which persists for days."[3] In view of more recent work,[4,5] it is very doubtful if any one familiar with the literature would now support Baker in this.

"Menzies expected a greater vapor pressure difference near 0° C. than at 25° C. in spite of the fact that 0° C. is the triple point at which the vapor pressure of ice (almost 100 per cent. trihydrol) and water (37 per cent. trihydrol) are the same (*i.e.*, both 4.579)."[6] What Menzies said[7] was: "In the hope of favoring the persistence of polymerized molecules, the bath in another experiment was maintained at 3.5° C." This hope, not justified by the experimental result, of detecting non-equilibrium values is regarded as not unreasonable by T. C. Barnes himself when he writes: "It is possible that the equilibrium concentration of hydrols in ice water is not instantaneous."

"Menzies previously claimed that water vapor contains no polymers, but this was corrected by Maass and Mennie."[8] These authors state: "It is worth noting that a similar figure is obtained from Menzies' data, if the Clausius-Clapeyron equation be accepted as the more reliable of his methods." As these words indicate, Menzies employed two distinct methods for evaluating the density of water vapor from experimental data taken from the literature. Because the two results were discordant, Menzies drew especial attention to this "notable discrepancy that requires explanation."[9] The excellent work of Maass and Mennie tends to confirm the higher density value (at 73°), and is in harmony with their suggestion of the presence of polymers (dihydrol) to the extent of about one half of one per cent. at this temperature; while the discrepant values computed by Menzies, if averaged, would point to a proportion of polymers negligibly small. In either case, it is difficult to see the relevance of slight association of water in the vapor phase to the present discussion.

There is no *a priori* reason why the positive results by the biological method reported by Barnes may not be correct, for the biological method can be incomparably more sensitive than many of the physical methods. Those of us who have used physical methods with negative results are obliged to report them as they are, although positive results would doubtless have had greater interest because of their very abnormality.

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[3] T. C. Barnes, *loc. cit.*
[4] West and Menzies, *Jour. Phys. Chem.*, 33: 1893, 1929.
[5] Wright and Menzies, *Jour. Am. Chem. Soc.*, 52: 4699, 1930.
[6] T. C. Barnes, *loc. cit.*
[7] Menzies, *Jour. Am. Chem. Soc.*, 43: 851, 1921.
[8] Maass and Mennie, *Proc. Roy. Soc.*, 110A: 198, 1926.
[9] Menzies, *loc. cit.*

LINES OF NEUTRAL SULFUR IN PROCYON

IN connection with the recent paper on S I in the spectrum of the sun by Miss Moore and Babcock[1] the following results obtained from measurements of stellar spectra may be of interest. Three lines measured in Procyon at λλ 6743.52, 6748.69 and 6757.25 can be satisfactorily identified with laboratory lines of neutral sulfur. The first is barely visible, but the other two are quite definite.

Through the kindness of Dr. Morgan, I have been able to examine a three-prism spectrogram of the same star in the ordinary photographic region. Three stellar lines agree with the laboratory lines of sulfur at λλ 4694.13, 4695.45 and 4696.25. These three lines were also measured by Dunham[2] in α Persei but were not identified by him.

The three red lines observed in Procyon are definitely absent in Arcturus, Aldebaran and Betelgeuze, nor can they be seen with certainty on my plates of the sun. However, Miss Moore and Babcock have shown that they are actually faintly present in the sun. This behavior of the lines is entirely consistent with their excitation potential of 7.8 volts.

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[1] *Astrophysical Journal*, 79: 492, 1934.
[2] Contributions from the Princeton University Observatory, No. 9, 1929.

ADDITIONAL TRIASSIC DINOSAUR TRACKS FROM PENNSYLVANIA

LAST year W. O. Hickok and the writer reported an occurrence of dinosaur foot tracks in the Triassic red beds near Yocumtown, Pennsylvania.[1] Two species, each belonging to a different genus, were identified. These are *Anchisauripus sillimani* (E. Hitchcock) and *Grallator tenuis* E. Hitchcock. Two additional discoveries have subsequently been made. These are significant because, first, they are new localities for a kind of fossil comparatively rare in Pennsylvania; and, second, they extend the known geologic range of Triassic dinosaurs in the state.

The Triassic of south-central Pennsylvania consists of two formations with subdivisions, thus:

Newark Group (Upper Triassic)	
Gettysburg formation	16,000 feet
Arendtville fanglomerate	
Heidlersburg member	
Lower shales	
New Oxford formation	7,000 "

These beds are more or less closely equivalent to the type Newark series of New Jersey. The Yocumtown tracks came from a zone near the middle of the Gettysburg formation in beds of alternating red shale and sandstone. More precisely they may be thought

[1] W. O. Hickok and Bradford Willard, "Dinosaur Foot Tracks near Yocumtown, York County, Pennsylvania." *Proceedings, Penna. Acad. Sci.*, Vol. vii, pp. 55–58, 1933.

of as belonging to the upper part of the lower shales of the Gettysburg.

Last summer Mr. P. L. Killeen collected and turned over to the writer a track from gray shale outcropping about one mile north-northwest of Table Rock, which is six miles north of Gettysburg. This example is thought to belong near the middle of the Heidlersburg member of the Gettysburg formation. The specimen (a single track) is rather poorly preserved, but from its size, proportions and digital pattern it is assigned to the genus *Anchisauripus*. It is smaller than *A. sillimani* (E. Hitchcock) found at Yocumtown, but a specific determination can not be made with any degree of certainty.

Early in April of the present year the Pennsylvania Department of Highways exploded five tons of dynamite while widening U. S. Highway 111 about two miles south of New Cumberland, Cumberland County, where the road rises southward from the lowlands adjacent to Yellow Breeches Creek and enters the more rugged topography of the Triassic belt. This blast shot down large amounts of rock from the uppermost Triassic beds across a section between 300 and 400 feet thick. The succession is a highly varied lithologic series. Considerable amounts of red shale and sandstone are present, but there is also a large proportion of very hard, gray to greenish sandstone. Thick strata of coarse conglomerate (fanglomerate) are interbedded with the finer clastics. Ripple marks, mud cracks and raindrop imprints are common in the shales, and rippled sandstone surfaces are not rare. Such a series implies shifting distributary streams, spreading fans, rapidly changing local conditions. The region probably supported little life, and preservation of any records of such would be quite fortuitous.

Occasional impressions of fragments of plant stems are distributed throughout all the sediments, but chiefly in the red beds. In a thin slab of dark red, finely arenaceous shale, broken out from near the middle of the section a single dinosaur track was discovered by the writer. Its rarity is evident, for it is the only one found in the section. The slab carries mud cracks, rain prints and possible plant stem impressions. The track is of the same genus as that from the Gettysburg region, but its better preservation assigns it with reasonable certainty to *Anchisauripus sillimani* (E. Hitchcock), which is the larger of the two species of tracks found at the Yocumtown locality.

From these observations it is seen that the genus *Anchisauripus* lived in Pennsylvania through middle and late Newark time. The Yocumtown tracks are probably the oldest; the Table Rock specimen nearly as old; and the foot track from the road cut south of New Cumberland the youngest. Scarcity of tracks and poor preservation make additional data most desirable.

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A SOURCE OF BOTANICAL MISINFORMATION

THERE has recently been published, under the title "Pioneering with Wild Flowers," a book purporting to furnish information as to native plants and their cultivation. Written in an interesting style and well illustrated, it will probably be widely circulated, and many people are likely to consider the data in it authoritative. It contains, however, a number of mistakes which should be brought to the attention of scientists generally, so that they can warn their friends who may have purchased the book.

Some of the errors are merely ludicrous, as for instance where a well-known native plant is designated *Aster "linnaeafolia"*—the Linnaeus-leaved aster. Again, *Trillium luteum* is renamed *T. "flavum"* for the naïve reason that it "does not seem to be classified by our botanists." Misspelling, misidentification of species and mislabelling of cuts are frequent.

However, the primary purpose of this note is to call attention to certain potentially dangerous statements. Several plants which only experts can cultivate successfully, such as the orchid Arethusa and the birdsfoot violet, are repeatedly stated or implied to be easy to grow. This will of course aid in the sale of these plants by dealers, but will also result in an increased destruction of these rapidly vanishing species, and must be opposed by every conservationist. On the other hand, certain undesirable plants are recommended; thus, one of the most virulently weedy species of *Hieracium* known is misidentified as *Senecio aureus* and praised as a garden plant. All that need be said is that any one who plants it in their wildflower garden will regret doing so ever after.

Finally, there is even danger to human life in an error made on page 77, where *Veratrum viride* is confused with *Phytolacca decandra*, with the remark that "the roots are supposed to be poisonous, but I understand that the young shoots are eaten as greens." Actually, there are on record a number of cases of fatal poisoning of people by shoots of *Veratrum*, mistaken for edible greens, and it is included among the 30 most poisonous plants of the United States by Chesnut (U. S. D. A. Farmers' Bulletin 86.) The public should certainly be advised to beware of such books written by pioneers instead of by experts.

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