TABLE 1
REGISTERED ATTENDANCE AT WINTER MEETINGS, 1920–36, EXPRESSED AS PERCENTAGE OF MEMBERSHIP

Section	Number of meetings	Percentage of membership attending meetings	
		American Association of Economic Entomologists	American Association for the Advancement of Science
Middle Atlantic ...	6	22.7	25.4
New England	2	20.4	18.5
East North Central	3	22.8	19.8
West North Central	3	17.7	13.0
South Central	2	17.8	9.9
Canada	1	18.0	18.0

TABLE 2
AVERAGE ATTENDANCE AT ANNUAL MEETINGS IN VARIOUS SECTIONS EXPRESSED AS PERCENTAGE OF AVERAGE FOR MIDDLE ATLANTIC STATES. (CALCULATED FROM TABLE ABOVE.)

Section	American Association of Economic Entomologists	American Associaton for the Advancement of Science
	Per cent.	Per cent.
Middle Atlantic	100.0	100.0
New England	89.9	72.8
East North Central...	100.4	78.0
West North Central...	78.0	51.2
South Central	78.4	39.0
Canada	79.3	70.9

Meeting places of the future will probably be selected on the basis of: (1) convenience of location; (2) facilities for large numbers of members; (3) rotation among important sections; and (4) cultural, scenic or general interest. The last two needs may be partly met by sectional or off-season meetings. Although there is a large membership on the Pacific Coast, it is worthy of note that a midwinter meeting has never been held there. It seems possible that, with present trends in automobile travel, winter meetings in the South might be well attended.

The facts studied show that, although entomological membership does not center very far west and south of association membership, a larger proportion of entomological society members than association members attend meetings in the western and southern sections.

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STUDIES IN THE POTASSIUM METABOLISM OF THE ANIMAL BODY BY MEANS OF ITS ARTIFICIAL RADIOACTIVE ISOTOPE

A STUDY of the metabolism of potassium is being conducted on the white rat with the aid of radio-potassium used as a "tracer." Some of the salient facts which have been observed are given below.

The absorption of potassium from the gastro-intestinal tract is very rapid when potassium chloride is administered to a normal adult fasted rat, about 90 per cent. being absorbed within half an hour. Some of the absorbed potassium is very quickly rejected, mainly through the kidneys. The major portion is retained and taken up by the muscles and other soft tissues of the body. The radio-potassium incorporated into the tissues displaces a certain proportion of the potassium previously there, and appears subsequently to have the same fate as the ordinary potassium present in the body.

After the first few hours, the potassium retention per gram of fresh tissue—called the "specific affinity"—is about the same for such varied tissues as muscle, liver, kidney, stomach, small intestines and heart.

Another point of interest is that the liver takes up a greater fraction of the radio-potassium when it is administered orally than when it is injected intraperitoneally. This may be explained if the predominant path of potassium absorption is via the portal system.

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FOSSIL ALGAE FROM THE SALEM LIMESTONE OF INDIANA

SEVERAL years ago the writer briefly described and illustrated some peculiar "rod-and-bead" structures from the Salem limestone (Indiana building stone) of Indiana and suggested that they represented the castings of large worms.[1] This interpretation and one of the illustrations were included in "Invertebrate Paleontology," which appeared in the fall of 1935.[2] Since the Salem limestone has been used so widely for large state, federal and office buildings, extensive surfaces of the stone have been made available for examination; and it was hoped, therefore, that others who noted these peculiar structures, which show up clearly after the stone has weathered a few years, would scrutinize them carefully and test the validity of the suggested origin.

Late in 1935 Dr. Titus Ulke, of Washington, D. C., wrote to Dr. W. H. Twenhofel, calling attention to Fig. 43A in "Invertebrate Paleontology" and suggesting that the "rod-and-bead" markings were ". . . not worm castings and tracks, but *algae,* probably allied to . . ." certain present-day lime-secreting forms.[3] Several

[1] R. R. Shrock, *Proc. Ind. Acad. Sci. for 1934,* 44: 174–175, Figs. 1A–C, 1935.

[2] W. H. Twenhofel and R. R. Shrock, "Invertebrate Paleontology," McGraw-Hill Book Company, Inc., p. 137, Fig. 43A, 1935.

[3] Letter to Dr. W. H. Twenhofel dated November 17, 1935.

years later the present writer sent a detailed description of the markings he had seen and examined to Dr. Ulke, who again asserted his belief that the structures should be referred to ancient algae. He emphasized the following points, which favor algal origin:

(1) Where best developed the markings almost always lie flat with the bedding planes, *i.e.*, they lie parallel with the bedding planes.

(2) The material inside the rods and beads is essentially like the surrounding granular limestone.

(3) Rods and beads alike are separated from the surrounding rock by a tiny groove, suggesting that there was once some sort of "skin" or shell around them.

(4) In some instances the rods bend back at an acute angle.

(5) Some of the rods branch and some possess tiny structures resembling rootlets.

(6) Small lobate markings associated with the "rod-and-bead" structures suggest the fronds of algae.

(7) Rarely the beads decrease in size in one direction, as in a budding algal branch.

(8) Transverse partition walls are indicated in some instances.

The present writer has checked most of the observations just listed and believes that the suggested origin warrants serious consideration. Interpreting these "rod-and-bead" markings as ancient algae would also be in accord with the environmental conditions which are thought to have prevailed during the deposition of the Salem limestone.[4] It has been suggested that this limestone, at least that portion which is a coquina of macerated shell matter, was deposited as a clean calcareous sand in shallow water, having been previous to its deposition a dune or beach sand. In such an environment of deposition algae, such as those which are thought to have formed the "rod-and-bead" structures, may well have found conditions favorable for the extensive growth suggested by the abundance of preserved fossils.

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THE TREATMENT OF "SNIFFLES" IN THE RAT WITH SULFANILAMIDE

"SNIFFLES" or a form of pneumonia in the rat is responsible for a high mortality in all laboratory rat colonies. Recovery is rare, although a rat may linger on for months after the first symptoms appear. In other cases the disease progresses rapidly and causes death within a week. Because no effective treatment is known and because the disease is contagious, it has been a source of considerable loss, particularly in experimental studies in which the rat is tested over a long period of time.

Since sulfanilamide has been successfully used in severe infections in humans and in experimentally induced infections in animals, we decided to test its effectiveness in the treatment of this disease characteristic to the rat.

An experimental and a control group were used, the former being given 50 mg daily (varying slightly with the animal's weight) mixed in the food and the latter given the same care except for the omission of the sulfanilamide. Both groups contained cases in which the disease exhibited varying degrees of severity.

Of the fourteen rats in the experimental group, twelve permanently recovered, whereas two died. All the seven animals in the control group died after varying lengths of time. Prompt treatment with the drug resulted in the more rapid recovery.

No detrimental effects of the drug have appeared despite the fact that some animals received it daily for nearly two months. Detailed case studies will be reported later.

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SPECIAL ARTICLES

EFFECT OF OXYGEN LIGHT AND LACTOFLAVIN ON THE OXIDATION OF VITAMIN C IN MILK

THE oxidation of ascorbic acid and of fat in milk is sensitive to variations in dissolved oxygen as well as to dissolved copper and exposure to light. Lactoflavin is the sole agent in milk responsible for the sensitivity of ascorbic acid to light.

A correlation has been found between the rate of oxidation of ascorbic acid in the dark and the production of a common flavor defect of milk resulting from the oxidation of the fat. The addition of 0.005 to 0.01 per cent. of ascorbic acid delays the development of this oxidized flavor.[1] It is possible that a competition for dissolved oxygen between two distinct processes is involved.[1,2]

Mattick and Kon,[3] Kon and Watson[4] and Kon[5] have found that sunlight, more specifically the short waves of visible light, accelerates the oxidation of re-

E. R. Cumings, Handbook of Indiana Geology, Pt. IV, 1922, p. 504.

[4] E. R. Cumings, *et al.*, 30th Ind. Rept., 1906, p. 1199; J. W. Beede, *et al.*, 39th Ind. Rept., 1915, pp. 204–206;

[1] P. F. Sharp, G. M. Trout and E. S. Guthrie, Tenth Ann. Rpt. N. Y. State Assoc. Dairy and Milk Inspectors, p. 153, 1936.

[2] L. Buruiana, *Biochem. Jour.*, 31: 1452, 1937.

[3] A. T. R. Mattick and S. K. Kon, *Nature*, 132: 446, 1933.

[4] S. K. Kon and M. B. Watson, *Biochem. Jour.*, 30: 2273, 1936.

[5] S. K. Kon, SCIENCE, 85: 119, 1937.