

July 29, will be devoted to excursions to places of interest. Dr. Thomas G. Moorhead, regius professor of physie, Trinity College, Dublin, is the incoming president of the association.

THE date of the meeting of the Phi Sigma Society is June 26, 27 and 28, not June 19, 20 and 21, as announced in the preliminary program of the Chicago meeting of the American Association.

THE fiftieth anniversary of the founding of the Wisconsin Agricultural Experiment Station was observed at the Farm Field Day in Madison on June 3. The Babcock film, a talking picture taken by the

U. S. Department of Agriculture while the late Dr. S. M. Babcock was still living, was shown for the first time to a Wisconsin audience. It shows Dr. Babcock in his laboratory explaining the test and the machine which he developed which is used generally wherever dairying is carried on. Dr. Eugene Davenport, formerly dean of the College of Agriculture of the University of Illinois, was the principal speaker. The departments of the College of Agriculture, carrying on research, arranged an exhibit to show recent developments and findings as they apply to practical every-day farm and home problems.

DISCUSSION

MEANINGLESS VERSUS SIGNIFICANT TERMS IN GEOLOGICAL CLASSIFICATION

IN the February 10, 1933, issue of SCIENCE there appears a brief article by Dr. M. M. Leighton on "The Naming of the Subdivisions of the Wisconsin Glacial Age," in which he proposes the substitution of certain meaningless terms—Tazewell, Cary and Mankato—for the significant terms, Early Wisconsin, Middle Wisconsin and Late Wisconsin, which have been in general use for considerable time, and are readily understood by any one reading geological literature, denoting as they do successive parts of the Wisconsin glacial stage. The incentive for suggesting the new names seems to have its basis in a newly acquired view of Dr. Leighton that the deposition of the Iowan drift came only a short time before that of the Early Wisconsin drift, and so it may properly be included in the Wisconsin stage.

Whether the Iowan should be so included, if the entire field is taken into account, is far from being clearly established. This has been made forcibly apparent in a recent report by Dr. W. C. Alden on eastern Montana and adjacent areas (Professional Paper 174, U. S. Geological Survey, issued in 1932). There are deposits in Montana and the Dakotas which Dr. Alden is inclined to refer to the Iowan, but he considers them too old to be included in the Wisconsin stage. These are discussed by him under the heading "Illinoian or Iowan." But he thinks they do not appear to be as old as the Illinoian of Illinois.

Inasmuch as the entire series of drifts classed as Illinoian, Iowan and Wisconsin fall in the last quarter of the Pleistocene Period the distinctions in age aspects are less striking than between these drifts and those of middle and early Pleistocene age, known as Kansan and Nebraskan. This being the case, it seems advisable to let the terms that are in general use stand, especially where they have significance, and are

self-explanatory, and not replace them by a set of meaningless terms.

FRANK LEVERETT

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THREE PREHISTORIC PARASITES

IN 1916-17 an expedition of the Peabody Museum of American Archaeology and Ethnology of Harvard University excavated Basket-Maker Indian remains from desert caves in the northeastern portion of Arizona. Several human bodies were recovered and these have been described in the museum report¹ and elsewhere.²

Besides the human remains, two dogs were also found in undisturbed burial cists dug into the hard pan of the so-called "White Dog" cave. With the larger dog were found the bodies of many thousand flies. These flies were identified at the Museum of Comparative Zoology at Harvard as being *Caliphora coloradensis*.

Just recently a thorough microscopic examination has been made of uncontaminated skin and hair taken from the larger dog, and in a surprisingly well-preserved state have been found the eggs and young adults of a louse (*Trichodectus*), eggs and adults of a flea (*Sarcopsylla penetrans*), and numerous colonies of a fungus (*Trichosporum giganteum*) growing upon the hair shafts.

The only claim to fame of these insignificant parasites is their age, which has been conservatively estimated to be between six and ten thousand years.

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GALE E. WILSON

THE DISTRIBUTION OF SERAPIAS HELLEBORINE IN CENTRAL NEW YORK

Serapias Helleborine L.—classified in the past as *Epipactis Crantz*; *E. latifolia* All.; *E. viridiflora*

¹ S. J. Guernsey and A. V. Kidder, "Basket-Maker Caves of Northeastern Arizona," Peabody Museum papers, Vol. viii, No. 2, 1921.

² G. E. Wilson, "A Study in American Paleohistology," *American Naturalist*, Vol. lxi, 1927.

Reichenb.—is believed to have been introduced from Europe. Its range was first reported in the immediate vicinity of Syracuse, New York, and later Buffalo, New York, and Toronto, Ontario. A more recent study shows it occupies a wider but limited range and is rare in each locality where found.¹

Since *Serapias Helleborine* was first observed in the vicinity of Syracuse, the only region of the eastern United States where the hart tongue fern, *Scolopendrium vulgare*, grows, botanists suspected that its distribution would be limited to the same general areas. The orchid, however, has been a persistent invader of new areas in central New York, rapidly increasing as it adapts itself to the environment. Especially is this true in the Cayuga Lake Basin, where *Serapias Helleborine* was rare 15 years ago but to-day is a rather common plant, growing from roadsides to deep woods.² During the past year, 1932, this orchid has invaded in large numbers highly diversified areas both in natural and cultivated habitats in central New York. One of the areas invaded was a highly domesticated habitat in a residential district of Syracuse. This habitat, a heavy, sodded, well-kept residence lawn, supported seven vigorous plants approximately 2½ feet tall. These plants were growing in four unusual positions in the lawn, which saved them from the cutting blades of the lawn mower until their growth revealed a pleasing form to the eye of the caretaker, who permitted them to grow unmolested. Three of the above plants were growing in a very heavy lawn sod slightly higher in elevation than the surrounding ground. One grew in the shade of a hedge, where its roots mingled among those of the hedge plants, and three in close contact with a cement walk. These plants all produced many blossoms and a heavy seed setting followed. According to the statement of the property owner, this is the first season this plant has appeared in the lawn or in the immediate neighborhood. This observation covered a period of 25 years. Another interesting appearance of *Serapias Helleborine* this year for the first time was in a residential area on the shores of Cazenovia Lake, 16 miles east of Syracuse. Here the orchid grew abundantly in the back yard of a summer home. Furthermore, it has been found growing abundantly the past season in the bottomlands of various lakes in the vicinity of Syracuse, where in the past it occurred only sparingly.

The finding of this once rare orchid growing so luxuriantly in domesticated, as well as in natural habitats, is indeed interesting. If the present year's

distribution is a reliable criterion for the future, flower lovers of central New York may realize a lifetime desire and see orchid plants as abundant in their back yards as some of the more common plant species of the region. This assumption may be purely speculative, however, since so many factors not fully understood may play an important rôle in the growth and distribution of an orchid species in a specific region during any particular year. Nevertheless, the occurrence of *Serapias Helleborine* in domesticated habitats definitely indicates that it may ultimately adapt itself to such environments. With this in mind, the writer as well as others interested in the distribution habits of this plant gathered its seed during the present year, to be scattered and planted in such cultivated habitats as lawns, flower plots and shrub areas. In addition, the seeds have been sent to individuals in various regions of the United States in the hope that more information relative to its environmental demands and adaptations can be gathered.

Serapias Helleborine is not as spectacular in its beauty as several other species of the Orchidaceae; nevertheless, the tall leafy stem with its dense-flowered raceme is very attractive. Therefore, should this orchid prove itself to be adaptive to widely divergent habitats, nature will have again added an attraction to the home lot.

VERNON A. YOUNG

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I-INOSITOL IN CITRUS FRUITS

IN the isolation of ascorbic (hexuronic) acid from citrus fruits there is always obtained a residue insoluble in methyl alcohol which can be recrystallized from water.

This substance melts at 225–226°. A mixture with i-inositol gives no depression in melting-point, and the optical-crystallographic properties are identical with those of i-inositol. The optical-crystallographic properties of anhydrous i-inositol, recrystallized from water at the temperature of the boiling-water bath, were found to be as follows: substance occurs as irregular colorless fragments when crushed for study by optical-immersion method. The indices of refraction are: $\alpha=1.525$, $\beta=1.555$, $\gamma=1.570$, all ± 0.003 . The double refraction is strong, $\gamma-\alpha=0.045$. Biaxial interference figures common; optic sign –; 2 E not large.

The yields of i-inositol from ten liters of juice were as follows: Lemon = 1.24 g., orange = 0.47 g., grapefruit = 0.28 g.

E. K. NELSON

BUREAU OF CHEMISTRY AND SOILS

GEORGE L. KEENAN

FOOD AND DRUG ADMINISTRATION

¹ Gray's Manual, 6th and 7th editions; also Britton and Brown, 1st and 2nd editions of "Illustrated Flora of the Northern United States and Canada."

² A report from Dr. A. J. Eames, of Cornell University, Ithaca, N. Y., in personal correspondence.