in view of Hasselquist's use of the name in 1762, for the *Upupa pyrrhocorax* Linné (1758), which latter name was changed to *Corvus pyrrhocorax* by Linné in 1766, Hasselquist's name therefore having priority over the latter one by four years. Hasselquist's name having appeared first in 1757, and later in a German translation of his work,* Mr. P: S. Sclater (SCIENCE, N. S. Vol. XIII., p. 626) thinks the name should not stand, as it was first described prior to 1758, and after that date only in a translation of Hasselquist's work. If Mr. Sclater's view be adopted, will it not be necessary to exclude many names occurring in the 10th and 12th editions of the *Systema Naturæ*, because they were originally described in earlier editions of that work?

Whether the alpine chough occurs in 'Lower Egypt' or not has in my opinion little bearing on the matter. The question is, is *Monedula pyrrhocorax* Hass, the same as *Upupa* (=*Corvus*) *pyrrhocorax* Linné; and we have Linné, who personally examined Hasselquist's collections, as an authority in the affirmative.

WILLIAM J. FOX.
THE ACADEMY OF NATURAL SCIENCES,
PHILADELPHIA, PA.

BOTANICAL NOTES.

THE STUDY OF MOSSES.

DR. A. J. GROUT, of the Brooklyn Boys' High School, has made the study of mosses much easier by the publication of a very pretty little book, entitled 'Mosses with a Hand-Lens,' and two sets of dried and carefully prepared specimens under the titles of 'North American Musci Pleurocarpi' and 'Handlens Mosses.' The book is a thin octavo volume of about seventy-five pages, and is a non-technical handbook of the more common and more easily recognized mosses of the Northeastern United States. It is illustrated by helpful figures, which, if not as smoothly engraved as some to be found in recent text-books, have the merit of clearly showing what they are intended to show. The descriptions are, as indicated above, non-technical, but they will perhaps prove all the more helpful to most beginners on that account. In all, one hundred species are noticed. The volume closes with an appropriate glossary of bryological terms and a brief index. The first collection of specimens will enable the beginner to recognize the genera and species represented, although this was not the use which Dr. Grout had in mind in their preparation. They were designed rather for the benefit of the professional bryologist, but they will serve the beginner as well, since they illustrate the plants and their fruits. The second collection, which is just now appearing, was evidently suggested by the use here indicated. It consists of similar specimens, carefully selected and supplied with neat printed labels.

* 'Iter Palæstinum,' etc., 1762.

BOTANICAL FACILITIES AFFORDED TO STUDENTS BY THE NEW YORK BOTANICAL GARDEN.

IT is probably not generally known to what extent the rich treasures of the New York Botanical Garden are available to students of the several phases of botany. Although the institution is in the first lustrum of its existence, it inherited the collections of books and specimens left by Dr. Torrey after a long life of accumulative activity. There are thus nearly one million specimens in the herbarium and about nine thousand volumes in the library. Added to these are the native plants growing in the woodlands, meadows and swamps of the two hundred and fifty acres of land constituting the domain of the Garden, supplemented by the plantations of herbaceous and woody vegetation, and the already large collections under glass in the great Plant House. The laboratories, of which there are physiological, embryological, chemical, morphological and taxonomic, are housed in the fine building known as the 'Museum Building.' They occupy a suite of fourteen rooms on the upper floor of the building, and are admirably planned for the several lines of work to be done in them. From a recent statement by the director we learn that opportunities are afforded for work in the following subjects: Physiology of the cell, ecology, morphology of algae, morphology of fungi, morphology of bryophyta, morphology of pteridophyta, morphology of spermatophyta, experimental morphology, taxonomy of algae, tax-

onomy of fungi, taxonomy of bryophyta, taxonomy of pteridophyta, taxonomy of spermatophyta, taxonomy of gramineae, embryology of spermatophyta, special taxonomy, regional botany, physiology of nutrition, ecological physiology, physiological anatomy, general physiology. The director says further, "Almost any problem in botany may be taken up by the trained botanist, who may come to the laboratories with the expectation of finding facilities for his work." It should be borne in mind that 'the laboratories never close for a vacation,' and that one may work here when most universities are closed.

A STUDY OF WHEAT.

MR. M. A. CARLTON, of the Division of Vegetable Physiology and Pathology of the United States Department of Agriculture, has for several years been engaged in a study of wheat with especial reference to its growth in different portions of this country. He finds that the country may be divided into eight wheat districts, as follows: (1) The soft wheat district, including mainly the north Atlantic states (in Virginia the mountainous region only); (2) the semi-hard winter wheat district, including the north central states; (3) the southern wheat district, including the northern part of the southern states; (4) the hard spring wheat district, including the states of the northern Plains; (5) the hard winter wheat district, including the states of the middle Plains; (6) the durum wheat district including a part of the states of the southern Plains; (7) the irrigated wheat district, in scattered areas in the Rocky Mountains and the Great Basin; (8) the white wheat district, including the larger part of the Pacific Coast states. A colored map illustrates these divisions in the bulletin (No. 24) in which Mr. Carlton discusses this subject. The species and sub-species of wheat recognized by Mr. Carlton are in the main those accepted by Koernicke and Werner in their 'Handbuch des Getreidebaues' as follows:

Triticum vulgare, the most valuable and widely distributed species, represented by a greater number of varieties than all other species taken together, including the soft winter wheats, hard winter wheats, hard spring wheats, white wheats and early wheats:

Triticum compactum, more properly a variety of the former, including the club sheets.

Triticum turgidum, a subspecies of *T. vulgare*, including the Poulard wheats, with such varieties as 'Seven-headed Wonder,' 'Hundred-fold' and 'Miracle.'

Triticum durum, a subspecies of *T. vulgare*, including the durum or macaroni wheats.

Triticum polonicum, a distinct species, including the Polish wheats.

Triticum spelta, a subspecies of *T. vulgare*, including spelt.

Triticum dicoccum, a subspecies of *T. vulgare*, including spelt-like wheats bearing the German name of 'Emmer.'

Triticum monococcum, a very distinct species, practically unknown in America, and but little grown in Europe, where it bears the German name of 'Einkorn.' It is said to be 'rust proof.'

In discussing the problem of the best varieties for this country the author says that, "considering all qualities, the best wheats in the world are of Russian origin, coming particularly from eastern and southern Russia. They are resistant to cold and drought, and are more or less resistant to leaf rust, and have the best quality of grain." Considerable space is given in the bulletin to the discussion of the means for the improvement of wheat aside from the mere introduction of valuable varieties. This is brought about by selection, and hybridization or 'breeding.' Examples of the latter are shown in a colored plate. The paper closes with a summary which contains many valuable practical suggestions.

CHARLES E. BESSEY.
THE UNIVERSITY OF NEBRASKA.

SCIENTIFIC NOTES AND NEWS.

THE officers of the International Association of Academies, which met last month at Paris, are as follows: *Honorary Presidents*, Dr. Mommsen, M. de Goeje, Sir Michael Foster, M. Berthelot, and M. Gaston Boissier; *Acting President*, M. Darboux; *Vice-President*, Dr. Diels; *Secretaries*, MM. Gomperz and Moissan. M. Darboux made an address of welcome, but otherwise the scientific work of the meeting has not been made public. We regret to learn that Professor G. L. Goodale, delegate from the National Academy of Sciences, was unable to