quite probable that there were highland or mountain species that have not been described.

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CURRENT NOTES ON METEOROLOGY.

SNOW CRYSTALS.

MENTION has already been made in these notes of the micro-photographic study of snow crystals which has been carried on for twenty years by Mr. W. A. Bentley, of Vermont. In the 'Annual Summary' of the *Monthly Weather Review* for 1902 (dated March 16, 1903), Mr. Bentley has a further contribution to this subject, in which he gives the results of his studies of snow crystals during the winter of 1901–02. The classification proposed by Hellmann ('Schneekrystalle,' Berlin, 1903, p. 38) is adopted as the best. It has been found that in general the great majority of perfect crystals are produced in the western, southwestern or northwestern portions of widespread snowstorms. The whole number of photographs of individual crystals taken by Mr. Bentley is now somewhat over 1,000, and no two are alike. This is doubtless the most complete collection in the world. The article contains 22 plates giving half-tone reproductions of 255 separate snow crystals—altogether a most beautiful collection.

STRUCTURE OF CYCLONES.

THE January number of the *Monthly Weather Review* contains a paper by Professor F. H. Bigelow on 'The Structure of Cyclones and Anticyclones on the 3,500-foot and 10,000-foot Planes for the United States.' In this paper charts are given showing, for the cyclones of January 2 and 7, 1903, the distribution of pressure and temperature at sea level, at 3,500 feet and at 10,000 feet. In reducing the station observations of pressure and temperature to the two high-level planes, Professor Bigelow used the tables prepared by him and published in his report on Barometry, a brief note on which appeared in SCIENCE for April 10, page 595. As Professor Bigelow says, these charts 'have special interest from the fact that this is the first exhibit of the isobaric systems in the upper air surrounding individual cyclonic and anticyclonic centers.'

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BOTANICAL NOTES.

A NEW CLASSIFICATION OF PLANTS.

IN his new syllabus of the plant-families ('Syllabus der Pflanzenfamilien,' 1903), Engler makes a considerable modification of the system of plants which he has followed heretofore. In the edition of the 'Syllabus' which appeared in 1898, four branches ('Abteilungen') of the vegetable kingdom were recognized, as follows: (1) Myxothallophyta, (2) Euthallophyta, (3) Embryophyta Zoidiogama, (4) Embryophyta Siphonogama. The changes in the new edition consist in breaking up the Euthallophyta into ten branches, thus increasing the whole number from four to thirteen. This very materially changes the grouping of the algæ and fungi which make up the bulk of the Euthallophyta. The branch Myxothallophyta remains unchanged, except in minor details as to group names, and the same is true of Embryophyta Zoidiogama and Embryophyta Siphonogama.

The new grouping is as follows:

Branch ('Abteilung') 1. PHYTOSARCODINA (Myxothallophyta), with three classes, Acrasiales, Plasmodiophorales and Myxogastres.

Branch 2. SCHIZOPHYTA, with two classes, Schizomycetes and Schizophyceae.

Branch 3. FLAGELLATAE.

Branch 4. DINOFLAGELLATAE.

Branch 5. ZYGOPHYCEAE, with two classes, Bacillariales and Conjugatae.

Branch 6. CHLOROPHYCEAE, with three classes, Protococcales, Confervales and Siphoneae.

Branch 7. CHARALES.

Branch 8. PHAEOPHYCEAE.

Branch 9. DICTYOTALES.

Branch 10. RHODOPHYCEAE, with two classes, Bangiales and Florideae.

Branch 11. EUMYCETES, with five classes, Phycomycetes, Hemiascomycetes, Euascomycetes, Laboulbeniomycetes and Basidiomycetes.

Branch 12. EMBRYOPHYTA ASIPHONOGAMA, with two subbranches ('Unterabteilungen') as follows: