Dr. Britton remarked that this forms an interesting addition to the number of coast plants found in the Shawangunk range. It has been claimed that the breaking up of sandstone rocks there has produced a sandy soil sufficiently similar to that of the seashore to permit the growth of certain arenophilous plants usually found only on the coast.

Dr. T. F. Allen spoke of a specimen of *Rhus vernicifera*, the lacquer tree of Japan, which is growing luxuriantly on his farm in Connecticut. It resembles our swamp sumach, *Rhus venenata*, in appearance, and is becoming a handsome tree. Some of his family who are sensitive to Rhus poisoning find it necessary to avoid going near it.

Dr. Britton also reported a gift to the Botanic Garden of about 200 volumes which had belonged to the botanist, David Hosack. They are in excellent condition, and some of them extremely rare. EDWARD S. BURGESS,
Secretary.

BIOLOGICAL SOCIETY OF WASHINGTON, 312TH MEETING, SATURDAY, NOVEMBER 19TH.

MR. F. A. LUCAS read a 'Letter from H. H. Field Concerning the Concilium Bibliographicum, and the Proposed Catalogue of the Royal Society,' calling attention to the expense of the proposed publication, even though no card catalogue was issued, and stating that the Concilium could carry out the entire scheme at a less cost than the incomplete publication proposed by the Royal Society.

Mr. Frederick V. Coville read a paper on 'The Botanical Explorations of Thomas Nuttall in California,' showing that the dates on which Nuttall is stated to have visited various localities were erroneously given.

Professor Barton W. Evermann described 'A Physical and Biological Survey of Lake Maxinkuckee,' giving the various problems whose solution was desired, and the methods employed for soundings, obtaining the temperature, and studying the plankton of the lake.

O. F. COOK, *Secretary.*

SCIENCE CLUB OF THE UNIVERSITY OF WISCONSIN.

THE November meeting of the Science Club of the University of Wisconsin was held on the 21st instant, the Vice president, Mr. Edward Kremers, in the chair. The programme of the evening was a paper by Mr. Louis Kahlenberg on 'The Present Status of our Knowledge of Solutions.'

After an exposition of the modern theories of solution and of electrolytic dissociation, the speaker pointed out that his recent researches on non-aqueous solutions have shown that there are solutions that conduct electricity in which, according to molecular weight determinations there is no dissociation, and that furthermore, the molecular conductivity in some solutions does not change with the dilution, and that in others it decreases as the volume increases. These facts can not be harmonized with the theory of electrolytic dissociation.

In the criticism of the general theory of solutions it was emphasized that the solvent does not act merely as so much space, but that it has a far more important function, the very act of solution itself depending on a mutual interaction of solvent and solute.

The paper was discussed by Messrs. B. W. Snow, H. L. Russell, E. Kremers and C. F. Burgess. WM. H. HOBBS.

DISCUSSION AND CORRESPONDENCE.

AN ALIEN CLEMATIS IN NEW MEXICO

LAST July I found an interesting and peculiar *Clematis* growing along the road-side in the town of Las Vegas, N. M., apparently wild. It was clearly related to the *Clematis* (*Atragene*) *occidentalis* (Hornem.) of the adjacent mountains, but still quite distinct. It did not come into full flower until the *C. occidentalis* was over, and the flowers were yellow instead of blue or white. Careful comparisons showed that the plant was different from anything known in America, so I drew up a description, under the name of *C. crux-flava*, 'the yellow cross.' During the rest of the summer I examined a good deal of the country near Las Vegas, and nowhere was the new *Clematis* to be seen, except within the limits of the town. A very vigorous plant was found growing in a garden, but nobody knew how it got there. These facts suggested an alien, so I sent specimens to Dr. B. L. Robinson at Cambridge, and to Kew Gardens, requesting that they might be compared with the Asiatic species. From both places in due time came the reply

that the plant was *Clematis orientalis* L. ; from Kew the further information was sent that it was a variety of the species, exactly agreeing with specimens from the N. W. Himalayas.

As the plant is apparently with us to stay, it may be worth while to give the description of it, based on Las Vegas material.

Clematis orientalis, variety—Low straggling climber; stems slender, purplish at the nodes; leaves, including petioles, 7 to 12 cm. long, with five leaflets, which are rather thick, perfectly glabrous, a somewhat glaucous green, more or less lanceolate in outline, the terminal one often linear-lanceolate, the lateral ones sometimes ovate-lanceolate, all more or less coarsely and irregularly serrate towards the base, or even lobed, the upper leaves especially having narrow leaflets, distinctly lobed at the base, the lobes pointed and often notched ; in a well developed leaf the terminal lobe is about 4 cm. long. Buds pale greenish-yellow, obpyriform, nodding, 4-angled ; flowers at first nodding, ultimately erect ; sepals four, pale sulphur-yellow with a greenish tint, rather thick, recurved at tips, 7-nerved, nearly glabrous, perfectly so below except edges, but above with scanty white woolly hairs, and the lateral margins, which are bent inwards, quite conspicuously white-woolly towards the tip; apex of sepal truncate in lateral view, with a linear green process, 2 mm. long, at the lower corner of the truncation. Length of sepal about 23 mm., breadth 10 mm. Stamens 32, anthers 4½ mm. long, filaments about 6 mm., broad and flattened, especially the inner ones, glabrous with only a few hairs on the margins. Outer filaments tinged with purplish. No staminodes. Fruit a globular head with the usual long plumose tails, about 4 cm. long, the carpels also hairy, borne upon a honeycombed hairy receptacle. The persistent styles in the fruit are reddish, and the other long hairs silvery-white.

The naturalization of a Himalayan *Clematis* in the mountains of New Mexico suggests the possibility that other plants from the same region might do well if introduced here, some of them being perhaps of economic value.

T. D. A. COCKERELL.

MESILLA PARK, NEW MEXICO,
November 25, 1899.

NOTES ON INORGANIC CHEMISTRY.

THE problem of the structure of the carbon molecule has attracted the attention of not a few chemists, though little progress has been made toward its solution, owing to the difficulty of obtaining soluble bodies of definite composition by the action of reagents upon any form of carbon. Sometime since, L. Staudenmaier discovered a rapid method of oxidizing graphite to graphitic acid, and a continuation of this work is described in the current *Berichte*. Graphitic acid appears not to be a true acid, but a substance of a quinone nature. By heating it is converted into a simpler compound which the author calls pyrographitic acid, from which other derivatives may be formed. Among the oxidation products is mellitic acid $C_6(COOH)_6$. From the analogy furnished by the oxidation of naphthalene to phthalic acid, it would appear that graphitic acid and hence graphite contains three naphthalene groups united together into a benzene nucleus.

In the study of non-aqueous solutions more work has been done on ammonia as a solvent than on any other liquid. The work of E. C. Franklin and others shows that many salts dissolve readily in liquid anhydrous ammonia and are electrolytically dissociated. According to Franklin, liquid hydrogen sulfid appears not to act in this manner as a solvent, and I know of no experiments with liquid hydrochloric acid. Great interest attaches to a series of experiments described by P. Walden, of Riga, in the *Berichte*, on liquid sulfur dioxid as an inorganic ionizing solvent. It is the more remarkable, as the solvent contains no hydrogen. As far as Walden's experiments have yet gone, the halid salts have been found to dissolve readily in liquid sulfur dioxid and metathetical reactions take place in the solution. Organic substances of very different compositions dissolve readily, and often though solvent and solute are colorless, the solution is colored. A number of substances were used for determination of molecular weight by the boiling point method. The solutions appear to be quite different from the aqueous solutions, showing the molecular weight in several instances double what would be expected. The article is an interesting contribution to the chemistry of solutions.