the genus *Phrynosoma,* the author says, 'All the species are viviparous, almost the only instance among Iguanidæ.'

This statement, which is as given in the older works on reptiles, does not apply to *Phrynosoma cornutum* of Texas, as I showed in my 'Notes on the Biology of *Phrynosoma cornutum* Harlan' in the *Zoologischer Anzeiger,* No. 498, 1896 (also SCIENCE, N. S., Vol. III., No. 73, pp. 763–5). In that paper I described the nest building and ovulation for the above species.

As pointed out by R. W. Shufeldt in SCIENCE, September 4, 1885, pp. 185–6, and later SCIENCE, N. S., Vol. III., No. 76, pp. 867–8, June 12, 1896, *Phrynosoma douglassii* is viviparous, so that the genus *Phrynosoma* contains both oviparous and viviparous species.

CHARLES L. EDWARDS.
TRINITY COLLEGE, HARTFORD, CONN.

A NOTE ON NOMENCLATURE.

Festuca spicata Pursh. Fl. Am. Sept. 83. 1814.

Agropyron divergens Nees in Steud. Syn. Pl. Glum. 347. 1855.

A. spicatum Rydb. Mem. N. Y. Bot. Gard. **1**: 61. 1900 (Cat. Fl. Montana).

Agropyron glaucum occidentale Scribn. Trans. Kan. Acad. Sci. **9**: 119. 1885.

Agropyron spicatum Scribn. & Smith, Bull. U. S. Dept. Agric. Div. Agrost. **4**: 33. 1897.

Agropyron Smithii Rydb. Mem. N. Y. Bot. Gard. **1**: 64. 1900 (Cat. Fl. Montana).

Agropyron occidentale Scribn. U. S. Dept. Agric. Div. Agrost. Circ. **27**: 9. 1900.

Festuca spicata Pursh.

"F. spiculis alternis sessilibus erectis subquinquefloris, floribus subulatis glabriusculis, aristis longis scabris, foliis linearibus culmoque glabris.

"On the waters of Missouri and Columbia rivers. June. v. s. in Herb. Lewis."

Steudel published '*Triticum divergens* Nees. (mpt. sub. *Agropyrum*)' based on a plant collected by Douglas. This is the common wheat grass of the Northwest, usually with long-awned spikelets.

Another common species of the Great Plains, often called blue joint or blue stem, had for years been identified with *A. repens* Beauv. or *A. glaucum* R. & S. of Europe. In 1885 Professor Scribner made this a variety (*occidentale*) of the latter European species. Twelve years later Scribner and Smith, in their review of the genus *Agropyron,* raised this to specific rank, but with the name *A. spicatum,* as they believed it to be the same as Pursh's *Festuca spicata.*

Mr. Rydberg, having examined Lewis's specimen in the Herbarium of the Philadelphia Academy, decides that *Festuca spicata* Pursh is identical with *Agropyron divergens* Nees and, following the Rochester Code, renames the plant *A. spicatum* Rydb. But there was already the *A. spicatum* S. & S., which must receive a new name, *A. Smithii* Rydb. Then Professor Scribner calls attention to the earlier varietal name *occidentale,* which must be taken up, and we have *A. occidentale* Scribn., or more consistently, if the parenthesis is used in citations, *A. occidentale* (Scribn.) Scribn.

If a later botanist examines the type and decides that it is *A. Vaseyi* Scribn. & Smith or some other species, another change must ensue. It seems to be a case of he laughs best who laughs last.

The object of reciting this piece of nomenclatorial history, which might be duplicated many times, is to point out the mischief which arises from allowing a specific name to have priority over a binomial. I am not sure that the Rochester Code compels this, but it seems to have been so interpreted by many botanists.

Rule 3, as given in Britton and Brown's 'Illustrated Flora,' states that: 'In the transfer of a species to a genus other than the one under which it was first published, the original specific name is to be retained.' This is unequivocal, as no exceptions are made. Rule 5 seems to prohibit the use of *Agropyron spicatum* for any species later than that to which it was first applied. (Rule 5: 'The publication of a generic name or binomial invalidates the use of the same name for any

subsequently published genus or species, respectively.')

It may be that the 'subsequently published species' refers to the application of an original specific name and not a binomial. But Rule 7 says: 'Publication of a species consists only * * * (2) in the publishing of a binomial, with reference to a previously published species as a type.'

While it is not my object here to advocate any particular set of rules, but only to point out the way these rules work in practice, I would observe that in the above case:

1. The use of the original specific name, when the identity of *Festuca spicata* Pursh is discovered, gives us two new names, *Agropyron spicatum* Rydb. and *A. Smithii* Rydb. This must always occur when the displaced binomial has no earlier synonym, and even when there is an earlier available name there results a change of names.

2. If a binomial has precedence over the specific name, that is, if in transferring a species to a different genus, the earliest specific name is used except where this specific name already occurs, there is not more than one new binomial. In the case under consideration, as there is already an *Agropyron spicatum* S. & S., if *Festuca spicata* Pursh is transferred to the genus *Agropyron,* it would ordinarily be given a new binomial, but as the name *A. divergens* Nees has been applied to the same species, no new binomial is necessary.

3. If the earliest specific name which the plant has received in a given genus is used, the so-called Kew rule, no subsequent changes are necessary, so long as the plant is assigned to this genus. Subsequent investigations regarding earlier names under other genera may add to our knowledge, but will not alter the binomials. From the standpoint of stability the maximum would appear to result from following the third method.

A. S. Hitchcock.

Remains of Elephants in Wyoming.

I am not aware that any elephant remains have ever been reported from Wyoming, and for this reason wish to make a record of the following notes: During the fall of 1894 Mrs. Dover, of Dover P. O., Albany Co., discovered the lower jaw of a very small elephant in Halleck cañon, which is about forty-five miles north and east of Laramie. The fossil was covered with a thin coating of earth in the valley wash, and not petrified. It was badly taken up, and by the time it reached me was very fragmentary. The front of the jaw has been well preserved and the right molar is nearly complete. The jaw and teeth are exceptionally small and probably indicate a new species. It is interesting to note that this specimen was found at an elevation of about 6,500 feet above the sea. The remains have been donated to the university, and in due time will be described.

Three years ago, while at work in the Goshen Hole region, I found an elephant's tusk that had been cut in two by a cattle trail that was not over a foot in depth. The tusk was over six inches in diameter. No doubt there is more or less of an animal at this place; but no attempt has been made to unearth it.

While at Casper a few years ago a stockman described a tooth which one of his riders had brought into his ranch, and which he had sent east as a present to a friend. From his description it must have been a very large tooth of an elephant. While this datum has little if any value, yet it is quite certain that an animal or a portion of an animal was found in that region.

To this I wish to add another note, which, although not in connection with Wyoming data, adds some important information to this subject. Two years ago, while at work near Fossil, a collector brought to me a beautiful elephant's tooth of unusual size. He informed me that he had taken it from the bottom of a well very near Bear Lake, Utah. This well was about twenty feet in depth and the tooth was found in rather fine gravel. The tooth belonged to *E. primigenus,* judging from its size and the arrangement of the plates. It is interesting to note that the elephant lived at rather high elevations, as well as along the streams of the plains and the lower areas of North America. It is also