

Mayr E. *Principles of systematic zoology*. New York: McGraw-Hill, 1969. 428 p.
[Museum of Comparative Zoology, Harvard University, Cambridge, MA]

This volume is the only comprehensive text on animal systematics. It covers both microtaxonomy (species level) and macrotaxonomy (higher categories), the procedures of taxonomy, and the theory and practice of nomenclature. It is a systematic treatment of all aspects of animal taxonomy, including a great deal of original analysis. [The *SCI*® and *SSCI*® indicate that this book has been cited in over 525 publications.]

All About Systematics

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Even though animal taxonomy was a flourishing field and had experienced in the 1930s a vigorous revival through the "new systematics,"¹ no comprehensive textbook was available prior to 1953. In 1951 E.G. Linsley and R.L. Usinger of the University of California (Berkeley) and I (then at the American Museum, New York) learned that, unknown to each other, both parties had nearly finished manuscripts of such a text. To avoid publishing competing texts, the East and West Coast authors decided to consolidate, by mail and telephone, their manuscripts into a single one (a somewhat traumatic endeavor). The final product appeared in 1953.²

As great a success as this authoritative text was, its existence eventually led to its own ob-

solescence, and after a dozen years a thoroughly revised version was needed. Since the two coauthors in California were too heavily committed elsewhere, the preparation of a replacement for the 1953 volume was assigned to me. To emphasize the magnitude of the revision, it was published in 1969 under a new title (*Principles of Systematic Zoology*).

The volume attempted to deal with all aspects of zoological classification. Special attention was paid to the definition of the species category, the delimitation of species, the treatment of polytypic species and their subdivisions (subspecies, etc.), the history of classifications from the ancients to Linnaeus, and the latest theoretical treatments (e.g., G.G. Simpson³).

Concepts and terms in taxonomy were critically discussed, adding to the usefulness of the volume even for the experienced taxonomist. Six chapters of detailed how-to advice were particularly helpful to the beginner, because there was nothing like it in the literature. This included advice on the care of collections, the process of identification, the use of taxonomic characters, and how to publish in taxonomy. A 47-page chapter dealt with the theory and practice of zoological nomenclature, a subject elsewhere almost totally neglected.

In the 20 years since 1969 there has been a veritable revolution in taxonomy, owing to the development of numerical taxonomy and the introduction of W. Hennig's phylogenetic systematics.⁴ Inevitably, the 1969 volume has become obsolete in many ways. A number of specialized volumes on numerical taxonomy⁵ and on cladistics⁶ have since been published, but, curiously, *Principles of Systematic Zoology* has remained the only comprehensive text in systematic zoology. A thorough revision is now in preparation.

1. Mayr E. *Systematics and the origin of species*. New York: Columbia University Press, 1942. 334 p. (Cited 655 times since 1945.)
2. Mayr E, Linsley E G & Usinger R L. *Methods and principles of systematic zoology*. New York: McGraw-Hill, 1953. 328 p. (Cited 255 times.)
3. Simpson G G. *Principles of animal taxonomy*. New York: Columbia University Press, 1961. 247 p. (Cited 435 times.)
4. Hennig W. *Phylogenetic systematics*. (Davis D D & Zangerl R, transl.) Urbana, IL: University of Illinois Press, 1966. 263 p. (Cited 865 times.)
5. Sneath P H A & Sokal R R. *Numerical taxonomy: the principles and practice of numerical classification*. San Francisco, CA: Freeman, 1973. 573 p. (Cited 2,270 times.) [See also: Sneath P H A. *Citation Classic. Current Contents/Agriculture, Biology & Environmental Sciences* 18(1):14, 5 January 1987 and *CC/Life Sciences* 30(1):15, 5 January 1987.]
6. Wiley E O. *Phylogenetics. The theory and practice of phylogenetic systematics*. New York: Wiley, 1981. 439 p. (Cited 375 times.)