

Nomenclature and Semantics

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The publication of Mayr's recent book¹ has more sharply brought out the need for the universal recognition of the subspecies. Mayr has adequately defined the category and shown the need for codical regulation concerning it. Linsley's article in this journal² outlines what to my belief is a thoroughly desirable solution of the problem and further stresses the point that the subspecies, altogether similar to the species *nomenclatorially*, is the only infraspecific³ category that should receive names of codical status.

It is my intention here to point out the help that the relatively new science of semantics or semasiology, the study of the "meaning of words," can contribute to biological nomenclature. Much is said in nomenclatorial discussions about "concepts," but little about "referents." It is a clear understanding of the relationship of the concept to its referent (its basis in the external world) and its reference (name), which is of value both to the biologist and to the semasiologist, to the former in providing knowledge of the nature and "life-history" of concepts and the handles they bear called names and to the latter in providing source material for the study of the most orderly and deliberate method man has devised for making contact with the "outside world." A sound and at the same time interesting approach to semantics may be made with Chase,⁴ Ogden and Richards,⁵ and Hayakawa,⁶ at least one of which should be required reading for any biologist, whether or not he is interested in nomenclature.

¹ Mayr, E. 1942. Systematics and the origin of species. Columbia Univ. Press, N. Y.

² Vol. LV (no. 9) : 225-232, Nov., 1944.

³ The hyphen after *infra-* is unnecessary, *v.* dictionaries.

⁴ Chase, Stuart. 1938. The Tyranny of Words. Harcourt, Brace and Co., N. Y.

⁵ Ogden, C. K., and Richards, I. A. 1936, rev. ed. The Meaning of Meaning. Harcourt, Brace and Co., N. Y.

⁶ Hayakawa, S. I. 1939. Language in Action. Harcourt, Brace and Co., N. Y.

The frequent use of the term "changing concepts" in regard to organisms which are named suggests an erroneous conception of the relationship between concept and referent. The concept of a species (or subspecies or lower category) does not change from the time of its original description (possibly based on a referent consisting in a single poor specimen) but rather *grows* as more is learnt concerning it and other members of the group of individuals comprising the whole referent. The name (reference) remains fixed, the referent remains fixed except for evolutionary changes, but the concept grows as the combined human mind through investigation and publication acquires knowledge concerning the referent. It is inherent in the scientific method that reservations as to the completeness of new concepts are held, that the definiteness of the concepts is in direct proportion to the knowledge available concerning the referents. To cite a hypothetical example: *Alpha beta* Smith 1944, known from a single incomplete female, is the reference to a very vague concept, while *Alpha alpha* J. Doe 1864, known from thousands of specimens, considerable observation, some experimentation, and the subject of many pages of print, is immensely more definite and "grown-up" as a concept. The concept will continue to grow as long as mankind studies its referent, but the reference, its name, will remain identical once the prior one is established. The independence of phonetic and emotional considerations and the universality of biological names make them practically unique from a semantic point of view.

On the other hand, a concept can also die. *Alpha gamma*, described as a species, may later be proven to be no more than a phenotypical variation of *Alpha alpha*. The concept therefore is erroneous, has no referent, and dies. It becomes part of another concept, that of "phenotypical variation of *Alpha alpha*."

Names of organisms cannot express or even imply any other relations beyond that of the subspecies to the species and the species to the genus. There is nothing in the name of the genus (except the familiotype⁷) which has anything to do with the

⁷ There is a need for a term analogous to genotype (generitype) for the genus upon which a family name is based. I propose the term "familiotype" (from Latin *familia* + *typus*).

family or any other supergeneric category. There is an extremely large number of groupings, super- and infraspecific, and it should be obvious that inclusion of them into nomenclature is highly impractical. They are the subject of synopses, phyletic charts, tables, and more extended discussion. The fluidity of these group concepts, the difficulty or even impossibility of acquiring real knowledge concerning their referents (which include a time factor) precludes such simple reference to them as names.

Because a species may be named *Alpha gammoides* implies no more relationship to an organism or group named *gamma* than one named *Alpha mohawkana* would have to a Mohawk Indian. Probably the coined names, arbitrary combinations of letters, are best.

Notes on Some Hesperiidæ, with New Records for the United States (Lepidoptera, Rhopalocera)

By H. A. FREEMAN, Pharr, Texas

Aguna asander (Hew.)

While examining some specimens collected by Mrs. E. J. Kelso at Pharr, Texas, a fresh male *asander* (Hew.) was found. There was no date on this specimen and the only information imparted to the writer by the collector was that the specimen was collected in her yard at Pharr. This is the first record of this tropical American species having been collected in the United States. Previous records reveal this species to occur from Mexico to southern Brasil and at least in some of the West Indies.

Astraptus hopfferi (Ploetz)

There seems to be considerable uncertainty as to the exact relationship existing between *creteus* (Cramer) and *hopfferi* (Ploetz), as some students of the hesperioidea consider *hopfferi* to be a form of *creteus*. Mr. E. L. Bell believes that *hopfferi* is sufficiently distinct superficially to be kept apart for the present, at least.



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