referred by him to the Upper Eocene. Dr. Shimer has followed this invalid usage. In citations from my 1912 memoir, Mr. Liddle actually mixed together my faunal lists, and inverted my foraminiferal bed (No. 6) and my upper molluscan bed (No. 8), and pronounced the results confused!

Thereupon, I published in 1929 a complete history of the Soldado Rock Section,[6] again defining the Soldado Formation as Lower Eocene. Furthermore, I gave the name Boca de Serpiente Formation to my upper molluscan bed (No. 8), correlating it as Uppermost Eocene, equivalent to the European Ludian; while the foraminiferal bed (No. 6) was placed in the Bartonian. All due credits and citations were given.

Soldado Rock is of extreme paleontologic and stratigraphic interest. The Soldado Formation (bed No. 2) has a fauna linked by allied forms to the Lower Eocene of Alabama and to that of Pernambuco, Brazil, as shown by the writer in 1912. It also contains a remarkable genus, *Veatchia* Maury, with the genotype and only known species, *Veatchia carolinae* Maury, which in 1926 was traced from the rock to the mainland of Trinidad by Waring and Harris, in the Marac quarry,[7] in the southern part of the island, and referred by them to the basal Eocene.

In conclusion, the Soldado Rock section is the key to the interpretation of the Antillean and northern South American Eocene. The lower molluscan bed (No. 2) the Soldado Formation Maury, 1925, represents the first discovery of Old Eocene in the entire Antillean area. The foraminiferal bed (No. 6) is Bartonian, and goes with the foraminiferal marls of Bontour Point, Trinidad, referred by Douvillé,[8] in 1924, to the Bartonian. My upper molluscan bed (No. 8) is Ludian. This marked the first recognition of both Bartonian and Ludian deposits as separate entities, in the entire Western Hemisphere.[9] As I noted in 1931, this South American Bartonian can be traced from Soldado Rock and Trinidad to Panama, Ecuador and Peru, and is comparable in age and faunal affinities with the Upper Mokattam of Egypt. The St. Bartholomew limestone, long the type of Antillean Upper Eocene, goes with this Bartonian horizon. In Colombia, I regard a horizon west of El Carmen as Ludian and equivalent stratigraphically to my Boca de Serpiente formation (bed No. 8) of Soldado Rock. This ties up with the Saman formation of Peru. The main fossiliferous beds of the 1912 Soldado section are thus traced across the entire northern South American mainland.

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[6] C. J. Maury, *Journal of Geology*, XXXVII: 2, 177–181, February–March, 1929.

[7] G. A. Waring and G. D. Harris, The Johns Hopkins University Studies in Geology, No. 7, pp. 99, 101, 1926.

[8] Douvillé, Memoires Société geol. de France, p. 19, 1924. See also Illing, *Quarterly Jour. Geol. Soc. London*, 84, pt. 1: 7, 1928.

[9] C. J. Maury, *American Jour. Science*, XXII: 375–376, October, 1931.

## UNISEXUAL LIMBER PINES

IN the course of an investigation on alpine vegetation in the Rocky Mountain National Park in Colorado in the summer of 1932, the writer found at timberline individuals of limber pine (*Pinus flexilis* James) that differed in appearance so markedly from the usual form as to suggest an unknown species. Close scrutiny, however, revealed that the characteristics of the aberrant form intergraded with the normal except in two ways: (1) All the leaves on a tree were uniformly shorter in length and closer spaced on the twig, and (2) the individual trees produced only male cones. Inasmuch as many of the typical trees produced but very few or no male cones, there is apparent a tendency of the species to separate the sexes to different individuals, a deviation from the normal, which is to have both sexes on the same tree. From the Alps of Switzerland a similar tendency has been reported of the five-leaved mountain pine (*Pinus montana* Miller).[1] In spite of much search in the region, and over the whole altitudinal range of the species, this phenomenon was found to exist only at timberline. Because of its many important implications, it would seem very desirable to know more about the areal and altitudinal extent of the occurrence of this tendency. It is hoped that other observers will communicate their observations.

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## AN APPEAL TO SCIENTISTS OF THE USSR

A RECENT study of the extinct elasmotherine rhinoceroses necessitated assimilation of the literature, in large part by Russian vertebrate paleontologists. During the eighteenth and nineteenth centuries such Russian works were almost invariably published in French, German or Latin and, therefore, were readily available to non-Russian workers. During the present century, a constantly increasing proportion of the valuable Russian work in vertebrate paleontology has been published in the Russian language. Such papers may be entirely in Russian, may append a translated title, usually in the table of contents, or they may add a short résumé, of a paragraph or so, in English, German or French. Any one of these procedures makes the paper virtually unavailable to non-Russians, except for such inferences as may be based on the illustrations. On the other hand, another author, or the same author on another occasion, may append a full résumé, covering all essential facts and generalizations, or he may publish a briefer version, in one of

[1] C. Schroeter, "Das Pflanzenleben der Alpen," 1926.

the western languages, as an independent paper. These last two marks of consideration would be even more useful, if, in the first case, the captions of the illustrations and of the tables of measurements were made bilingual and, in the second case, if the actual relation to the longer Russian text were explicitly stated in the concentrated paper.

The view-point of those who publish in Russian only, or with a tantalizingly brief and often non-committal abstract, seems fair enough in strict equity alone. Russian scientists must be able to read English, French and German, in order to utilize the foreign literature: why, then, should not the foreign worker learn Russian, in addition to the other two languages, beside his own? One might, perhaps, legitimately doubt, on the basis of the objective evidence, what percentage of the younger Russian workers are actually masters of all three of the languages in question. However, since the abandonment of Latin as the scientific *lingua franca,* an overwhelming proportion of all scientific work has been published in either English, French or German. There are already clear indications that, if publication in Russian becomes much more prevalent, it will be regarded as sufficient precedent for an epidemic of scientific publication in other Slavic languages, in the Scandinavian languages and even in Chinese and Japanese. It is difficult to exaggerate the chaos that would follow. Instead of the language barrier being simplified, with the spread of scientific progress, it would be made correspondingly more impassable. Present publication of original results in Italian or Spanish presents a slightly different situation. If French or French and Latin are known, a paper in one of these languages may be guessed at; and a respectable minority of western scientists is familiar with one language or the other, so that important new material and ideas become generally available, sooner or later. It is at the choice of the authors if much merely competent work in these languages is slighted.

Our Russian colleagues may well feel that, if we continue to be ignorant of their work, the loss is ours, and that we shall, eventually, be forced to learn Russian in self-defense. The academic requirement of the two other languages than one's own of English, French and German, is so thoroughly and widely established that it is very unlikely to be altered in the near future. And there is an obvious, reciprocal loss to Russian scientists if the west remains regretfully ignorant of most of their fine work. Although this appeal for mercy applies particularly to the literature of vertebrate paleontology, a similar situation evidently exists in other fields.

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# SPECIAL CORRESPONDENCE

## A PERSONAL REPORT ON THE NATIONAL FORESTS

IN July and early August of this year I visited five of the ten National Forest Regions in the United States. Most of the inspecting was done by auto, but a little on horseback and some on foot. The outstanding impression in my mind was the universally fine esprit de corps. Everywhere the men think first, last and all the time about the public interest as contrasted with the regional or private interest. Again and again I asked how it happened that so many men had become filled with the necessary courage and intelligence to act for the long-time, general interest instead of the short-time local and political interest. The explanation goes back to Gifford Pinchot and Theodore Roosevelt.

Gifford Pinchot, in his missionary zeal, built an organization which stands as one of the greatest monuments to any living man. No matter how much disagreement there may be over Pinchot as a Progressive Republican political figure, there can be no disagreement over the marvelous contribution he made to the people of the United States in building the Forest Service firm and strong. Ever since Pinchot left the service in 1909, forester after forester has been firm to the faith of the first chief.

No one has ever brought to my attention the slightest suggestion that any lumber company has profited unfairly as a result of Forest Service laxity or favoritism. Steadily the 170,000,000 acres of national forest properties have been improved. Millions of trees have been set out. Logging has been allowed only on such areas, and under such conditions, as would assure an adequate and continuous timber crop. In recent years logging has not been allowed in areas of outstanding recreational or scenic values.

The whole idea has been to devote the land and all its resources to its highest public use; to fit national forest lands for such uses as their character, that of their resources and the needs of the public will permit. To do this, multiple-use is necessary. That means selective logging, which will maintain the present lumber industry and prevent ghost towns, and developing camp grounds or renting land at $15 to $25 a year for summer homes, perhaps where attractive trout streams are handy to good roads. Again it means