P. nivalis breeds, Messrs. Murdock and Smith, of Lieutenant Ray's party, having brought back with them from Point Barrow numerous specimens of the latter, together with the nests and eggs.

The fully adult male may be at once distinguished from that of *P. nivalis* by the total absence of black except on the terminal third (or less) of the primaries and near the ends of the middle rectrices. In *P. nivalis* the primaries are black nearly to the base, the alulæ, primary coverts, and tertials also black (though bordered with white), the dorsal region mainly black (wholly black in summer), and the six middle rectrices black to the base. The rusty wash is also much paler in the new form.

In its summer plumage, the entire plumage, except the black quill-tips, would evidently be snow-white, the bill black instead of yellow.

The females are distinguished from those of *P. nivalis* by their much paler coloration, with the dark markings far more restricted, and the rusty wash of the winter dress much less distinct. All of the four specimens of this sex have the back white, more or less tinged or stained with yellowish (more rusty on the scapulars), and narrowly streaked with black, although these streaks are nearly obsolete in one specimen.

The vernacular name of this new species is bestowed in memory of Mr. Charles L. McKay, who sacrificed his life in the prosecution of natural history investigations in Alaska, and in whose collections the new species was first noticed. The specific name *hyperboreus* needs no explanation.

ON THE USE OF TRINOMINALS IN AMERICAN ORNITHOLOGY.

By LEONHARD STEJNEGER.

Ornithological trinominals, although at present more *generally* employed in America than elsewhere, are neither an American invention nor were they first applied in America to the extent which they are now occupying in this country.

That trinominals for varieties occasionally are found in some early works, even in those of Linnæus, is of very little significance, although Pallas came pretty near being a trinominalist in the modern sense of the word. Nor do I intend in this connection to call attention to the numerous trinominals of C. L. Brehm, as he used them in a somewhat different sense from what we do.

The father of modern trinominalism in ornithology was the famous Swedish ornithologist, Carl Sundevall, who in 1840 commenced to treat systematically the ill-defined species as geographical varieties, which he provided with a third name in addition to the specific appellation. Of groups treated by him in that manner may be quoted the genera *Acanthis*, *Budytes*, *Lagopus*, *Dendroeca* and the family *Picidæ*. He himself styled these varieties "local forms" or "races," as an example of

which may be enumerated the varieties of *Dendroeca petechia*, recognized by him in 1869 (Öfv. Vet. Akad. Förhandl., 1869, pp. 607–609):

Dendroeca petechia:

a. bartholemica.
b. cruciana (=ruficapilla Baird).
c. barbadensis.
d. cubana (=gundlachi Baird).
e. jamaicensis (=petechia Baird).
f. gallapagensis (=aureola Gould).
g. peruviana?
h. aequatorialis?
i. panamensis? (=vieilloti Cass).

All of which he properly described.

He was closely followed by Herman Schlegel, who, in 1844, applied the system to all the European birds in his "Revue critique des oiseaux d'Europe." In this catalogue he enumerates 489 species, plus 27 subspecies or varieties, the latter designated by trinominals, *e.g.:*

Anthus pratensis rufigularis.
Motacilla alba lugubris.
Motacilla flava rayi.
Motacilla flava cinereocapilla.
Motacilla flava melanocephala.
Garrulus glandarius melanocephalus.
Sturnus vulgaris unicolor.
Passer domesticus cisalpinus.
Uria grylle mandtii.

From this enumeration it is perfectly clear how "modern" Schlegel was as early as 1844, not only in adding the subspecific name without any connecting word or letter, but also by acknowledging the law of priority in the use of the trinominals, which Sundevall failed to do. For every 18 binominals this first trinominalistic list of the birds of Europe contained 1 trinominal.

From that moment it is difficult to find ornithological writers of any prominence on the continent of Europe who have not, at least occasionally, used trinominals, while several authors applied three names to geographical races quite freely, for instance, Bonaparte, Middendorff, v. Schrenck, Malmgren, etc.

But the idea of Sundevall and Schlegel was further developed by faithful followers. In 1861 J. H. Blasius printed in the German language a list of the birds of Europe for his own private use. The following year (1862) this list of "one of the highest authorities in this branch of the science" was reprinted in England with the author's additions, and edited by Prof. Alfred Newton under the title "A List of the Birds of Europe." This list enumerates 523 species (420 breeding or regularly visiting + 103 accidental visitors), designated by binomi-

nals, besides 92 subspecies designated by trinominals and quadrinominals; in other words, for every $5\frac{2}{3}$ binominals we find 1 tri- or quadrinominal; quite a progress since Schlegel's list!

A few quotations from this "check-list" will convince us that the theory of the geographical races and the applications of the rules now *en rogue* here in America were thoroughly understood and employed.

"*Falco peregrinus* Brisson.—Eur.
  β. *anatum* Bp.—Am.
  γ. *melanogenys* Gld.—Oceanica.
  δ. *peregrinator* Sund.—Asia.
  ε. *minor* Schleg.—Afr.
Cinclus aquaticus, Briss.—Centr. South. Eur.
  β. *melanogaster* Brhm.— North. "
  γ. *leucogaster* Eversm.— " As.
  δ. *pallasii* Temm.—N. As.
Loxia curvirostra L.—Eur.
  β. *americana* Wils.—N. Am.
L. leucoptera Gm.—N. Am., Engl.
  β. *taenioptera* Glog.—N. Eur.
Charadrius pluvialis L.—N. Eur.
  β. *virginicus* Bk.—N. Am.
  γ. *longipes* T.—As."

Etc., etc.

As already mentioned, in some instances he applies quadrinominals, an example of which may be given here:

"*Budytes flavus* L.—Eur.
  a. melanocephalus Lcht.—S. Eur.
    β. *kaleniczenckii* Andr.—E. S. Eur.
  b. borealis Sund.—N. Eur.
    β. *cinereocapillus* Savi.—Centr. & S. Eur.
    γ. *flavus* L.—Eur.
  c. flaveolus Gld.—Centr. & W. Eur.
    β. *campestris* Pall.—E. Eur."

Blasius's List of the Birds of Europe was not the first in which trinominals were used, nor was it the last. It was followed by the "Conspectus Systematicus and Geographicus Avium Europæarum, Auctore Alph. Dubois," which was published in 1871, a year before Cones's Key. "Varietates climactericæ cum litteris italicis sunt impressæ et comitatæ litterâ græcâ." Five hundred and seventy-five species, designated by binominals, are enumerated plus 125 "climatic varieties," designated by trinominals, or 1 trinominal for every $4\frac{2}{3}$ binominals.

In the mean time the American ornithologists had not failed to appreciate the advantages, or rather the dire necessity, of trinominals for geographical races in many cases. John Cassin is probably the first American writer using trinominals, as he as early as 1854, distinguished

the races of *Bubo virginianus* as follows (Illustr. B. Calif., Tex., etc., p. 178): *Bubo virginianus*

Variety, *atlanticus*, [new name].

Variety, *pacificus*, [new name].

Variety, *arcticus*, [*B. Arcticus* Swains.].

Variety, *magellanicus*, [*S. magellanicus* Gmel.].

Although the trinominals are rather few in "The Birds of North America," (1858), still that work and that date are of great interest, because they show that Professor Baird, in using them and inventing new ones, favored the principle, which, afterwards, on his great authority, was so generally accepted by North American Ornithologists. In fact, the trinominals of present American ornithology can with great propriety be said to date from 1858, when that great work was published, which still exercises its influence through the "History of North American Birds," an influence strong enough to retain for the present epoch of American ornithology the name of "the Bairdian Period," and which has formed the "American school," if such a term is admissible.

Of trinominals dating from 1858 may be mentioned:*

Turdus pallasi var. *silens.*
Picus villosus var. *major.*
var. *medius.*
var. *minor.*
Bonasa umbellus var. *umbelloides.*

The principle thus accepted was not discarded in the same author's, unfortunately unfinished, "Review of American Birds" (1864-1866), from which we select the following list:

Thryothorus bewickii, var. *bewickii.*
Thryothorus bewickii, var. *leucogaster.*
Thryothorus bewickii, var. *spilurus.*
Thryophilus rufalbus, var. *rufalbus.*
Thryophilus rufalbus var. *poliopleura.*
Troglodytes ædon, var. *azteeus.*
Troglodytes hyemalis, var. *pacificus.*
Cistothorus palustris, var. *paludicola.*
Atticora cyanoleuca, var. *montana.*

It was not long before the example thus set was followed. In January, 1865, Henry Bryant, in describing *Parus hudsonicus*, var. *littoralis*, expressed himself thus: "I am inclined myself to consider *P. atricapillus*, *septentrionalis*, *meridionalis*, and *occidentalis*, as varieties of one species" (Pr. Bost. Soc. Nat. Hist., 1865, p. 368), and in the beginning of the following year, he said, "The West India Islands possess peculiar forms generally recognized by ornithologists as species, but which it seems to me more rational, in many instances, to consider as local forms

*We should not forget that Prince Max von Wied also is found guilty of using trinominals in that very year, for instance, *Hirundo riparia americana*, (Journ. f. Orn., 1858, p. 101).

or varieties." (Pr. Bost. Soc. Nat. Hist., 1866, p. 248.) In the paper in which we find the above words he applied the following trinominals:
Certhiola flaveola Var. *portoricensis.*
Fringilla zena Linn. 1758 Var. *portoricensis.*
Icterus dominicensis Var. *portoricensis.*
Icterus dominicensis Var. *hypomelas* Dubus.
Saurothera vieilloti Var. *rufescens.*

In his additional "List of Birds seen at the Bahamas" (Pr. Bost. Soc. Nat. Hist., xi, pp. 63 seqv.) he uses:
Psittacus collarius var. *bahamensis.*
Tyrannula stolida var. *lucaysiensis.*
Mimus polyglottus var. *bahamensis.*

And in a paper on Birds of St. Domingo (l. c., pp. 89, seqv.), the following trinominals:
Tyrannula stolida var. *dominicensis.*
Tyrannula carribæa var. *hispaniolensis.*
Turdus ardosiaceus var. *portoricensis.*
Fringilla zena var. *marchii.*
Hirundo euchrysea var. *dominicensis.*

So great was the power of the example, that even at that early date few of the ornithologists could resist using—although more or less sporadically—trinominals, an effort especially visible in the younger generation, which may fitly be termed "Baird's school." It is unnecessary in the present paper to go into details, but a few instances may be mentioned.

In 1866 Dr. Coues, in a paper on "the Ornithology of Arizona Territory" (Pr. Phil. Acad., 1866), instituted several trinominals:

Chrysomitris (*Pseudomitris*) *mexicanus.* A. var. *mexicanus.* B. var. *columbianus.* C. var. *arizona.*

Mr. Ridgway (Pr. Phil. Acad., 1870), enumerates the following American forms of
Tinnunculus sparverius
var. *sparverius.*
var. *australis.*
var. *isabellinus.*
var. *dominicensis.*
var.? *cinnamominus.*

In fact, trinominals were in the air infecting all, so that we find them where least expected. They make their way into Mr. Lawrence's papers on birds from South and Central America, Mexico, and the islands of Tres Marias and Socorro (1871), partly as manuscript names of Professor Baird, partly without his name appended, for instance:
Conurus holochlorus var. *brevipes* Baird, M. S.
Buteo borealis var. *montana* Nutt.
Falco peregrinus var. *nigriceps* Cass.
Hadrostomus aglaiæ var. *affinis* (Elliot).
Haliplana fuliginosa var. *crissalis* Baird, M. S.

The trinominals in Dall and Bannister's paper on the Birds of Alaska (Tr. Chicg. Acad. I, 1869,) rest also evidently mainly on Professor Baird's authority.

Buteo swainsoni var. *insignatus.*
Pyrrhula coccinea var. *cassini* Baird.
Pelidna alpina var. *americana* Cass.
Bernicla canadensis var. *occidentalis* Baird.

But while thus most of the American ornithologists of that date had their attention drawn to the establishment of varieties or local races, one of them, Prof. J. A. Allen, looked at the other side, pointed out the value of the species, and determined the difference between the species and the subspecies. Although no trinominals are found in his great work "On the Mammals and Winter Birds of East Florida" (Bull. Mus. Comp. Zool. II, No. 3, 1871, pp. 161–450), still that article promoted trinominalism in America more than any before by treating the subspecies as synonyms under the species, applying to the latter "the test of intergradation." It is his great merit to have formulated this principle, without which Sundevall's and Schlegel's idea would not have gained so easy a victory in America. Subspecies are distinguishable forms which intergrade, while species do not intergrade: Here was the clue found, here the guidance to a methodical and consistent trinominalism. Others have tried to define similar principles, involving them in obscure theoretical and philosophical phrases, while he, a true and sound "American," fixed the only practical rule in a few and simple words.

The effect of his work in promoting trinominalism is very patent in the review of it written by Dr. Elliott Coues (American Naturalist, June, 1871, pp. 364–373), as shown by the following quotation (p. 371): "But we insist upon the advisability, *in the present stage of our science*, of recognizing geographical and *some other differentiations* by name," and in the appended foot-note he remarks: "Not necessarily a 'specific' name, but some one additional word, with or without the sign 'var.,' that shall stamp the form we wish to signalize. *Perhaps* this would be a judicious middle course, most applicable to the present state of the science."

We have now in our sketch reached about the year 1871. This year and the next following ones were marked by an unusual activity on the side of our ornithologists; new countries were disclosed, and new material was coming in rapidly, and the large series now accumulating in the museums proved intergradation between many forms which had been regarded as valid species.

At this same time two great works on North American ornithology were in preparation, Baird, Brewer, and Ridgway's "History of North American Birds," and Dr. Elliott Coues's "Key."

It is almost a matter of course that from what is said above trinominals should become a prominent feature of both these works. The systematic application of trinominals to the whole North American ornis

had simply become a necessity. Coues's "Key," as the less voluminous work, was published (1872) before the "History," thus becoming the first list of North American birds in which trinominals are generally and systematically applied. In the "Key" we meet 1 trinominal for every 4.9 binominals.

The history of trinominalism in North American ornithology after that date is familiar to every one. We all know how it, like many novelties in the beginning, was carried too far, good species being reduced to varieties on insufficient evidence, or on no evidence whatever, the mere supposition of intergradation, in many cases, being enough to bring the change about, while a more recent time has witnessed a sound reaction and a more rigorous application of Allen's golden rule, "the test of intergradation" being now thus interpreted, that no reduction of a species shall take place unless the intergradation is clearly established. In that, as in so many other respects,* R. Ridgway's Nomenclator of 1881 was a great progress. The proportion in the latter between trinominals and binominals is as 1 to $4\frac{3}{4}$.

In order to show how close the American trinominalists come to their European predecessors, the proportional numbers are put together in the following table:

Schlegel (List of European Birds, 1844) ..	1	trinominal	to	18	binominals.
Blasius (List of European Birds, 1862) ..	1	"	"	5.6	"
Dubois (List of European Birds, 1871) ...	1	"	"	4.6	"
Coues (Key, 1872)	1	"	"	4.9	"
Ridgway (Nomenclator, 1881)	1	"	"	4.7	"

It is plain from the above that the ornithological trinominalism cannot be spoken of as "*the* American idea."

But also in other directions Sundevall has exercised a great influence on the so-called "American school." He was the vigorous and persistent advocate of Linnæus's tenth edition (1758) as the starting point of zoological nomenclature, a view now accepted by almost all American ornithologists, and it is his system—amended and somewhat changed by his countryman, Prof. W. Lilljeborg—which is the arrangement adopted by the Smithsonian Institution, and still met with, with some alterations in the details, in the publications of Coues and of Ridgway, and consequently of most other American writers. I do not see how the name "the American school" can be maintained in view of these facts.

Nevertheless there is a feature in which the American writers after 1858 differ from their European brethren, both English and Continental, and it is this peculiarity which led me on a previous page to adopt the name "the Bairdian school," as Professor Baird most certainly was the originator of this particular feature. I shall try to express what I mean by giving an example. When treating of two forms and their

* As for instance, in doing away with the cumbersome "var." between the specific and subspecific name.

intergradation, a European ornithologist will usually express himself thus: "I have before me a specimen which in every respect is intermediate between the two alleged species, thus proving them to be only different stages [or varieties] of the same specific type." The American, on the other hand, will say: "I have before me a specimen, No. — of the ——— collection, an adult male, shot on the —— of ———, and collected by Mr. ——— at ———, which, by presenting such and such characters, is intermediate," etc. In the first case you have to take the man's word that there is such an intermediate link; in the second you can trace the statement back to its source, you can control and criticise, or, in other words, in the European school you have to deal with the person, in the "Bairdian" with the fact, the specimen; the difference between the two and the scientific soundness of the latter process is too plain to require further comment.

It has been said by one of the prominent promotors of trinominalism in this country that the great danger of the system is the opportunity for immature specialists to name as subspecies forms too slightly differentiated to require any such formal recognition, and that consequently our lists of synonyms would be overburdened.

To me it seems as if this prediction is not warranted by past experience. In Europe the system has existed, although not on a very extensive scale, for forty years or more; still, if we examine the synonymies of European birds, we will see that with the exception of the trinominals of C. L. Brehm, who was not an immature specialist, and whose trinominals do not belong here—very few trinominals mix with the formidable lists of synonymous binominals. The American synonymical lists show the same thing, because the rather numerous trinominal synonyms are mostly put down to show the different "combinations" of the three names. We will have the same result if we go over the number of subspecies described in America during the ten years between 1871 and 1881. Consulting Ridgway's "List of untenable species and races of North American birds described since 1858," in his "Nomenclator," p. 80, we find that 11 trinominals are untenable, while of species described during the same period 9 binominals do not hold good. It is safe to say, however, that if trinominals had not come into use several of the forms described as trinominals would have entered our lists of synonyms as pure binominals. It is further plain that the percentage of the untenable trinominals is vastly smaller than that of the binominals, as during those ten years an overwhelming majority of the new forms described consisted of trinominals. The untenable trinominals (according to the list quoted) rest on the following authorities: Baird; Baird, Brewer, and Ridgway; Cooper; Coues; Ridgway; of these Cooper is guilty of only one.

The danger, it will be seen, is not very formidable. Nor do I think that a swelling of the synonymies is of any real harm to science; it causes some inconvenience to those who have to compile or copy those

lists, but the harm done to science itself can be but slight. It is a peculiarity of the construction of an ornithologist's heart that it takes a great pleasure in "sitting down" upon the new forms described by any fellow-ornithologists. In fact there are writers who think it more interesting to reduce names than to establish new ones. Under such circumstances the untenable forms will soon be disposed of and be given their proper place in the synonymies.

The trinominal system involves another danger, however, which may be injurious to the true interest of science. I mean the untimely reduction of good and distinct species to mere races or varieties. Not only does it cause great instability and uncertainty in our nomenclature, but it tends to prejudice the forms if once reduced, by an authority, on insufficient evidence. We still see almost every day undoubted species, the distinctness of which has long ago been proved over and over again, designated by the cumbersome and misleading trinominals. Here is real danger, real harm! Fortunately, however, the reaction has commenced in this country, but in Europe the latest and most eloquent advocate of trinominals tries to continue the work of Blasius.

The necessity or desirability of trinominals has of late been questioned by nonprofessionalists. The replies in "The Auk" have been so thorough on that side of the question which they have treated that little needs to be said by me. But I have an impression that the inquirers have not got *all* their questions answered nor *all* their doubts solved.

The above question is in reality a threefold one. (1.) Is it necessary to recognize those slight differences which are seen in the so-called local races? (2.) Is it necessary to have them designated by a separate name? (3.) Why is the trinominal designation to be preferred?

(1.) To the first question I would say that it is of vital importance to ornithology as a science that these minor differences be recognized. It may be well enough for those whose chief object is to label specimens in collections and museums to ignore these difficult cases in which the identification has to be done by a trained eye and a trained mind, but it must be observed that such persons have no idea of what the science requires, nor are their services to science of particular value. It is confessedly, in many cases, very difficult to distinguish between two closely-allied forms, but it is as important in ornithology that the differences be not overlooked as it is in any branch of the invertebrates, although nobody thinks of giving up specific distinctions among the small animals, because an amateur or a dilettante is unable to tell animalcules of one order from those of another. I am indebted to my friend R. Ridgway for being permitted to quote the following abstract of a manuscript of his, which seems to me to illustrate more fully what I have hinted at above:

"The most important advantage of trinominals is that they serve as convenient 'handles for facts,' in providing for the naming of forms which are known not to possess the requirements of true species, but

which it is equally evident demand, in the interests of science, proper recognition. Without trinominals it would be necessary to either name such forms as species, and thus convey an idea of their rank which the person bestowing the name knows to be false, or else ignore them altogether, which would be plainly a dereliction of duty and a positive impediment to the progress of the science. Every local or geographical variation of size, form, or color, no matter how slight, if reasonably constant, is just so much evidence affecting the question of the derivation of species, and no excuse for the exclusion of such evidence can be allowed. The inability of a person who has not access to specimens for comparison to discriminate between slightly differentiated forms—or the professed inability of the professional, whose ideas are "inspired," and who therefore finds it unnecessary to descend to the drudgery of handling specimens—is not a matter to be considered. As well might one become a physician, and be able to diagnose correctly any disease, by simply having a taste for the medical profession and no opportunity to devote his time and thought to the subject—or, on the other hand, having the opportunity and means, yet discarding all the essential aids to his knowledge."

The importance of distinguishing between even slightly differentiated local forms may be illustrated by an example.

Suppose we knew a species the breeding range of which included the Eastern and Middle States of North America and the West India Islands. Suppose, also, that we knew that it occurs during the winter in the West Indian Islands (the species consequently being resident there), in Eastern Mexico, and Central America. Considering the migration of such a species, we would face several important questions: Do the birds living in the Eastern States during the summer pass the winter on the West India Islands, and on which? Or do they travel round the Gulf, uniting with those from the Mississippi Valley in going down to Mexico and Central America? It will be seen that the solution of the questions is rather difficult. How are we going to tell the birds coming down in winter from the States from those remaining the whole year in the Antilles? We might establish observers all along the coast to be on the lookout where the migrants were wending their way, but I am afraid the evidence would be hard to obtain, as even the whole A. O. U. "committee on migration," with all its observers, might look in vain for the passing birds. Or we might catch lots of the latter, and have them marked by differently colored ribbons, or the like. True, if we could possibly do it, the question might be solved in that way. I think, however, we will agree that the project is not practicable. But if nature herself had marked the birds, then we could tell just as well! If we could possibly distinguish those living the whole year in the Antillean Islands from those breeding in the East, and the latter again from the inhabitant of the Mississippi Valley, no matter how slight the distinction, no matter how expert the identifyer needs be, only let it be possi-

ble to distinguish them, then we would have the material for the solution of a very important question in ornithology. There needs be no one on the spot to be able to distinguish them, but there should be collectors willing to furnish the expert with the material. We will, in order to show what we mean, furthermore suppose that collections of large series made during the winter were turned in to the National Museum from several of the Antilles, from the eastern coast of Mexico, and from Yucatan. Suppose the Antillean specimen belong to the form residing there during summer, and to that only, except the collection made during the migrating season at the western point of Cuba, which, like winter birds from Yucatan, belonged to the form of the Eastern States, and finally that the winter birds from Eastern Mexico were identical with those from the Mississippi Valley.

Anybody can now draw the conclusions, can now understand how extremely important the distinguishing of nearly allied races really is. It has been said that these are "small things," but it must not be forgotten *that in science nothing is small which leads to finding the truth*, and that the great things are only the accumulation and the products of the small ones. *To neglect "small things" is to neglect science itself!*

The time when our museums were content with having a few specimens of each species is a past one, and at the present date they require large series. It will therefore be seen that it matters very little if in a certain local form the number of "pure-bred" or "typical" specimens should only amount to, say, 75 per cent., as these will be fully sufficient to recognize the form with certainty.

So important is the minute distinction of local forms, that the solution of the whole question of bird migration depends upon it. Prof. Johan Axel Palmén, the prominent tracer of the traveling routes of the birds and the great authority on all questions relating to their migration, the author of "Die Zugstrassen der Vögel," does not call these races geographical or local forms, but "the migrating route forms."

(2.) The second question was whether it is necessary to have these slightly differentiated forms designated by a separate name, admitting, as we now do, the necessity of recognizing them.

Before giving a direct answer I will make a counterquestion. Nobody thinks for a moment of discarding the separate names of undenied species, the characters of which are just as minute as those of a subspecies, provided only they are absolutely constant. What is now the object of naming these by a separate appellation, forms which perhaps are of less interest than a great many of the so-called subspecies?

The whole thing amounts to this, that if we do not give these forms a separate name, then we will have to use a long phrase to express which form we mean. The discarding of separating subspecies by separate names would bring them and their nomenclature just in the same condition as were the specific names before Linnæus. We designate the subspecies and species by a separate name for the same reason.

Vol. VII, No. 6. Washington, D. C. July 1, 1884.

(3.) Finally we will have to consider the question why the trinominal designation is to be preferred.

I need not repeat the many good reasons admirably set forth by Prof. J. A. Allen in the first number of "The Auk," but I will simply state why I have been of late converted to trinominalism. The question with me hinged on the consideration that in all probability we would have to give up the hope of seeing these forms recognized at all if we would not consent to having them designated differently from the species. There are still many ornithologists who would rather suffer the local races to be extinguished from our books than they would allow them to carry the "sacred" binominals. To them the subspecies are pariahs, which must not be admitted to the "rank" of the aristocratic species. I, myself, think better of the poor subspecies, believing that science in time, when they are fully understood, will derive great benefit from their recognition, and consequently I accept the cumbersome trinominals rather than to see them go around without any name at all.

I regard the trinominals as a nuisance, but as a *very necessary* nuisance, unfortunately. However, I find I can get along with them very well.

Before dismissing the subject I should like to call the attention of American ornithologists to the fact that there are other conditions which may affect the differentiation of subspecific (first, and afterwards specific) forms than the geographical distribution *of the present day.* And in order to learn just what these conditions are it is very important to have the subspecies distinguished. The geographical range of a bird is by no means a very stable thing, and may change comparatively rapidly, for many reasons. It may therefore be that some of the variations date back to a—perhaps not so very—distant time when the range of the form was one quite different from the present one. The fact that the differentiation in a certain form does not agree with what we conclude it ought to do compared with other forms of similar geographical distribution must not lead us to disregard their differences.

SMITHSONIAN INSTITUTION,
Washington, D. C., May 12, 1884.

DESCRIPTIONS OF SCAROID FISHES FROM HAVANA AND KEY WEST, INCLUDING FIVE NEW SPECIES.

By DAVID S. JORDAN and JOSEPH SWAIN.

In a recent collecting tour to Havana, Cuba, and Key West, Florida, Professor Jordan obtained a considerable number of Scaroid fishes, representing fourteen species. Seven of these were secured at Key West