been issued by the United States Weather Bureau. It bears the names of William J. Humphreys, director, and William R. Blair, assistant director, and is prepared under the direction of the chief of the Weather Bureau (Washington, 1908). In the announcement, signed by the Secretary of Agriculture, it is stated that the *Bulletin*, of which this is the first number, will contain more or less detailed accounts of the researches conducted at Mount Weather. The *Bulletin* will appear quarterly. The chief of the Weather Bureau discusses briefly "The Origin and the Purpose of the Mount Weather Observatory," the last sentence being as follows: "The whole aim of the observatory is the discovery, no matter how nor by whom, of fundamental truths of nature, and of their application to human welfare." Dr. W. R. Blair considers "The Methods and Apparatus used in Obtaining Upper Air Observations at Mount Weather, Va.," which includes the results of the kite flights during June–September, 1907. Professor A. J. Henry concludes with a paper on "The Use of Upper Air Data in Weather Forecasting." The *Bulletin* is illustrated by means of several half-tone views of the kite equipment. There are also diagrams showing the upper air isotherms as determined on different kite flights. This number of the *Bulletin* directs attention, in a striking way, to the work which the Weather Bureau has undertaken at Mount Weather.

EVAPORATION IN THE SALTON SINK

To the *National Geographic Magazine* for January, 1908, Professor F. H. Bigelow contributes some "Studies on the Rate of Evaporation at Reno, Nevada, and in the Salton Sink." Professor Bigelow has been in charge of the Weather Bureau work on evaporation in the southwest, and his preliminary results are full of interest. He states that, although it has been quite generally supposed that as much as eight feet of water will evaporate from the Salton Sea each year, there are now reasons to think that the evaporation may not be more than four or five feet. A temporary experiment station was set up at Reno, Nev., where five towers were built by August 1, 1907, and regular observations were continued until September 15. By that time 100,000 readings of the instruments had been made. It became clear that the reservoir at Reno, which is about 1,000 feet long, covers itself with a sheet of invisible vapor about 30 feet thick, and this vapor acts like a blanket upon fresh evaporation rising from the water. It is proposed to erect two or three towers at the Salton Sea in order to get some idea of the behavior of the vapor sheet lying over that body of water.

TROPICAL TEMPERATURES

THE continuation and conclusion of Hann's investigation entitled "Der tägliche Gang der Temperatur in der äusseren Tropenzone" appears in Vol. LXXXI. of the *Denkschr. Wien. Akad. Wiss., math.-naturwiss. Kl.* (1907). The object of this laborious study, so characteristic of the tireless energy and unfailing accuracy which has distinguished all the work of the author, is to obtain, for the tropics, the values needed in order to reduce temperature observations made at different hours to the twenty-four-hour mean. It appears that means based on the daily extremes are quite inaccurate. Hann has, in this second part of his investigation, extended his study to the Indian and Australian tropical region.

FROST IN CALIFORNIA

PROFESSOR A. G. MCADIE has prepared a short and useful paper entitled "Protection of Fruits and Vegetables in California from Injury by Frost," in which he summarizes the various methods of protection against frost in California, already treated at length in previous publications of the Weather Bureau. The daily weather map for December 21, 1907, is reproduced as illustrating the type pressure conditions upon which frosts are found to occur in California. R. DEC. WARD

BOTANICAL NOTES

FUNGUS NOTES

IN a recent number of *Rhodora* (January, 1908) Dr. W. G. Farlow begins the publica-

tion of "Notes on Fungi" which promise to yield critical discussions of much value. He shows that what has been known as *Corticium tremellinum* var. *reticulatum* is, in the first place, not a *Corticium*, but a *Tremella*, and that the variety is a distinct species, to be known hereafter as *Tremella reticulata*. He shows that what has been known as *Synchytrium pluriannulatum* (a parasite in a species of *Sanicula*) is in reality *Urophlyctis pluriannulatus*, and that a uredineous parasite of *Rubus neglectus* and *R. strigosus*, hitherto known as or confused with *Phragmidium gracile*, is *Pucciniastrum arcticum* var. *americanum*. He is further of the opinion that the *Pucciniastrum* on *Potentilla tridentata* is *P. potentillae*. Further notes from this source will be eagerly looked for by mycologists.

In *Annales Mycologici* (V., No. 7, 1907) Professor F. L. Stevens figures and describes "Some Remarkable Nuclear Structures in *Synchytrium*." The paper is a record of facts, and the author does not attempt to base any conclusions upon what he has seen. Other recent fungus papers by the same author are "An Apple-rot due to *Volutella*" and a "List of New York Fungi," in the March and May numbers of the *Journal of Mycology* (1907), and "The Chrysanthemum Ray Blight" in the *Botanical Gazette* (October, 1907). The fungus which causes the ray blight of the chrysanthemum appears to be new, and is described as *Ascochyta chrysanthemi*.

Heinrich Hasselbring's paper on "The Carbon Assimilation of *Penicillium*" in the *Botanical Gazette* for March, 1908, is a contribution to our knowledge of the chemistry of the assimilation of some of the simpler compounds by plants. Among the results noted is the fact that "alcohol, acetic acid and the substances from which the acetic acid radicle CH_3COO—is easily derived are assimilated by *Penicillium glaucum*."

A disease of the sugar cane known as "red-rot" has been investigated by L. Lewton-Brain, pathologist of the experiment station of the Hawaiian Sugar Planters' Association, who has found it to be due to the entrance of the fungus, *Colletotrichum falcatum*, through wounds made by insects or other agents. Once within the tissues of the stem the fungus penetrates the cells, kills them, and gives the affected areas a red color. There is no external sign of the presence of the disease, except in severe cases when the leaves may turn yellow and the whole plant die.

Mention should be made here of Scott and Rorer's paper "Apple Leaf-spot caused by *Sphaeropsis malorum*" in Bulletin 121 of the Bureau of Plant Industry of the United States Department of Agriculture; of W. H. Lawrence's record of "Some Important Plant Diseases of Washington" in Bulletin 83 of the Oregon Experiment Station, and Cook and Horne's "Insects and Diseases of the Orange" in Bulletin 9 of Estación Central Agronómica de Cuba.

Here also may be mentioned Professor Harshberger's paper "A Grass-killing Slime Mould" in the *Proceedings of the American Philosophical Society*, Vol. XLV., recording a case in which the plasmodia of *Physarum cinereum* killed the blades of grass over which they had grown.

NOTES ON ALGAE AND ARCHEGONIATAE

DR. M. A. HOWE continues his interesting Phycological Studies in a recent number of the *Bulletin of the Torrey Botanical Club* (pp. 491–516, 1907) under the title of "Further Notes on *Halimeda* and *Avrainvillea*" accompanying it with six full-page plates. He describes and figures the sporangia of *Halimeda tridens* from Porto Rico, discusses the American species of *Halimeda* of the *H. tuna* group (*H. tuna, H. discoidea* and *H. scabra*), discusses the American species of the *H. tridens* group (*H. tridens, H. monile, H. simulans* and *H. favulosa*), describes the sporangia of *Avrainvillea nigricans*, and enumerates and describes the American species of *Avrainvillea* (*A. nigricans, A. longicaulis, A. levis* and *A. rawsoni*).

Professor Doctor N. Wille's "Algologischen Untersuchungen" (I.–VII.) contains papers on the development of *Prasiola furfuracea;* a

summer form of *Ulothrix consociata;* a new genus of marine *Tetrasporaceae,* which he names *Pseudotetraspora;* on the reproduction of a *Gloeocapsa;* on a species of *Dactylococcus;* on the zoospores of *Gomontia polyrrhiza,* and closes with a list of the Myxophyceae (seven species) and *Chlorophyceae* (twenty-one species) of the neighborhood of the biological station at Drontheim, Norway.

W. D. Hoyt's paper on "Periodicity in the Production of the Sexual Cells in *Dictyota dichotoma*" in the *Botanical Gazette* for June, 1907, deserves mention even at this late date, showing that sexual cells are produced at regular monthly intervals, and have a definite relation to the tides.

Professor Doctor D. H. Campbell's "Studies on Some Javanese *Anthocerotaceae*" in the October *Annals of Botany,* 1907, is the first of two interesting papers. A new genus, *Megaceros,* is described. It has a very large sporophyte (9 cm. high), has no stomata, and contains spiral elaters. The second installment (in the January number) is devoted to the morphology and histology of *Dendroceros* and *Notothylas.* In discussing the affinities of the *Anthocerotaceae* the author regards *Notothylas* as "without doubt the simplest and probably the most primitive," and "the larger species of *Anthoceros,* with their highly developed assimilative tissue and perfect stomata as probably to be considered the highest existing form of this peculiar form of sporophyte." He suggests, moreover, that "it will probably be best to regard *Anthocerotaceae* as sufficiently distinct from the true Hepaticae to form a special class, *Anthocerotes,* as was suggested by Howe" eight years ago.

In a paper in the October (1907) *New Phytologist,* "On the Distribution of the Hepaticae and its Significance," Dr. Campbell adduces good reasons for concluding that "the distribution of the existing liverworts indicates that they are ancient forms whose scarcity in a fossil condition is due to their very perishable tissues."

A third paper by the same author, which appeared in the March (1907) *American Naturalist* and entitled "Studies on the *Ophioglossaceae,*" is a most helpful one for the fern student. The author still adheres to his hypothesis that *Ophioglossaceae* arose from some form resembling *Anthoceros.*

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THE NATIONAL CONFERENCE COMMITTEE ON STANDARDS OF COLLEGES AND SECONDARY SCHOOLS

The third annual meeting of this body, which has been known as the National Conference Committee of the Associations of Colleges and Preparatory Schools and is now permanently organized under the above title, was held at the rooms of the Carnegie Foundation for the Advancement of Teaching, 576 Fifth Avenue, New York, N. Y., Friday, April 17, 1908. The committee is composed of delegates from the following organizations, all of which were represented at this meeting:

The New England Association of Colleges and Preparatory Schools,
The New England College Entrance Certificate Board,
The Association of Colleges and Preparatory Schools of the Middle States and Maryland,
The College Entrance Examination Board,
The North Central Association of Colleges and Secondary Schools,
The Association of Colleges and Preparatory Schools of the Southern States,
The National Association of State Universities,
The Carnegie Foundation for the Advancement of Teaching.

A constitution was adopted which defines the purpose of this committee to be to consider standards of admission, matters of common interest to universities, colleges, and secondary schools, and such further questions as may be referred to it. Provision is made that at least one meeting shall be held each year.

Officers to serve for one year were elected as follows: President, President MacLean, of the University of Iowa; Vice-president, Head Master Wilson Farrand, of Newark Academy; and Secretary-Treasurer, Dean Ferry, of Williams College.