

nals of the colored plates in Miss Lounsberry's forthcoming work, 'How to Know the Wild Flowers.' Selections which showed the character of the book were read, including the Introduction, written by Dr. Britton, and the Preface, which pointed out the fact that the distribution of plants according to soils was made the keynote of the work.

Dr. Britton said that the book was interesting to him on two accounts, from the ecological basis of classification and the remarkable reproductions in color.

In the absence of Mrs. Annie Morrill Smith, of Brooklyn, Mrs. E. G. Britton read for her the manuscript of a paper, entitled 'The Flora of the Adirondack Mountain Club Area.'

Meeting of March 14, 1899.—The Summer Courses in Botany given jointly by this Club and the College of Pharmacy were announced to begin at 4:30, March 24th, ending June 10th, the General Course to be given by Dr. H. H. Rusby, that in Histology by Dr. M. A. Howe.

The paper of the evening, by Mrs. Caroline A. Creevey, on 'Plant Juices and their Commercial Values,' described the secretions, oils, gums, resins and other products of plants, with exhibition of numerous specimens. Among the numerous oils considered none has become so important commercially as cotton-seed oil, now produced at about 28 million gallons per year, pressed from 800,000 tons of cotton seed. Another industry dependent upon plant juices is that of tanning, the tannin found in the saw-palmetto and in *Rumex hymenosepalus* promising to revolutionize the process of the leather-industry. The waste sands occupied by these plants in the South and West bid fair to become valuable.

Dr. Underwood exhibited a series of photographs of the Fleshy Fungi by Mr. G. A. Anderson, of Lambertville, N. J., colored from the living specimens by his daughter, Miss H. C. Anderson. They illustrate a new process of preserving fleshy fungi.

Dr. Britton reported a brief communication from Mr. A. A. Heller sent from Porto Rico, February 18th, reporting collections made about Ponce, Ibonito, Coamo, etc., now reaching 584 numbers after six weeks' work. On the north side of the islands many species occur on the

shore which are montane species when growing on the south side.

Dr. Britton also read from a letter of February 26th, just received from Mr. S. Henshaw, from San Juan, describing the sugar plantations, now in the midst of cutting and boiling. He finds the flora not so varied as in Trinidad; the woods are few; in 100 miles he did not see a single large tree.

EDWARD S. BURGESS,
Secretary.

DISCUSSION AND CORRESPONDENCE.

DUPLICATION OF GEOLOGIC FORMATION NAMES.

REFERRING to Mr. F. B. Weeks' letter on this subject in your issue of March 13th, I venture to doubt whether Cache Valley group (1879) or Cache Lake beds (1888) can properly be considered as conflicting with each other or with the name Cache Creek formation. If, however, regarded as an undesirable duplication of similar names, I wish to point out that the Cache Creek group or formation undoubtedly holds priority, a circumstance which would scarcely appear from Mr. Weeks' remarks.

The name was first applied (by Dr. Selwyn, in 1872) as Upper and Lower Cache Creek groups, to certain rocks in British Columbia. The age of the upper series was only conjectured, but the lower was known to occupy a position somewhere 'between the base of the Devonian and the summit of the Permian.' In 1876 Carboniferous fossils were found in rocks assigned to the lower group in the northern part of British Columbia, and in the following year a re-examination of the original area led to the discovery of similar fossils in both lower and upper groups there. In my report for 1877 these groups are, therefore, referred to collectively as the Cache Creek series. In the latest report dealing with these rocks the same usage is followed, although upper and lower parts of the Cache Creek series or formation are separately referred to.

It thus appears that the name in question has been consistently applied by the Geological Survey of Canada to the same terrane since 1873. Nor is it merely a 'horizon' of the Carboniferous, but a formation estimated at more than 9,000 feet in thickness. It includes, in

fact, the Carboniferous formation in so far as this has been recognized in the interior district of British Columbia, and is the local representative of that formation.

GEORGE M. DAWSON.

GEOLOGICAL SURVEY OF CANADA,

April 10, 1899.

ON THE NAMES OF CERTAIN NORTH AMERICAN
FOSSIL VERTEBRATES.

THE writer, having recently had occasion to examine the literature pertaining to some of the fossil mammals of North America, has made the following notes, which he desires to record :

Hemiganus, a genus established by Professor Cope, had for its type species *H. vultuosus*. The species *H. otariidens* was described later. Dr. J. L. Wortman has, however, shown (Bull. Amer. Mus. Nat. Hist., ix., p. 167) that *H. vultuosus* is a synonym of *Psittacotherium multifragum*. The species *otariidens* is, therefore, left without generic name. I hereby propose WORTMANIA, in recognition of the valuable work which has been done by Dr. Wortman in vertebrate paleontology. The species will be *Wortmania otariidens* (Cope).

A similar case occurs among the camels. The type of the genus *Protolabis* of Cope is *P. heterodontus*. Dr. Wortman's investigation (Bull. Amer. Mus., x., p. 120) have led him to the conclusion that this so-called species is the same as the earlier described *Procamelus robustus*. The type species being removed, the remaining species requires a new generic name. I propose MIOLABIS. The type will be *M. transmontanus* (Cope).

It has also been ascertained by Dr. Wortman that the type of the genus *Systemodon*, *S. tapirinus*, is really a *Hyacotherium*, in which genus it was formerly placed. The species which have been associated with *tapirinus*, viz, *semihians*, *primævus* and *protapirinus* are, therefore, without generic name. I offer HOMOGALAX (ὁμογάλαξ, a foster brother). As type of this genus I take Dr. Wortman's *Systemodon primævus* (Bull. Amer. Mus., viii., p. 89, fig. 3).

Professor Cope has described from the Pliocene of Louisiana a fossil horse which he calls *Equus intermedius* (Proc. Amer. Phil. Soc., xxxiv., p.

463). This name has, however, been preoccupied for a quaternary horse of Europe. Trouessart (Cat. Mam., 1898, p. 794) quotes it as a synonym of *E. caballus*. The first mention I find of the name is in Rüttimeyer (Abhandl. schweiz. pal. Ges., ii., p. 24, 1877). For Professor Cope's *E. intermedius* I propose *Equus eous*.

Interea volucres Pyrois *Eous* et Aethon,
Solis equi, quartusque Phlegon, hinnitibus auras
Flammiferis implent, pedibusque repagula pulsant.
—Ovid.

Certain generic names of vertebrates have, without justice, it seems to me, been relegated to synonymy.

In 1881 Professor Cope established a genus of Condylarthra which he called *Protogonia*. Later he correctly concluded that this name had been preoccupied, probably by *Protogonius*, Hübner. He, therefore, proposed to substitute for it *Euprotogonia*, which name first appeared in a paper by Earle (Amer. Nat., 1893, p. 378, foot-note). In a recent paper Dr. Matthew (Bull. Amer. Mus., ix., p. 303) accepts this name. At the same time he shows that those remains which had originally been described by Professor Cope as *Mioclænus floverianus* belong to the earlier described *Euprotogonia puercensis*. But, for this *M. floverianus*, Scott had in 1892 (Proc. Acad. Sci., Phila., p. 299) proposed the genus *Tetraclænodon*. The latter name, therefore, antedates *Euprotogonia* and must replace it.

In the same excellent paper (p. 268) Dr. Matthew adopts Scott's genus *Protochriacus*, founded in 1892, in preference to Cope's *Loxolophus*, proposed in 1885. The reason assigned for this preference is that Professor Cope's 'distinctions, so far as made, were based on error.' I do not believe that the best usage among naturalists at this day favors the rejection of generic names because of errors, real or supposed, in the definitions. It seems to me that *Loxolophus* must be reinstated.

With exceptions, few but important, *Oreodon* has been employed by writers for a well-known genus of Artiodactyles. Flower and Lydekker in their joint work on Mammalia use *Cotylops*, on the assumption that *Oreodon* is preoccupied by *Orodus* of Agassiz, a genus of fossil fishes. Without now discussing this conclusion, I will