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THE CANVAS-BACK IN MASSACHUSETTS.

BY S. PRESCOTT FAY.

UNTIL recent years during the fall migrations of ducks along the coast of Massachusetts the Canvas-back (*Marila valisineria*) has always been conspicuous by its absence, and in spite of the numerous "gunning stands" on many of our larger ponds comparatively few of these ducks seem to have been killed. At most places they are looked upon as rare stragglers, and because of their market value it is with a sense of great satisfaction that one of these ducks is taken. Owing to its infrequent occurrence up till five years ago doubtless most of the specimens seen or killed were reported, with the exception of course of a small percentage it is reasonable to suppose escaped notice; but lately this has not been the case. In one locality especially where I find the Canvas-back has become reasonably plentiful a great many have been killed and more seen that have not been publicly recorded. Of this very little seems to be known. Recently I have been interested in these records for the State and have found such as above described to be the case on Martha's Vineyard island. The reason for this state of affairs seems to be due to the fact that these ducks have been killed by what we may call "gunners,"—that is, men who shoot for the mere sport of shooting, with no ornithological interest. The last year or so I believe one or two ornithologists have not been so careful in recording all occurrences, because they felt it is not the rarity it used to be. This applies, however,

only to a few cases, chiefly for Plymouth County, but as for the state of affairs on Martha's Vineyard that is a very different matter, involving as it does a large number of records. Because this seems to be scarcely known it will be well worth while to look into it very carefully.

In gathering these records together it is very evident that the status of this species is changing and is very different from what it was a number of years ago, or even ten years ago, for this decided change has all come within the last decade. Until then it was considered a very rare straggler to our coast; in fact, five years ago it was generally considered so, and if I am not mistaken there are some who still believe it to be the case. On investigation a great many recent records came to light, and by putting these down in yearly sequence we can see how this species has increased recently to such an extent, I think, that it can hardly be called a rare duck in our State any longer. However, before going any further it will be well to consider the specimens in our Museums, and see what conclusions we can draw from that source.

In the collection of the Boston Society of Natural History there are but four specimens, as follows;

1. No date; immature male. Dr. Samuel Cabot, Jr., Newburyport.
2. No date; female. Dr. Samuel Cabot, Jr., Newburyport.
(Though no date accompanies these, they were presented by Dr. Cabot, according to the records, in 1845 or 1846.)
3. Nov. 10, 1908; female. Dwight Blaney, Eastham.
4. Dec. 18, 1908; immature male. " "

In the collection of the Peabody Academy of Science, Salem, there are two specimens, both males, taken at Ipswich in 1905.

There are no specimens from the State in the Museum of Comparative Zoölogy, Cambridge, nor in Mr. John E. Thayer's Museum at Lancaster.

Of these six specimens four have been taken within the last five years. This then certainly points to the fact that until recently they were so rare that very few were killed. These conclusions are further upheld by the opinions of all the leading ornithologists, for they have agreed upon the rarity of this species in Massachusetts, certainly up to within the last few years.

E. A. Samuels, in his 'Ornithology and Oology of New England,' published in 1867, says: "The Canvas-back is rarely taken in New England. I have seen a few that were killed in Ponkapoag Pond, Canton, Massachusetts." J. A. Allen speaks of its being "occasionally found at the western part of the state."

The earliest mention was made in 1832 by Thomas Nuttall in his 'Ornithology of the United States and Canada,' where he says: "In the depth of winter a few pairs, probably driven from the interior by cold, arrive in Massachusetts Bay in the vicinity of Cohasset and near Martha's Vineyard; these, as in the waters of New York, are commonly associated with the Redhead or Po-chard to which they have so near an affinity."

Neither Wilson nor Audubon commented on the Canvas-back in Massachusetts or even New England. J. A. Allen, in 'Birds of Massachusetts,' in 1878, states that it is a "very rare autumn and spring migrant." In 1895, F. M. Chapman, in his 'Hand-book of Birds of Eastern North America,' considers it "rare on the Atlantic Coast north of Delaware," and Messrs. Howe and Allen, in 1901, in their 'Birds of Massachusetts,' say it is "a very rare autumn migrant on the coast," mentioning about ten places where it has been reported. Dr. C. W. Townsend, in 'Birds of Essex County,' 1905, calls it a "very rare transient visitor" and gives but four records. Since the publication of his book there have been ten more killed on five different occasions, making more records for the last five years than there were for the entire period previous to 1905.

Wells W. Cooke, in 1906, in Bulletin Number 26 of the Biological Survey, entitled 'Distribution and Migration of North American Ducks, Geese and Swans,' says "it is hardly more than a straggler in Massachusetts." Also, in the same year, William Brewster, in his 'Birds of the Cambridge Region of Massachusetts,' puts the Canvas-back in the list of occasional or accidental visitors, considering it "of very rare occurrence during migration." He further says, "It is not surprising that the species is and apparently always has been but little more than a chance straggler to New England." This exactly describes the situation up to the time of the publication of his book. For this region he is able to give but three records, and although since then there have been no

recent occurrences strictly within the Cambridge region, just outside at Spot Pond, Middlesex Fells, Jamaica Pond and the Chestnut Hill Reservoir we have four records comprising six birds, all observed by reliable ornithologists.

The most recent list of Massachusetts birds is that published in 1909, in the 'Occasional Papers of the Boston Society of Natural History,' by Glover M. Allen, entitled 'List of Aves of New England.' Here the Canvas-back is considered a "rare migrant," so that nearly up to the present time it was still looked upon as a rare species.

Below is a table of all the records I have been able to find, arranged chronologically, so that by comparing them in yearly sequence the marked increase of these ducks during the fall migration can be seen.

Massachusetts Records.

(N. B. All records given refer to specimens *taken* unless otherwise specified. The names given are the names of those who either shot the ducks or saw them, or on whose authority the record exists.)

Previous to 1845.

Date unknown. Capt. N. J. Wyeth.¹ Fresh Pond, Cambridge.

1845-6.

Two, male and female, Dr. S. Cabot, Jr.,² Newburyport.

1885.

Fall. One, Herbert K. Job,³ Billington Sea, Plymouth.

1895.

Nov. 6. One (young bird), C. J. Paine, Jr.,⁴ Wayland.

1896.

Nov. 26. Male seen, J. E. Bassett,⁵ Nippenickett Pond, Bridgewater.

Dec. 4. Two, Philip Jackson, West Pond, Plymouth.

Dec. 18. Four, 2 males, 2 females, Thomas Arnold,⁶ Silver Lake, Halifax.

1899.

Nov. Five, H. A. Bradford, Russell's Mill Pond, Plymouth.

¹ Proceedings of the Boston Society of Natural History, Vol. II, 1846, 89.

² *Ibid.*

³ Auk, Vol. XIII, p. 201.

⁴ Albert Pitts Morse, Birds of Wellesley and Vicinity, p. 12.

⁵ H. K. Job, Auk, Vol. XIV, p. 206.

⁶ *Ibid.*

1900-5.

One, B. I. Quinby,¹ Topsfield Marshes.

1900.

Dec. 23. One shot, three seen, G. M. Allen, Truro.

1901.

Nov. 3. Three seen, one shot, F. B. McKechnie, Ponkapoag Pond.

1902.

Nov. 13. One (first one shot and second seen there), Dr. J. C. Phillips, Wenham Lake, North Beverly.

1903.

Nov. 18-30. Female (seen), Dr. Harold Bowditch,² Wm. Brewster and others, Fresh Pond, Cambridge.

Oct. 29. Eight seen, five shot, A. C. Bent, Halifax.

1904.

Fall. Three, M. Luce, Eastham.

Fall. Eleven, and nine (next day), J. E. Look, Great Pond, Edgartown.

1905.

Two males, in Museum of Peabody Academy of Science, Salem, Ipswich.

Oct. 6. One, J. H. Hardy, Jr., Newburyport.

Nov. 19. One, A. C. Bent, Lakeville.

Nov. 22. Four, A. C. Bent (West Side Gunning Club), Billington Sea, Plymouth.

Dec. 9. Male, female, S. P. Fay, Great Pond, Edgartown.

Dec. 23-31. Male (seen), Walter Deane³ and Rev. H. W. Wright, Fresh Pond, Cambridge.

1906.

Jan. 1-8. Male (seen, same bird as above), Rev. H. W. Wright⁴ Fresh Pond, Cambridge.

Nov. 1. Female, J. L. Motley, Sesachacha Pond, Nantucket.

Nov. 4. Five, Dr. J. C. Phillips, Wenham Lake, North Beverly.

Nov. 10. Three males (seen), Rev. H. W. Wright, Spot Pond, Middlesex Fells.

1907.

Oct. 19. Thirteen seen, six shot, immature males or females, A. C. Dyke⁵ Nippenickett Pond, Bridgewater.

Oct. 27-Nov. 3. Nine, F. B. McKechnie, Ponkapoag Pond.

1908.

Nov. 10. Female (one more seen), Dwight Blaney, Eastham.

Nov. 17. Male (5 more in flock), S. P. Fay and W. R. Baldwin, Great Pond, Edgartown.

¹ C. W. Townsend, *Birds of Essex County*, p. 135.

² William Brewster, *Birds of the Cambridge Region*, p. 115.

³ *Ibid.*

⁴ *Ibid.*

⁵ *Auk*, Vol. XXV, p. 80.

- Dec. 18. Immature male, Dwight Blaney, Eastham.
 Fall. One, H. A. Bradford, Plymouth.
 Fall. Several small flocks, the largest containing 12-14 ducks, Allan Keniston, Great Pond, Edgartown.
 Fall. Eight, Allan Keniston, Edgartown.
 Fall. Twelve (total number shot on his place; the 8 above, all or part, may be included in this 12). Geo. D. Flynn, Edgartown.
 March 9, 10, 12. Male seen, Rev. H. W. Wright, Chestnut Hill Reservoir, Brookline.
 Total number killed on Great Pond, during fall, estimated between 25-30 ducks, Walter H. Rencar, Vineyard Haven.
 Oct. 31. Seven, J. H. Hardy, Jr., Hingham.
 Nov. 2. One male, Rev. H. W. Wright, Spot Pond, Middlesex Fells.
 Dec. 18. Five, J. H. Hardy, Jr., Plymouth.
 Dec. 30. One male (seen) J. L. Peters, Edgartown.
 Nov. 1-8. Flock of 15 decoyed, seven shot, only five retrieved, Cleon Crowell, Long Pond, Harwich.
 Two shot (flock of 75 lit in pond, stayed about an hour, then left), Linwood Nickerson, Harwich.

1909.

- March 21. Male, J. L. Peters and Rev. H. W. Wright, Chestnut Hill Reservoir, Brookline.
 Fall. Two (seen), Dwight Blaney, Eastham.
 Fall. Six, H. A. Bradford, Big Sandy Pond, Plymouth.
 Fall. One, Ellery H. Clarke, off Cohasset.
 Nov. 3. Two, Dr. J. C. Phillips, Wenham Lake, North Beverly.
 Nov. 25. Twelve (seen), F. B. McKechnie, Ponkapoag Pond.
 Dec. 1909, Jan., Feb., March, 1910. Full plumaged male, seen continuously from Dec. 12 until March 27, 1910, when it disappeared, Leverett Pond and Jamaica Pond, Brookline.
 Fall. Twelve seen in one flock, Thomas Arnold,¹ Silver Lake, Halifax.

1909.

- Oct. 25-31. Twenty-five went through express office, W. Nichols, Edgartown.
 Fall. Four, Allan Keniston, Great Pond, Edgartown.
 Fall. Three, J. E. Look, Great Pond, Edgartown.
 Fall. Fifteen-eighteen (total number shot on his place by several parties during fall), Geo. D. Flynn, Great Pond, Edgartown.

(As I have no dates for these last three entries it is possible some of these ducks may have been shot during the last week of October and so

¹ Though none were killed at Silver Lake in 1909, during the few years previous a few were taken, but I was unable to get any complete data. In fact, all through Plymouth County I hear of there being Canvas-backs killed, but it is impossible to find out anything definite or obtain satisfactory evidence.

included in the lot of twenty-five that went through the express office between October 25 and 31.)

Nov. 1. Seven seen, one shot, Allan Keniston, Great Pond, Edgartown.

Fall. Caught male alive, still in possession, Allan Keniston, Great Pond, Edgartown.

Nov. 1-7. Four, W. Nichols, Great Pond, Edgartown.

Nov. 1-7. Six, Chester Pease, Great Pond, Edgartown.

Nov. Three, Kapawac Club, Great Pond, Edgartown.

Nov. 19. Two males, two females (six shot from flock of 50, of which two were not retrieved), W. R. Baldwin, Great Pond, Edgartown.

Nov. 19. Large flock of 50 seen, close to beach, W. R. Baldwin, Great Pond, Edgartown.

Nov. 19. Thirty seen in one flock, Allan Keniston, Great Pond, Edgartown.

Dec. 13. One hundred and fifty seen in one flock, W. Nichols, Great Pond, Edgartown.

Dec. 16. Four (fifty seen in one flock), J. E. Look, Great Pond, Edgartown.

Fall. About twenty-five killed in Watcha Pond, E. F. Adams, Edgartown.

Fall. About 50 (estimated) killed in Great Pond, Edgartown, Walter H. Renear.

Fall. Knows personally of 35-40 killed in Great Pond, Edgartown, Allan Keniston.

N. B. Perhaps some will doubt the correctness of these records, since the majority from Martha's Vineyard are from local gunners, on the ground that they may have confused Canvas-backs with Redheads or some other ducks. In the first place, I have been very careful as to whom I have consulted, choosing only those whom I know personally and whose knowledge of the varieties of ducks is unquestioned. In the second place, there is no pond in Massachusetts, or possibly in New England, where there is the number or variety of ducks found here; hence the local sportsmen are remarkably well posted on the different species. It is not the same here as in most places on Cape Cod, where the natives probably know only two or three kinds of ducks. Even the young boys, who perhaps own but a single-barreled gun, and shoot only a short time in the morning before school begins, know not only the distinguishing marks of the ducks close to, but can readily distinguish them on the wing. I doubt if there are many places in the State where such a condition exists.

Summing up from the above table of Martha's Vineyard for 1909, we find that even leaving out of consideration the twenty-five ducks that passed through the express office the last week of October, there were nearly fifty ducks killed on Great Pond, Edgartown,—which is about the number estimated by the gun-

ners. That seems a fair estimate, for it is reasonable to assume that there were other Canvas-backs killed of which there is no record. The only other pond where these ducks are taken on this island is Watcha (or Fresh Pond, as it is sometimes called), and though I could get no definite dates, Mr. E. F. Adams, one of the local gunners, who follows the duck shooting closely during the fall, estimates that there were fully twenty-five Canvas-backs killed there in 1909. That makes a total of approximately seventy-five Canvas-backs killed on the island for the fall of that year. Taking into consideration also the large number seen, it only shows more conclusively that the Canvas-back is increasing in this State where the conditions are suitable. If it were only possible to get all the records for Martha's Vineyard for the last five years we would have a set of records that would be extremely interesting, and it would then be easier to trace back and see precisely how much these ducks have increased the last few years. The year 1909 certainly was a banner year, and undoubtedly the greatest flight of Canvas-backs took place in Massachusetts that to our knowledge has ever occurred. However, we cannot, I think, look upon it as anything so extraordinary, because this duck has increased so steadily since 1905. In fact, it is only reasonable to expect such an occurrence. 1910 may not show another such flight, but undoubtedly there will be a great many of these ducks killed. Though by far the greatest number in 1909 were taken on Martha's Vineyard, the rest of the records are so evenly distributed over the coast of Massachusetts that every county bordering on the ocean came in for its share. This shows that the flight was general and not limited to any locality, and that wherever the feed and conditions were suitable Canvas-backs appeared.

From this table as a whole we see very plainly how these ducks have increased the last few years, beginning with 1905. That seems to be the time when the marked change became perceptible. No doubt because of a more general interest in ornithology lately, more records of our uncommon birds are noted than previously, and that may account somewhat for the records being more complete recently. On the other hand, I was informed by one man that he had not taken pains to note all recent occurrences, as he

did not consider this species as rare as it used to be. This then suggests that there are some recent records of the last year or two that are lacking.

The most interesting side of this situation seems to be the fact that so many are killed on the Island of Martha's Vineyard. With all our large ponds scattered over the State, particularly in Barnstable, Duke and Plymouth Counties, the question naturally arises as to why so many should be taken in this one locality. Many apparently suitable ponds do not seem to attract the ducks at all. On the south side of the island there is a continuous string of ponds, stretching from the extreme eastern end close to the western end. Often they are so close that only a very narrow neck of land separates one from the other. Some of the ponds are open to the sea by a small creek, making them very salt, others are opened only in the spring for a short time to let the herring run in to spawn, making them brackish, while there are some which are entirely fresh. Practically all of the Canvas-backs (at least so far as can be judged from the records) are taken in but two ponds, and these two are entirely fresh. Local gunners tell me that they are taken in no other places, although there are other fresh water ponds than these two. In spite of the fact that the island of Nantucket, only fifteen miles away, has a similar string of ponds on the south side, though not quite as numerous or as large, there is but one definite record for the island. Of course there is only one reason,— that which accounts for the appearance of ducks anywhere — namely, feed, for these two ponds are filled with wild celery (*Valisneria americana*), to say nothing of other good duck grasses. This I was told to be the case several years ago, and although I examined the celery and saw it growing on the bottom in many places, not knowing the plant, I was unable to identify it. However, in August, 1909, the Biological Survey in Washington sent their Assistant Biologist, Mr. W. L. McAtee, to examine Edgartown Great Pond, which is one of the two where the ducks are killed, and to report on the various kinds of feed found growing there. In replying to a letter enquiring as to the results of his investigation, he says: "As you mentioned that you would be interested to hear the result of my examination of Edgartown pond, I take the present opportunity of addressing you. Taking

a boat near the pumping station we went through a long lead, which is filled with a pond weed (*Potamogeton nuttalli*) which is a fair duck food. We then entered a cove and followed it up around the first point to the right and into the next cove. I found the bottom of these coves carpeted with wild celery and a species of pond weed (*Potamogeton perfoliatus*), known as redhead or duck grass. There were no other important plants. I was very much interested in finding wild celery there, as I had heard that pond is the best in the State for Redheads and Canvas-backs. . . .”

This letter is not only interesting but conclusive as to the reason for the abundance of the ducks in this pond, for everyone knows the attraction wild celery has for Canvas-backs. What I have been unable to solve is how and when the celery took root there. For although I have asked and written a number of local gunners no one seems to know whether it was planted there artificially or not. The theory often advanced that ducks spread the growth of aquatic plants by carrying the small seeds in particles of mud adhering to their feet and legs might possibly account for it.

Though this plant explains why the Canvas-backs frequent certain ponds in preference to others, it does not give the reason for their increase in numbers in this State. In the first place, this wild celery has undoubtedly been in the pond a great many years, for the gunners do not speak of its being a new growth, so that does not explain their recent increase. When I first went down there in the fall of 1905 I saw it growing then, though I was not sure it was the true *Valisneria americana* until I saw Mr. McAtee's letter several years later. Furthermore, Edgartown Great Pond has, as far as the memory of the old gunners go, always been a great resort for ducks, especially Greater Scaups and Redheads. These two, in this order, are the commonest ducks, and to-day at the height of the season in November there are six to eight thousand bedded in the centre of the pond. And although the old gunners say there were many more in years past, I am rather inclined to doubt their statements, for the beds of ducks to-day far surpass those of any other place in this State, if not in New England. Therefore it does not seem reasonable to suppose that even when there was less shooting than there is at present the ducks were any more numerous.

With this big increase in the flight of Canvas-backs during the fall migration it will be interesting to look for the cause, for there must be some fundamental reason. Undoubtedly the best place to begin investigations is on their breeding grounds, and from there follow them on their fall migration to their winter feeding grounds in order to see not only what are the general routes taken, but also how and why the North Atlantic coast is reached.

As we all know, they breed in the west central interior of Canada, principally in the region lying east of the Rocky Mountains, ranging as far as the 100th meridian. Of course their breeding grounds cover more territory than this, but the center of abundance seems to lie within this area. From here they start on their south, southeastern and eastern migrations in early fall, and in general two main routes seem to be taken; one, south, spreading out on crossing over into the United States and splitting into two routes — the first, due south across country to Texas and Mexico, the second, down the Missouri and Mississippi valleys to Louisiana and Texas. The second main course is easterly following the border between this country and Canada and across the Great Lakes. This is the only one that interests us, for it is by this route that it reaches the North Atlantic coast and Massachusetts.

Early in October the flocks begin crossing Lake Erie, and here the easterly course of this main body seems to terminate, for they now take a more southerly direction, by which they reach the region about Chesapeake Bay and the sounds further south on the coast of North Carolina. However, some birds seem to continue this easterly course, coming directly across the northern part of Massachusetts. Because most of the birds are killed south of Boston it may be that the flight, after all, strikes the coast at this point. Still, I think not, for recent records north of Boston show there has been a flight there as well. On reaching the coast at this point they then turn south, stopping off at suitable feeding grounds, and because they are better and larger in the ponds of Martha's Vineyard the majority settle there, attracted further by the large beds of Scaups and Redheads. A less probable theory would be, that, crossing New York State (which they do, for some are taken and seen regularly in the larger lakes such as Cayuga) they strike Long Island Sound and reach Massachusetts from

that direction. One man informed me that while shooting on Martha's Vineyard he had seen several flocks come from the westward in the direction of Long Island Sound. However, it is impossible to tell whether these were migrating ducks or whether they were merely returning to the pond which they had left at sunset the previous evening,— the usual habit of most of the ducks there. Furthermore, this theory seems improbable for Dr. W. C. Braislin¹ in 1904 considered them "sufficiently rare on Long Island as to be worthy of record." Whether they have increased since then or not I do not know.

Now that the possible routes have been taken up the last consideration is the cause for any change in the course of migration. One reason may be that, because the Redheads and Canvas-backs breed in more or less the same territory and that the former have been very common on Martha's Vineyard for a good many years, some may follow the route taken by the Redheads to the Massachusetts coast. Also, as the Mississippi Valley becomes more and more settled, fewer may take that course, and as the sloughs near their breeding grounds on the prairies are drained to make way for the wheat fields, they may be forced further and further north each year to breed and so take a more easterly direction. Lastly, it may be due to the fact that they have been so persecuted by sportsmen and market hunters on the Chesapeake Bay and North Carolina sounds in years past. This may be a partial explanation for their striking the Atlantic coast so far north.

However, the fact remains that their numbers are increasing rapidly in Massachusetts. Five years ago they were considered on Martha's Vineyard, as elsewhere, as very rare. That year I killed a pair, and it was of sufficient interest to be commented on in the local paper. Now very little thought is given to these ducks being shot. In talking with the gunners on the island the opinion as to its increasing numbers is general, and they are as unanimous in maintaining that it is getting to be quite common now as they are of the fact of its rarity five or six years ago. Certainly, with this abundance of recent records, I hardly think the Canvas-back can be looked upon any longer as a 'rare species'

¹ Auk, Vol. XXI, p. 288.

in this State. It at least deserves to be called 'locally common,' or else considered as 'increasing in abundance.' The developments as regards this situation for the next few years will undoubtedly be of great interest.¹

NOTES ON THE BIRDS OF THE SUNKEN LANDS OF SOUTHEASTERN MISSOURI.

BY ARTHUR H. HOWELL.

THE field work of the Biological Survey for the season of 1909 included a collecting trip in the 'Sunken Lands' and swampy river bottoms of southeastern Missouri — a region famous for the vast numbers of waterfowl which stop there on their migratory flights, and interesting also as the summer home of several rare birds, notably Bachman's and Swainson's Warblers.

The characteristics of this region have been described in several articles by Mr. O. Widmann.² It is perhaps sufficient to note here that the lakes and swampy areas, which cover a large part of seven counties in Missouri and portions of Tennessee, Kentucky, and Arkansas, were formed by a subsidence of the land following a series of earthquakes in 1811-1812. Evidences of this subsidence are still seen in the presence in some of the lakes of dead stubs of old cypresses standing in deep water far from the present shore line. This swampy region forms a northward extension of the Lower Austral Zone, and for that reason a study of its

¹ Not only are Canvas-backs becoming more numerous, but Greater Scaups and Redheads have also noticeably increased lately. They are now seen and shot in some ponds on Cape Cod and in Plymouth County, which they never frequented before; and in some localities, where they formerly were met with only occasionally, they are now becoming quite common, so that their arrival during the fall migrations can be depended upon with a reasonable degree of certainty. This flight, or rather change in the migratory route, seems to include these three varieties of ducks. The question is whether this condition is only temporary or whether it is to be permanent.

² Auk, XII, 1895, pp. 350-355; XIV, 1897, pp. 305-309; 'Birds of Missouri.' Trans. Acad. Sci. of St. Louis, XVII, No. 1, 1907, pp. 14-16.