than of a general nature. This is especially obvious in the treatment of such diseases as apple rust and pear blight. The illustrations are poor. Such figures as 29, 32, 40, 69, 76, 83, 86, 92, 98 are not worthy of publication. Throughout the book there is a tendency to present various conflicting theories and arguments concerning a given disease, with the result that often the real conclusions, if any, are buried or obscured. This really is the result of the status of pathology, of insufficient knowledge of the diseases in question, but the value of such presentation to the student and especially to the practical grower is doubtful. Assuming a central New York viewpoint and interest, the book may be said to give a very complete presentation of what is known of fruit diseases, with valuable lists of references to original sources of information. It is, as the authors announce, the first American text to deal wholly with diseases of fruits, and here for the first time are brought together with comprehensive discussion many obscure and little-known diseases. The facts presented are well selected, and the book constitutes a valuable addition to the literature of plant diseases. —F. L. STEVENS.

North American Flora.—The second part of Vol. 21 contains the presentation of Amaranthaceae by STANDLEY,[4] who recognizes 166 species distributed among 21 genera. *Amaranthus* is much the largest genus, with 42 species, followed by *Iresine* with 32, *Achyranthes* with 31, and *Gomphrena* with 15. These 4 genera contain 120 of the 166 species, the remaining 46 being distributed among 17 genera. New species, 10 in number, are described in *Amaranthus* (4), *Acnida*, *Froelichia*, *Achyranthes*, *Gomphrena* (2), and *Iresine*.—J. M. C.

North American Flora.—The second part of Vol. 10 contains the presentation of Agaricales by MURRILL,[5] including the subtribe Pluteanae. The largest genera are *Entoloma* (63 spp.), *Pluteus* (57 spp.), and *Leptoniella* (43 spp.). Ten genera are presented, and 109 new species are distributed as follows: *Claudopus*, *Eccilia* (9), *Leptoniella* (14), *Nolanea* (11), *Pleuropus* (7), *Entoloma* (34), *Pluteus* (30), *Chamaeota*, and *Volvariopsis* (2).—J. M. C.

NOTES FOR STUDENTS

Anthocyans.—Since the review of the anthocyan (anthocyanin) pigments by CROCKER,[6] much of interest from the chemical point of view has appeared. As pointed out by CROCKER, these facts are of marked significance to all botanists. Students interested in the general problems of anthocyans (botanical, chemical, and genetic) will find much of value in Miss WHELDALE'S book.[7]

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[4] STANDLEY, PAUL C., North American Flora **21**:part 2. pp. 95–169. (Chenopodiales) Amaranthaceae. New York Botanic Garden. 1917.

[5] MURRILL, W. A., North American Flora **10**:part 2. pp. 77–144. Agaricales: Agaricaceae (pars); Agariceae (pars). New York Botanic Garden. 1917.

[6] CROCKER, WM., BOT. GAZ. **61**:349. 1916.

[7] WHELDALE, M., The anthocyanin pigments of plants. Cambridge University Press. 1916.