of Lake of the Woods. The hare populations in these regions were afflicted with shock disease to varying degrees. Since animals from these districts rapidly succumbed to shock disease in captivity, and hares were dying from the same disease in the wild, there would seem to be no doubt that the hare population throughout Minnesota was in a process of destruction from shock disease during the winter and spring of 1936. The evidence that shock disease is almost wholly responsible for the decimation of hares is greatly augmented by our extensive attempts to demonstrate a significant mortality from other diseases which might be a factor in the area of the die-off. Such infectious diseases as tularemia we have found to play but a minor role in the mortality of hares. Moreover, the general picture of the decline, continuing until populations are extremely low, is not one typical of the course of an epizootic disease. In the sphere of our investigations both positive and negative findings point to shock disease as the primary cause of the periodic decimation of the snowshoe hare.

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PRODUCTION OF WHEALS IN THE HUMAN SKIN[1]

Unpublished data of Abramson, Sookne and Moyer have indicated that there is in ragweed extract an active amphoteric constituent of high molecular weight which is negatively charged at pH 7.4. We have therefore attempted to elicit allergic wheals by the electrophoresis of ragweed extracts from absorbent cotton into the skin of individuals hypersensitive to aqueous extracts of ragweed pollen. It was discovered that wheals were obtained after five to ten minutes with current densities of 0.3 to 0.5 milliampere not only with the negative pole but also with the positive pole used in the same fashion. Large wheals with pseudopods were obtained following electrophoresis of dialyzed extracts. The same technique employed on subjects not hypersensitive to ragweed did not result in whealing. To account for the fact that the positive pole gave as large if not larger wheals than the negative pole, we may hypothesize either the presence of positively charged active constituents, or invoke the notion that the positively charged water molecules which set up an electro-osmotic stream through the pores of the skin may be responsible. Similar results have been obtained using extracts from the pollen of timothy grass. In unpublished experiments with Lubkin, it has been shown that positively charged histamine ions can be electrically transported from the skin from wheals produced by histamine by application of the negative electrode. Prior to the formation of an allergic wheal by means of the electrophoresis of pollen extract using the negative pole, the formation of histamine is the generally accepted theory. It should then be possible to remove the histamine from an allergic wheal by applying the negative pole. A recovery of histamine in this fashion has not as yet been achieved.

Similar experiments on the electrophoresis of insulin through the skin are in progress.

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[1] From the Medical Service of Dr. George Baehr and the Laboratories of the Mount Sinai Hospital, New York City.

SAUROPOD DINOSAUR REMAINS IN THE UPPER CRETACEOUS

An expedition from the Smithsonian Institution working in the Wasatch Plateau region of central Utah during the summer of 1937 made a discovery of more than ordinary interest. In the type section of the North Horn formation, in Emery County, a considerable portion of a very large sauropod dinosaur was found in beds carrying horned (Ceratopsian) and duck-billed (Hadrosaurian) dinosaur remains. These animals fully indicate the Upper Cretaceous age of the lower eight hundred feet of the North Horn formation.

The Sauropod specimen is of special interest not only because of its unexpected appearance here, but also because it pertains to the family Titanosauridae, the first recognized occurrence of this family in North America. At this time only a scapula and a section from the mid-caudal region has been prepared, but the latter are sufficient to show the caudal vertebrae to be procoelus with small neural arches confined to the anterior half of the centra, both typical features of the family as known at the present time.

The genus *Titanosaurus* was established by Lydekker on caudal vertebrae from the Upper Cretaceous (Lamenta Beds) of India, and the same authority was the first to report the genus from the Upper Cretaceous of Patagonia.

The specimen under discussion has not been sufficiently prepared as yet for proper comparison with the type of *Alamosaurus sanjuanensis,* from the Upper Cretaceous (Ojo Alamo) of New Mexico, but such comparisons as have been possible appear to show its affinities to be near, if not belonging to that genus.

It should be recalled that *Alamosaurus* was the first sauropod dinosaur to be recognized from the Upper Cretaceous of North America, and the skepticism with which that announcement was received may now be dissipated by this second discovery under circumstances that are even more convincing than the first, if that is necessary.

This specimen will be fully described and discussed as soon as the bones have been prepared for study.

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A NEW RECORD FOR FRESH-WATER MEDUSAE IN PENNSYLVANIA

ON August 17, 1937, a single specimen of fresh-water medusa was brought to the writer for identification. In the afternoon of this day approximately 150 jellyfish were collected in an abandoned limestone quarry filled with spring and drainage water, near the village of Almedia, Columbia County, Pennsylvania. This collection, made with a dip net from the shore, was a small part of the population seen. Collections were made at regular intervals until October 25. Residents of the neighborhood who use this pool for bathing report that these animals were noticed several weeks previous to August 17. During this period the density of population varied from several dozen to many thousands. At the height of population density they welled up from the depth of the pool in cloud-like multitudes. This pool is 225 feet wide, 375 feet long, 35 to 90 feet deep, with very abrupt slopes.

The medusae collected in the field ranged from 0.5 mm to 18.0 mm in diameter. No hydroid forms were observed. Live medusae taken to the laboratory survived about four weeks in aquaria supplied with water and Elodea from their natural habitat. The contents of one aquarium in which the medusae had died and disintegrated suddenly became populated with minute medusae and small green hydra. This aquarium had been frequently observed with the hope that the hydroid form might have been brought in on the Elodea. The smallest of these medusae was 0.35 mm in diameter, had eight buds for tentacles, a short manubrium and well-developed velum. Specimens 0.75 mm to 1.00 mm in diameter developed 16 or more tentacles. It is estimated that a total of 250 small medusae were produced in this aquarium during a period of 28 days with a peak population of 100 specimens. Approximately half of these specimens were preserved. Some of the others were isolated with the hope that they might develop to maturity, but without success.

According to Professor Payne these medusae are *Craspedacusta ryderi*.

This is the first locality record for Craspedacusta in this section of Pennsylvania.

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NEW EXPOSURES OF ORDOVICIAN BENTONITE IN SOUTHWESTERN VIRGINIA

SEVERAL excellent exposures of bentonite have been uncovered by recent road-building activities on Virginia Highway 64 in Turkey Cove, northeastern Lee County, Virginia. The bentonite beds, which vary in thickness from three inches to two feet, occur in the Lowville and Trenton formations (Middle Ordovician). The rocks have been folded and faulted so that the same bed is exposed more than once. When the writer left the area in early September, 1937, seven exposures at three horizons had already been laid open. Road-building was not complete at that time, however, and new cuts will be made in Lowville and Trenton rocks for another mile or more. Hence it is likely that ten or a dozen sections of bentonite will be available for study by the next field season. The susceptibility of the soft volcanic ash to weathering and relatively rapid removal lends especial interest to these fresh exposures.

In a recent paper on the stratigraphy of Ordovician bentonites in southwestern Virginia, Rosenkrans[1] states that the exposures of bentonite in Lee County are poor, and at the same time that the area is one of great importance in establishing by means of bentonite the stratigraphic relations of the Lowville formation in Tennessee, Kentucky and Virginia. This is the case because the sediments of Lowville age in this area are apparently transitional between the limestone deposits of the interior and the clastic rocks in the eastern part of the Appalachian Valley. The bentonite sections newly exposed in Turkey Cove fill the need expressed by Rosenkrans. It is hoped that they will receive the detailed study to which their excellence and strategic position entitle them.

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SCIENTIFIC BOOKS

GENERAL CATALOGUE OF STARS

General Catalogue of 33,342 Stars. By BENJAMIN BOSS. Carnegie Institution of Washington. 5 vols. Quarto.

THIS publication represents the final five volumes of a general program of work started by Professor Lewis Boss about the time he became director of the Dudley Observatory at Albany, sixty years ago. Professor Boss's first catalogue of standard stars was published in 1877, and his "Catalogue of 627 Principal Standard Stars, distributed from the north to the south pole and derived from a homogeneous treatment of all available

[1] R. R. Rosenkrans, *Va. Geol. Survey Bull.*, 46–I: 99, 1936.