east and heard a peculiar ticking with which I was not familiar. It could be heard from at least three different places, but I was unable to flush any birds to prove the author. The next morning, without a dog, I did flush two Yellow Rails at once from one of these ticking areas. I also heard two others. On June 10, four were heard; June 11, four more; June 12, six, two of which were flushed and one male was collected. The gonads were very large in this specimen. On June 13, I lost a film from my Graflex and spent much time searching for it. Late in the afternoon I met Gillett coming out on the marsh as I returned to get a bite to eat. He journeyed down toward where I had lost the film and his dog pointed a Yellow Rail's nest with ten eggs. We placed a blind at the nest and although I flushed a bird five feet from there on June 14, she finally deserted the eggs. I brought some of these back with me and placed them in an incubator at the W. K. Kellogg Bird Sanctuary, knowing that the downy young had never been seen, but they failed to hatch. The remainder were sent by Gillett to the University of Michigan Museum of Zoology. This nest was located in a dense mass of fallen rushes (*Scirpus validus*), with a thin layer beneath and a much heavier and thicker mass above. The

ground was covered at that time with green moss directly beneath the rushes and the outer part of this nest consisted almost entirely of this moss over which was a coarse lining of *Scirpus validus*, mostly of parts near the head. The lining also consisted of a great deal of moss. Within two inches of the nest were some smaller sedges (*Carex pairea*) but the rushes predominated. Through the rushes there was no standing water but underneath the moss was damp. The measurements of the nest were: 100 by 114 mm. outside, 70 by 75 mm. inside, and about 30 mm. in depth. The eggs, creamy-buff in color, were paler than those of the Sora (*Porzana carolina*) yet slightly darker than those of the Virginia Rail (*Rallus limicola limicola*). They were capped at the larger end with thick reddish-brown spots. Three eggs measured: 28.5 by 21 mm., 30 by 21.5 mm., and 29.5 by 21 mm. My vacation time expired on June 15 so that I had to leave the area. Downy young were captured on July 25 by Francis Gillett, Drs. Josselyn Van Tyne and Max M. Peet at the same area. They also collected four adult specimens.

In June 1935, I returned to the same area with my dog but failed to find any signs of the Yellow Rail during the first twenty days. None was heard and none was flushed by the dog. Why the rails should nest there one year and not the next is a mystery to me.

WEIGHTS AND MEASUREMENTS

A number of Yellow Rails which I have captured have been weighed and measured then released. Several have been taken as specimens which were also weighed when taken. Several other specimens in the University of Michigan Museum of Zoology have on their labels the weight and bill color. With the kind permission of the Museum and of Dr. Josselyn Van Tyne the following summary is made:

Males

Date	County	Museum number	Wt. in grams	Wing mm.	Culmen mm.	Bill color	Collector
9-29-1908	Washtenaw	36154	—	93	12	—	J. Bogle
5- 6-1920	Berrien	53605	—	91	15	—	N. A. Wood
6- 9-1931	Keweenaw	67338	—	88	14.5	1	N. A. Wood
4-30-1933	Calhoun	74776	—	91	14.5	1	C. J. Henry, L. H. W.
6- 5-1934	Chippewa	73797	—	88	13	1	F. C. Gillett
6-12-1934	Chippewa	84611	—	84	15	1	L. H. W.
5- 5-1935	Clinton	84610	63.0	88	15	3	F. C. Gillett, C. J. H.
4-18-1937	Calhoun	Nat. Mus.	52.5	83	15	4	L. H. W.
4-25-1937	Calhoun	91277	60.0	93	14	2	L. H. W.
Average of males			58.5	88.77	14.2	1.8	

Females

3-25-1908	Wayne	49305	—	80	14	—	P. A. Taverner
6- 6-1934	Chippewa	73798	—	91	14.5	1 or 2	F. C. Gillett
6-26-1934	Chippewa	74293	49.3	82	13	5	J. VanTyne
4-28-1935	Jackson	84409	47.8	87	—	5	M. Trautman
5- 5-1935	Clinton	91926	42.1	85	12.5	4	L. H. W.
9-17-1936	Calhoun	83549	42.1	87	13	4	L. H. W.
9-17-1936	Calhoun	83550	44.2	86	13	4	L. H. W.
9-30-1936	Jackson	83691	50.1	84	—	4	J. VanTyne
Average of females			45.9	85.25	13.3	4	

Released Banded Birds

		Band No.					
4-27-1935	Calhoun	34-218936	44.0	86	16	3	L. H. W.
5-16-1935	Calhoun	34-218937	—	—	—	5	L. H. W.
10- 4-1935	Calhoun	34-218946	37.9	83	10	5	L. H. W.
4-18-1937	Calhoun	34-334124	50.3	89	15	2	L. H. W.
4-25-1937	Calhoun	34-334114	63.8	82	15	2	L. H. W.
4-25-1937	Calhoun	34-334115	65.4	92	15	4	L. H. W.
5-11-1937	Schoolcraft	34-334118	63.2	88	15	2	L. H. W.
5-11-1937	Schoolcraft	34-334119	48.3	85	13	4	L. H. W.
5-23-1937	Calhoun	34-334120	54.2	81	14	4	L. H. W.
Average of 26 birds			51.6	86.68	13.9		

The wing measurements were taken with a straight-edge ruler from the bend to the tip of the longest primary. In bill color: 1, stands for a uniform dried corn-yellow color, more yellowish in life; 2, for yellow with the tip of the maxilla olive; 3, yellow with the tips of both maxilla and mandible olive; 4, with a basic line of yellowish or lime green of varying width, and the remainder of the bill olive black in color; 5, with the entire bill of an olive-black color.

Dr. Josselyn Van Tyne kindly submitted bill colors of two females collected by himself as recorded directly from Ridgway's 'Color Standards and Color Nomenclature': No. 74293, U. of M. Mus. of Zool., June 26, 1934, bill color, olivaceous black, legs and feet drab; No. 83691, U. of M. Mus. of Zool., September 30, 1936, bill, olivaceous black (base of mandible and lower base of maxilla, yellowish olive); legs and feet drab. Milton Trautman also submitted colors as recorded from same color guide for the specimen No. 84409, U. of M. Mus. of Zool., taken by him April 28, 1935: female, bill dark olive, lime green at base; legs, cinnamon drab.

The marked variation in bill color is evidently a sexual characteristic as well as one of age. One notes in the accompanying table that males have on the average much lighter bills than do the females yet one summer female had a bill almost entirely yellow. Five April, May and June males had bills entirely of a dried corn yellow. One autumn male had an olive-black bill. Three spring and summer females had bills entirely olive black, while, with the exception of the one mentioned above, the rest had very

dark bills. Three of these, however, were autumn birds. One very light-weight bird, evidently a bird of the year, had, in October, a bill of darker color.

There seems to be no apparent sexual variation in the plumage of the Yellow Rail but there is a marked variation between individuals. Evidently summer birds of both sexes are much more yellow. T. S. Roberts (1932) describes this as tawny-yellow and is one of the few men to describe the plumage of the Yellow Rail correctly. Autumn specimens are usually darker with many white-tipped feathers. Often smaller birds (which are also lighter-weight birds and probably young birds) have these white-tipped feathers on the top of the head and the back of the neck as well as on the back and on the coverts, scapulars, tertiaries and tail coverts. Of two female specimens collected at Munuscong Bay, Chippewa County, in June 1934, one was much darker than the other and very different in appearance. Both were evidently breeding birds. It will require more specimens to show the cause of this variation.

Although only a few specimens have been weighed in the flesh, one notes that the males are the heavier. The three males were all taken in the spring and averaged 58.5 grams, or 13.7 grams per bird heavier than three spring females. Three spring females averaged in weight 44.8 grams while three autumn females averaged 44.1 grams. Measurements show the males to be larger also. In taking the length of fresh birds, two spring males averaged 164.5 mm., while three females averaged 148.6 mm.

VOICE

P. B. Peabody (1922) thus described the voice of the Yellow Rail: "This note may be almost perfectly imitated by tapping a hollow beef-bone with a bit of iron. The usual rhythmic form of the call is, --, ---/--, ---/--, ---, etc." This rhythmic procedure was often heard at Munuscong during June 1934, and was heard in Jackson County during May 1935 and 1937, and in Schoolcraft County during May 1937, but it was not always the same perfect rhythm. The number of clicks between pauses was variable. Especially was this true when I listened in Schoolcraft County to several birds immediately around a blind within which I was located. Some birds gave only two clicks between pauses and had only a few groups of ticks at one utterance, such as, *tick-tick-tick-tick*, pause, *tick-tick-tick-tick*. Fryer (1937) recorded the rate of ticking for June 29, 1933, after 10.40 p. m. in southern Manitoba. He said, ". . . at this point I clocked the ticking for five minutes. The rhythm of *tick-tuck*, *tick-tick-tick* was perfect until the sixth minute, and the following were the number of sets per minute (five notes per set); 53, 57, 63, 55, 58. Thus in five minutes it gave 286 sets or 1430 notes. On one occasion it ticked incessantly for 17 minutes."

As stated by both Fryer and Peabody the Yellow Rail ticks considerably during the night on the nesting area. It also ticks a great deal during the daytime. I have heard it every hour of daylight at Munuscong Bay (June 1934) in Chippewa County. It was given oftener during early morning, late evening or on cloudy days. One could start a group of tickings almost any time by passing through certain areas. At night, by throwing a stone into the marsh water, one could start a number of birds ticking near at hand. The notes are very distinctive and serve to identify the Yellow Rail whenever heard.

Ames (1902) recorded the call as *kik-kik-kik-kik-queah* from a captive bird but I have never noted this ending in any of the calls heard.

A call given on two occasions by different birds which I had captive for several hours was a harsh *kaaaa* similar to the call of the Bronzed Grackle (*Quiscalus quiscula aeneus*). It was given when I cornered the birds with my hands.

BEHAVIOR

The Yellow Rail prefers the drier parts of the larger grass- and sedge-grown marshes but may at times be found during migration where water is several inches deep. The chief characteristic behavior of the bird is its secretiveness, for it spends much of its time beneath the rank dense vegetation of the marshes which it inhabits. Rarely does it fly, but rather resorts to escape by running or more often by hiding. Many times I have entered a marsh with my dog without the least evidence that there was a single Yellow Rail on the whole area, yet, before leaving, as many as twelve birds were sometimes flushed ahead of the dog.

By watching the dog work a fresh scent one notes the course pursued by a rail. Usually this covers several square rods. As soon as the dog approaches too close the rail rises, often within a few feet, to fly from fifty to three hundred feet. By watching closely and keeping the eye on the spot of landing, the chances are very good that one will either flush the bird from this spot or catch it. If it flies a second time, the flight is much stronger and farther. But, if this time one notes only the general region of landing, by working the dog over the area, the bird will fly even more readily and much farther so that it seldom is caught. Often on this third flight the bird lands in dense shrubbery. In covering the distance between landing spots, one can arrive most accurately by running, getting there as soon as possible, keeping the eyes riveted on the spot of landing. At times this has proved rather inconvenient. Once, with three Yellow Rails in my pockets and the scales back near the edge of the marsh, I flushed a fourth, immediately starting the chase. When it was captured, the three in my pockets were gone but they had all been banded. Birds in migration appear less willing to fly than those on the nesting area and do not fly so far when flushed.

The flight is much like that of the Sora (*Porzana carolina*) but is weaker and not continued so far. Slow at rising and in flight, the bird flies with legs dangling and can then be identified easily by the conspicuous white secondary regions on each wing. The Virginia Rail (*Rallus limicola limicola*) at a certain angle shows white in flight but on the bend of the wing. This species is somewhat larger and darker than the Yellow Rail. On longer flights the Yellow Rail appears much stronger, often leaving the sedge-covered areas so often inhabited for brushy areas bordering, while on these longer flights they are swifter and appear to carry the feet behind rather than dangling below. Often when landing the bird will roll over and over before righting itself.

When released, often the Yellow Rail will not fly, but will walk ahead of one. Often I have walked as much as fifty feet behind a bird, photographing it and watching its behavior. As a rule they walk rather jerkily but again are very swift. One must keep his eyes upon the area almost continuously or he will be unable to see the bird when he raises his eyes to peer at the spot where it had previously stood, so good is the protective coloration. I have occasionally seen the Yellow Rail land in open water when flushed. They are good swimmers but speedily depart for bordering cover.

On the nesting area birds were usually flushed in pairs. If a ticking area was located this usually proved to be the case, even though only one bird might be ticking. By no means are all birds flushed. Once, where a bird had landed, my dog sniffed underneath a large mass of dead fallen-down sedges, and as he did so a Yellow Rail's head protruded from the other side of the clump. The dog, not getting the scent, withdrew his nose sniffing underneath another group. Immediately the rail drew back underneath the mass and there I captured it.

During the spring of 1938, my trained rail dog was killed by an automobile and I purchased another dog. This one, although only a year old was able to flush both Sora and Virginia Rails but even if crossed over areas where Yellow Rails were ticking he was unable to flush them. He was only slightly interested even though I kept him there by means of a leash. The birds stopped ticking only as long as we were in their immediate vicinity, but resumed it at once when we retired a short distance away.

I once found two dead Yellow Rails where some hawk or owl had captured them. Beside the remnants of one was an owl pellet which contained many feathers of a Yellow Rail. Marsh Hawks (*Circus hudsonius*) and Short-eared Owls (*Asio flammeus flammeus*) are often found on the area, both coursing a few feet above the sedges in quest of food.

I have watched Yellow Rails, when released, eat small snails and insects from the sedges through which they proceeded. In most stomachs examined, snails were found. Often seeds of sedges were also found in stomachs as well as some pieces of gravel.

DISTRIBUTION

In the Upper Peninsula the Yellow Rail is the most abundant of the rails in so far as my observations are concerned. During the time spent there in June 1934, June 1935, and May 1937, 136 rails were observed or heard; of these 64 were Yellow Rails, 48 Virginia Rails and 24 Soras. In percentage 47 per cent were Yellow Rails, 35 per cent Virginias and 18 per cent Soras.

During April and May 1934-35-36-37-38, the following rail observations were made in Eaton, Barry, Clinton, Jackson, Calhoun and Kalamazoo Counties in the Lower Peninsula. Soras and Virginias were observed in all of the counties and Yellow Rails in Clinton, Jackson and Calhoun. Following is a list of each species by months as observed in these Lower Peninsula counties:

Year	Virginia Rail					Sora Rail					Yellow Rail				
	1934	1935	1936	1937	1938	1934	1935	1936	1937	1938	1934	1935	1936	1937	1938
April	0	31	8	6	19	1	25	1	14	18	0	3	2	12	15
May	3	105	10	9		19	133	24	8		4	14	1	7	
Total					191					243					58

During the same period only one King Rail (*Rallus elegans elegans*) was observed.

The majority of Yellow Rails leave by the middle of May but one bird was observed as late as May 30, consequently the entire month of May was included in the above census. One notes that May 1935, when considerable work was done on both Sora and Virginia Rails, the greatest number of these species was observed.

In percentage observations for April and May during the five years in the Lower Peninsula, 49.30 per cent were Soras, 38.74 per cent Virginia Rails, 11.77 per cent Yellow Rails and 0.20 per cent King Rails.

SUMMARY

The average date of arrival of the Yellow Rail in southern Michigan is during the latter part of April or early in May, occasionally in late March. The average date of departure is late September or early October.

The Yellow Rail breeds in Michigan, one nest having been found in the Lower Peninsula and one in the Upper Peninsula. They nest on the drier marshes. One nest, unlike other nests previously reported, was located in rushes instead of in fine grasses and sedges. The nest was made of these rushes combined with moss.

The Yellow Rail is very secretive and mouse-like, depending more on its coloration and the deep sedges within which it lives for protection than on

flying. With the use of a good dog, however, they can be flushed and easily caught because they fly only a short distance and then depend on their coloration for concealment rather than on escape by running.

The Yellow Rail is not rare in Michigan. In the Upper Peninsula I would consider it the commonest rail. There during May 1937, and June 1934-35, 47 per cent of the rails observed were Yellow Rails, 35 per cent Virginia Rails and 18 per cent Soras. In the Lower Peninsula, south-central part, during April and May 1934-35-36-37-38, 11.77 per cent of the rails observed were Yellow Rails, 38.74 per cent Virginia Rails, 49.3 per cent Soras and 0.20 per cent King Rails.

The average weight of seventeen birds was 51.6 grams; three spring males averaged 58.5 grams; three spring females 44.8 grams, and three autumn females 44.1 grams. Males are the larger and heavier.

The color of the bill varies but the bills of males average lighter colored than do those of females and younger birds. Adults are lighter colored than younger birds and have much more yellow in the plumage.

The call of the Yellow Rail is a distinctive ticking different from the notes of any other marshbird and is uttered on the nesting area during the entire day but chiefly during the early morning and late evening hours and during the hours of darkness.

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NEST OF YELLOW RAIL, MUNUSKONG BAY, MICHIGAN



YELLOW RAIL, A WING-TIPPED MALE

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Battle Creek
Michigan