

This being the case it will be evident that the effective portion of the work of any introduced parasite lies within the fraction of one per cent. that would otherwise survive. It therefore follows that should an insect be introduced that would destroy fifty per cent. of the pest, more than forty-nine per cent. of this fifty per cent. is simply the destruction of individuals that would have died from other causes. The real question to be settled therefore becomes whether the new insect replaces a more or a less efficient cause of death. The apparent per cent. of efficiency is really no criterion whatever of the value of the introduction. That which we are desiring to secure is the reduction of the numbers especially during the period of injury, and therefore the only significant datum is the determination of the relative abundance maintained by the injurious species. The numbers of any particular parasite is not even a safe index of its rôle in the maintenance of this status, unless one were able to accurately weigh its efficiency as contrasted with that which it replaced.

All entomologists appreciate that natural enemies are largely if not the only controlling factors that maintain the present status of insect abundance, but do not so uniformly appreciate that the change of status though related is nevertheless essentially a different problem.

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*AN ASTRONOMICAL EXPEDITION TO
ARGENTINA*

The Department of Meridian Astrometry of the Carnegie Institution, in charge of Professor Lewis Boss of the Dudley Ob-
boll weevil the extreme annual migration is about the width of two counties. The total extension of this insect into new territory only requires an average survival of about two per cent. in the outer two tiers of counties.

servatory at Albany, N. Y., where the work of the department is carried on, is dispatching an expedition to the Argentine Republic to establish a branch observatory there. This observatory will be established at San Luis about 500 miles west from Buenos Aires. This town of about 10,000 inhabitants is located near the eastern edge of the Andean plateau at an elevation of about 2,500 feet. It is reported to have a fine climate with remarkably clear skies.

The new observing station consists of the necessary observing structures, and temporary barracks for office rooms and quarters for the staff. The principal instrument will be the Olcott Meridian Circle of the Dudley Observatory. This instrument will be set up in its new location for the purpose of making reciprocal observations upon stars already observed at Albany, together with observations upon all stars from south declination to the south pole that are brighter than the seventh magnitude, or which are included in Lacaille's extensive survey of the southern stars made at the Cape of Good Hope in 1750. It is thought that this new scheme of making reciprocal observations on the same stars, with the same instrument, alternately used in the two hemispheres will present peculiar advantages in point of accuracy in the systematic sense. To reach this accuracy has long been the problem of fundamental work in astronomy. It is estimated that the work of observation in Argentina will last three or four years.

The object of these observations is to gather material for facilitating the construction of a general catalogue of about 25,000 stars, in which will be contained accurately computed positions and motions of all the stars included in it.

The department has already completed for publication a general catalogue of 6,188 stars, including all the most accurately ob-

served stars and all from the North to the South pole of the heavens that are visible to the naked eye. This work has already resulted in interesting conclusions in reference to star-streams, the solar motion in space, and other stellar problems.

The preliminary expedition to establish the new observing station sailed from Brooklyn for Buenos Aires, August 20, on the steamship Velasquez. Accompanying Professor Boss, is Professor Richard H. Tucker, of the Lick Observatory, well known for his work in observation with the Meridian Circle of the Lick Observatory. He will superintend the construction of piers and buildings for the new observatory, and he will be placed in charge of the observations after the station shall be ready for operation. Mr. Varnum, for many years an assistant at the Dudley Observatory, is also a member of the party. Later on the remainder of the staff, which in all will consist of eight persons, will be sent to the new observatory when it shall be ready for work.

This undertaking has met with cordial recognition from Mr. Epifanio Protela, Argentine minister to the United States, and from other representatives of the Argentine Government, which in the most liberal and enlightened spirit has extended every assistance and courtesy.

SCIENTIFIC NOTES AND NEWS

PROFESSOR C. O. WHITMAN, head of the Department of Zoology in the University of Chicago, has resigned the directorship of the Marine Biological Laboratory, Wood's Hole, Mass., which he has held for the past twenty years. Professor Frank R. Lillie, of the University of Chicago, the assistant director, has been elected to the directorship.

At the meeting of the French Association for the Advancement of Science at Clermont Ferrand, the gold medal of the association was presented to Sir William Ramsay.

In connection with the Sheffield meeting of the British Medical Association, the faculty

of science of the University of Sheffield has conferred honorary degrees as follows: President-elect, Professor Simeon Snell; Dr. Henry Davy, of Exeter, the outgoing president; Professor Bouchard, of the University of Paris; Professor John Chiene, professor of surgery at Edinburgh; Dr. Kingston Fowler, dean of the medical faculty of the University of London; Professor Fuchs, the Viennese ophthalmologist; Professor Lucas-Championnière; Dr. C. J. Martin, director of the Lister Institute; Professor John Murphy, of Chicago; Dr. Thomas Oliver, known for his work on dangerous trades; Mr. Edmund Owen; Sir Henry Swanzy, of Dublin; Professor Tillmanns, of Leipzig; and Dr. Dawson Williams, editor of *The British Medical Journal*.

The Journal of the American Medical Association states that a banquet in honor of the seventieth birthday anniversary of Gen. George M. Sternberg was given on June 8, when nearly 200 men celebrated in the annals of government, science and literature met to honor the former surgeon-general. The Hon. John W. Foster, formerly secretary of state, presided as toastmaster. A silver loving cup was presented to General Sternberg by those who attended the banquet, and a large American flag was given him by the attachés and patients of the Sternberg Sanitarium in Maryland.

M. GAILLOT has been elected a corresponding member of the Paris Academy of Sciences in the section of astronomy, in the room of M. Trepied.

THE president of the Republic of France has conferred upon Professor Wm. B. Alwood, of Charlottesville, Va., the Cross of Officier du Mèrite Agricole, and the Société Nationale d'Agriculture de France, has awarded him the silver medal and diploma of the society.

DR. JAMES A. NELSON, formerly honorary fellow in entomology and invertebrate zoology at Cornell University, has accepted an appointment with the Bureau of Entomology at Washington, D. C. Dr. Nelson who is a graduate of Kenyon College and received his