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## CORRESPONDENCE.

### The Proper Function of 'Binomials' and 'Trinomials.'

EDITORS OF 'THE AUK':—

*Dear Sirs:*—Without wishing to throw discredit upon the much abused second edition of the A. O. U. Check-List of North American Birds, I nevertheless feel called upon to draw attention to some inconsistencies contained therein, which indicate the present tendency to depart from some of the Canons of Nomenclature originally adopted by the Union.

I refer to the nomenclature of island forms. The A. O. U. Code distinctly makes "*intergradation* the touchstone of trinomialism," and

insular birds being obviously prevented from intergrading with mainland forms, ought to be uniformly provided with *binomial* names. Anyone who takes the trouble to examine the Check-List and the recent Supplements thereto will find that this custom is by no means followed out, as very many of the recently described insular forms from the California islands, which differ but slightly from allied mainland birds, appear as *trinomials*. In other words 'intergradation' has been disregarded and 'degree of difference' recognized as the criterion for deciding the specific or subspecific claims of a given form.

We have, for instance, *Carpodacus mcgregori* from San Benito and *Carpodacus mexicanus clementis* from Santa Barbara; *Aphelocoma insularis* from Santa Cruz, while the *Helminthophila* from the same island is *H. celata sordida*. The Guadalupe Island birds are, I believe, without exception, written as binomials, but the vast majority of the other insular birds which have been described recently are listed as trinomials.

In recent American mammalogy the tendency is in the other direction, and not only are all island forms, no matter how slightly differentiated, regarded as 'species' (*i. e.*, binomials), but many peninsular and other continental forms which may readily be expected to intergrade are treated in the same way. In fact, the tendency among our mammalogists seems to be to depart from trinomialism altogether.

This to my mind is much to be regretted, and will work irreparable damage to nomenclature. A trinomial name carries to the average student just twice the information that a binomial would under these circumstances. For instance, to one who is not conversant with every paper relating to modern mammalogy, how much more knowledge the name *Lynx canadensis subsolanus* conveys than *Lynx subsolanus*. The former indicates at once a race of the Canada Lynx, the latter leaves him in doubt whether the animal is related to the Canada Lynx or the Wild Cat (*L. ruffus*). It seems that some modification of the A. O. U. Canon relating to trinomials is desirable, especially as we seem to be deliberately violating it, but this can surely be effected without abolishing this extremely useful system.

Animal forms (using this term for any recognizable species or subspecies) are of four kinds:—(1). Those which exist side by side in the same area without intergradation as the Hermit and Olive-backed Thrushes. (2). Those which inhabit different areas and intergrade where the areas join. These are obviously modified from one far ranging form which is being broken up by different geographic environments. (3). Those which inhabit different areas, but which do not intergrade and are often separated by wide gaps. (4). Island forms which are often closely related to nearby continental forms, but are of course completely isolated.

By the A. O. U. Code trinomials can only be applied to forms coming under category (2), and all others are treated as binomials. By common usage in ornithology, however, we adopt trinomials for such forms under

(4) as show only a slight deviation from the allied continental type, and we also treat very many forms as trinomials which from lack of material we are undecided whether to place in (2) or (3).

Personal opinion *must necessarily* govern such cases, no matter what Code we set up, just as it must govern all cases where 'degree of difference' is adopted as our criterion. Considering the great diversity of custom at present, it seems to me time that we came to some definite agreement on the matter, and our practice shows that 'degree of difference' *must* influence us in certain cases.

To my mind (A), binomials should be applied to all forms which occur together without intergradation, no matter how slight the differences, and (B) trinomials, to geographic races which intergrade, or which differ so slightly that there is every probability of intergradation, and to slightly differentiated island forms. Only such geographic races should be considered as species (binomials) as are markedly different, and of the intergradation of which there is no probability. In other words, where intergradation is probable, give it the benefit of the doubt. This practice is nearly that followed by the A. O. U. Committee, but is at variance with that of many of our mammalogists, with whom the custom seems to be to call everything a species until intergradation is proven; which will speedily result in the adoption of a binomial name for every geographic variation—a most undesirable state of affairs and a distinct retrograde step in nomenclature.

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[Without at present attempting to discuss the question of the application of binomials and trinomials in its broader aspects, there is one fact in connection with the naming of insular forms which Mr. Stone and other writers<sup>1</sup> on this subject have apparently not considered. In challenging the propriety of giving a trinomial name to an insular form on the ground that the nature of its range renders geographical intergradation with its nearest ally impossible, they evidently have not given due allowance to the possibility of intergradation through individual variation.

Island forms, as all systematists know, because of their isolation are often separated on the basis of characters too slight to warrant similar action if they were inhabitants of the mainland. Hence it frequently happens that among a large series of a given form from a certain island there will be found a number of individuals indistinguishable from this form's representative on the mainland or on a neighboring island, and *vice versa*. Thus, for example, when we examine large series of *Pyrrhulagra noctis* or *Dendroica petechia* from the West Indies we find a complete intergradation of the extremes and, at the same time, average differences among the series from the different islands of sufficient importance to be recognized trinomially. — FRANK M. CHAPMAN.]

<sup>1</sup> Cf. William Palmer, *The Nidologist*, III, 1896, 91.