

[Both Mr. Saunders and Mr. Moore seem agreed that some sort of 'graphic' representation of bird song is preferable to the syllabic method. Choice between their methods is largely a matter of personal opinion and both having been exploited at considerable length it seems hardly desirable to continue the discussion further in these columns. A note by Mr. Summers in General Notes, p. 78, *antea*, as well as Mr. Oldys' paper, p. 17, deal further with this subject. Ed.]

On the Position of the *Aramidae* in the System.

EDITOR OF 'THE AUK.'

Dear Sir:—

Your very interesting notice of my two recent osteological papers, which appeared in 'The Auk' for October, 1915 (pp. 517, 518), seems, in one instance at least, to demand a few words from me by way of defence.

Dr. Mitchell's conclusions are only known to me through my having seen the notice of his paper in the 'Abstract of the P. Z. S.' of May 25, 1915, p. 34. There I read that he read, as Secretary of the Society, "a communication on the Anatomy of the Gruiform birds, *Aramus giganteus* Bonap., and *Rhinocetus kagu*, in which he showed that *A. giganteus* resembled *A. scolopaceus* very closely in the details of its muscular and bony anatomy, and that the genus *Aramus*, in these respects, was very close to the true Cranes."

That the two species of *Aramus* are very much alike in their morphology will, of course, not be questioned; but that these birds are "very close to the true Cranes" structurally, is a statement which I contend cannot be sustained, nor does the anatomy of the several forms demonstrate it. In a paper I published as long ago as 1894 (Jour. Anat. and Phys. London, Oct., Vol. 29, n. s., Vol. 9, pt. I, art. 5, pp. 21-34, text figures), I carefully contrasted, in three parallel columns, the essential osteological characters of *Rallus longirostris*, *Aramus vociferus*, and *Grus americanus*; and this comparison demonstrated the fact that *Aramus* had more rail characters in its skeleton than gruine ones. My subsequent publications on the subject practically sustained this opinion. Finally, the paper of mine, which you kindly noticed in 'The Auk,' is entitled "On the Comparative Osteology of the Limpkin (*Aramus vociferus*) and its Place in the System," a contribution to the subject which recently appeared in 'The Anatomical Record' (Vol. 9, No. 8, Aug. 20, 1915, pp. 591-606, figs. 1-14). In this paper I thought I showed very clearly that, osteologically, the *Aramidae* were nearer the *Rallidae* than they were to the *Gruidae*. Other anatomists have arrived at the same conclusion. But to discuss all of these opinions would occupy far more space than necessary in the present connection; so I shall confine myself to what one of the most painstaking and able avian anatomists had to say on the subject. I refer to the splendid work of William Macgillivray, who prepared all the bird dissections of American birds for Audubon's great work on "Birds of America." Macgillivray

paid unusual attention to the anatomy of the Limpkin (*Aramus*), which Audubon called the "*Scolopaceous Courlan*," and his studies of it appear in Volume V (pp. 184-187). There is one full-page illustration devoted to the digestive tract and the trachea or windpipe. Audubon evidently believed the bird to be a big Rail; and in so far as its habits and nesting were concerned, "very nearly allied to *Rallus elegans*." After rendering his account of it, Macgillivray's follows immediately, and among other things he points out that "this remarkable bird has exercised the ingenuity of the systematizing ornithologists, some of whom have considered it as a Heron, others a Crane, while many have made it a Rail, and many more a genus apart, but allied to the Rails, or to the Herons, or to both. It seems in truth to be a large Rail, with the wings and feet approaching in form to those of the Herons; but while frivolous disputes might be carried on *ad libitum* as to its location in the system of nature, were we merely to consider its exterior, it is fortunate that we possess a means of determining its character with certainty;—if we examine its digestive organs, we shall at once see if it be a Rail, or a Heron, or anything else. If a Heron, it will have a very wide œsophagus, a roundish, thin-walled stomach, very slender intestines, and a single short obtuse cœcum; if a Rail or Gallinule, or bird of that tribe, it will have a narrow mouth, a narrow œsophagus, a very muscular stomach, intestines of moderate width, and two moderately long, rather wide cœca."

Following this, Macgillivray states that he has before him two specimens of the Limpkin, which were shot in Florida and preserved in spirits, and he sets forth in the ensuing three paragraphs his account of their anatomy. "Now, in all this," he adds, "there is nothing indicative of any affinity to the Herons; the structure of the intestinal canal being essentially like that of the Coots, Gallinules, and Rails. Even the external parts sufficiently indicate its station, the bill, the plumage and the coloring being more like those of the *Rallinæ* than of any other family.

"The Prince of Musignano, who first described this bird as a Rail, *Rallus giganteus*, afterwards adopted for it Vieillot's genus *Aramus*, and considered it as belonging to the *Ardeidæ*, forming a connecting link with them and the *Rallidæ*, and 'aberrating somewhat towards the *Scolopacidæ*, as well as tending a little towards the *Psophidæ*, sub-family *Gruinæ*,' and claiming 'again a well-founded resemblance to the most typical form of the genus *Rallus*.' Finally, he reverts to his original idea, and places it at the head of the *Rallidæ*. Mr. Swainson refers it to the *Tantalidæ*, associating it with *Anastomus*, *Tantalus*, and *Ibis*, to which it certainly has very little affinity in any point of view."

Under date of September 14, 1915, I have an interesting letter from my esteemed correspondent, Herr. Prof. Dr. H. von Ihering, Director of the Museu Paulista, São Paulo, Brazil, in which he says: "Your letter of the 6th of August has given me the satisfaction to see that you are in accordance with me in separating the *Aramidæ* from the famous 'family' of *Gruidæ*. . . . It was a very useful and necessary work of you to study the anatomy of *Aramidæ* and its allies."

After the above had been written my attention was invited to a peculiar conformation of the trachea in *Aramus vociferus* by Dr. Edgar A. Mearns at the U. S. National Museum. He tells me that several years ago he collected a *male* specimen in Florida, and that he observed in it that the lower part of the trachea, above the bronchial bifurcation, formed a loop or convolution, which extended posteriorly to rest on the outer surfaces of the pectoralis major muscles, much as we find it in *Ortalis*. Dr. Mearns prepared this specimen and presented it to the United States National Museum, and a few days ago I made an effort to locate it through the kind assistance of Dr. C. W. Richmond. We were unsuccessful in our search, and so the matter stands at present.

I mention above a dissection of Macgillivray of *Aramus*. He had both a male and a female bird at hand when he wrote out his anatomical notes on this species for Audubon; but he evidently did not observe this peculiarity of the windpipe in the male bird. He figured the trachea of the *female*, in which sex the aforesaid convolution does not take place, and he doubtless used the male specimen for other purposes.

Dr. Mearns also collected a female Limpkin, and the skeleton is in the National Museum collections. I have examined it there, and I find that no such looping of the windpipe is present in it. Possibly this structure may have been described somewhere or other and I have never run across it; in the event it has not been described, however, Dr. Mearns is fully entitled to the credit of having first discovered it.

If this letter chances to be read by any one interested in the anatomy of birds in Florida, I would be very glad to communicate with him and arrange to have a male specimen of an adult Limpkin sent me, in that I may figure and fully describe this condition.

In closing I would invite attention to the excellent paper by Dr. F. E. Beddard on the osteology of *Aramus scolopacus* (*Ibis*, (8) II., 1902, pp. 33-54, numerous figures), which is a valuable contribution to this subject.

As this communication goes to you, another article of mine appears in 'The Anatomical Record,' entitled the "Comparative Osteology of Certain Rails and Cranes, and the Systematic Positions of the Supersuborders Gruiformes and Ralliformes." (Vol. 9, No. 10, Oct. 20, 1915, pp. 731-750, figs. 1-9). A very unusual and remarkable slip has taken place in this article; for, at the time I was engaged upon its preparation, and had completed it for the press, two manuscripts were before me, namely, the old one, published years ago when I considered that the *Aramidae* was a family belonging among the Cranes and their allies (*Gruiformes*), and the remodeled one, in which my present views were set forth. In assembling the pages, the *old* page, upon which the Classification and some of the remarks under "Conclusions" appeared, was accidentally substituted for the new one carrying the new classificatory scheme upon it. In this shape it was handed over to be typewritten. When galley proof came to hand, I was extremely busy with other work, and it was therefore turned over to an expert proofreader and most carefully corrected. This proofreader

knew nothing of the classification of birds, however, and so the galleys went forward with the result now to be found in "The Anatomical Record" (Vol. 9, No. 10, Oct. 20, 1915, pp. 749-750).

In so far as my present views are concerned with respect to the position of the *Aramidæ* in the system, they are correctly set forth in "The Anatomical Record" of August 20, 1915 (Vol. 9, No. 8, pp. 591-606).

Faithfully yours,

R. W. SHUFELDT.

NOTES AND NEWS.

SYSTEMATIC zoölogy occupies a peculiar position in the field of science, in that its publications are to a certain extent privileged — *i. e.* protected by laws which do not pertain to other scientific publications. The latter are judged on their merits and an author who is guilty of slipshod careless writing, or whose publications are ambiguous or insufficient, is ignored; the merits of his work discounted, and his conclusions questioned. In other words he loses caste in the scientific world. Not so the describer of new species. No matter how bad or inadequate his diagnosis or how unnecessary the naming of the species, a name once proposed has nomenclatural status, and is a part of systematic science — for this matter is governed by the rules of nomenclature.

These rules were formulated mainly for the purpose of dealing with the earlier literature of zoölogy where names were proposed by writers who did not realize their responsibilities and did not consider the importance of making their descriptions adequate for the future. Obviously if we are to have stability of nomenclature on a basis of priority all of these earlier names must be considered and hence the rules.

It probably never occurred to the framers of any of the Codes of Nomenclature that present day systematists would take advantage of these rules to save themselves trouble, and publish new names with just enough description to save their status under the rules; and yet this is precisely the situation that we face today in ornithology — and possibly in other branches of zoölogy and botany.

Hundreds of new birds have been named in recent years with diagnoses limited to one or two lines. These birds are not described, no one could identify them from the meagre diagnoses but in each case a type specimen and a type locality are cited and in that way the law is complied with and we are prevented from rejecting the name as unidentifiable! The author has another species to his credit, he or the institution he represents has another type specimen, but other ornithologists are put to the trouble