and the persisting effort to urge certain changes of terminology upon an unwilling science. With respect to this last item, the reviewer hopes, however, that some day meteorology will no longer remain unwilling to adopt McAdie's "hyperbar" and "infrabar."

Let it be clearly said that the general reader will discover in this book much to interest and inform him, a very great deal that is most attractively written, occasionally a little masterpiece. He will, it must be pointed out, feel that the going is sometimes a little uneven, for there are bumps of technical matter by no means adequately smoothed out for the layman. Some of these are probably beyond legitimate smoothing for a book of this kind; they would better be omitted altogether. But the recommendation is emphatically to read "Man and Weather," nevertheless.

BURTON M. VARNEY

WASHINGTON, D. C.

Nomenclator animalium generum et subgenerum. Published by the Prussian Academy of Sciences, Berlin.

THE plan of this work traces back more than twenty years. Franz Eilhard Schulze, the editor of "Das Tierreich," also formed the original plan for this comprehensive index of the correct names of the genera and subgenera of the animal kingdom. After his death, W. Kükenthal became the editor and at the present time it is continued by K. Heider as editor and Th. Kuhlgatz as responsible manager. The work will not only enumerate all the names of the genera and subgenera including the paleontological names, but as far as possible will give for them the exact reference of their first employment. Since it was the original plan not to go beyond the literature of 1909, these detailed statements are given only for those names which came into use previous to this date. For all the names that originated from 1910 through 1922 the references of the *Zoological Record* will be given. Most of the subdivisions have been worked out by specialists, the bureau of the "Nomenclator Commission" of the Prussian Academy of Sciences directly taking care of the few remaining fields for which specialists could not be found.

Doubtless this work, of which four issues have left the press, will prove to be of greatest usefulness to workers in all fields of zoology, and one can but admire the great amount of prosaic work necessary to accomplish it. The entire work will comprise five volumes, each of which will be published in five issues. Subscriptions are to be sent to the Preussische Akademie der Wissenschaften, Unter den Linden 38, Berlin NW 7. The subscription price is 15 marks for every issue (160 pages, approximately) and will change to 20 marks after March 31 of this year.

WALTER LANDAUER

SPECIAL ARTICLES

THE INFLUENCE OF SELECTIVE AND GENERAL IRRADIATION BY A QUARTZ MERCURY ARC LAMP UPON THE GERMINATION AND GROWTH OF SEEDS

DURING the last few months we have been conducting experiments (1) to determine the effects produced upon the germination and growth of seeds by selective irradiation as obtained by the use of filters which screened out, by progressive steps, the various portions of the ultraviolet radiation from a quartz mercury-arc lamp and (2) to determine the daily growth of various seedlings when irradiated from one, two, five and ten minutes, respectively, under the same lamp, and when grown in darkness or under subdued daylight as transmitted by ordinary window glass. The experimental conditions were maintained as uniformly as possible with reference to temperature, moisture, character of containing vessels and methods of handling seedlings. An air-cooled quartz mercury lamp of the Victor X-ray Corporation type was operated at 70 volts and was used at a distance of 50 cm. The lamp was standardized and found to produce a grade 1 reaction (transient erythema) of the normally unexposed skin of the upper arm in three minutes at a distance of 50 cm and a grade 2 reaction (permanent erythema) in six minutes.

SELECTIVE IRRADIATION

Table I contains a sample set of data obtained on the germination and growth of cucumber seedlings; the character of the irradiation, the periods of exposure to the quartz mercury lamp, and the subsequent disposition of the seedlings (that is, whether kept in the subdued daylight of the room or in darkness) are also given.

The conclusions which we believe we are justified in drawing are:

(1) Selective irradiation of the seed modifies the time of its germination and rate of its subsequent growth.

(2) The lesser wavelengths, in general, appear to stimulate while the greater wavelengths inhibit germination.

(3) Wavelengths ranging from about 320 mμ to 390mμ seem particularly effective in inducing growth.

(4) Wavelengths of 270 mμ to 320 mμ appear to be inhibitory in their action, and delay the time and lessen the rate of growth, probably because of changes