Further details of this work are to be published in the *Canadian Journal of Research* in the near future.

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A PROMISING CONTROL FOR PSYLLID YELLOWS OF POTATOES

THE feeding of the psyllid, *Paratrioza cockerelli* Sulc., causes a very serious disease condition in potatoes and tomatoes, known as psyllid yellows. It is the most serious problem for the potato growers of many western sections, and tomatoes are often very seriously injured. It has been estimated that the condition reduced the 1932 potato crop in Colorado as much as 8 million bushels.

Practically all sections of the state were infested, with some suffering a total crop loss. Production has become so uncertain in some important sections that the acreage has been very materially reduced. Reports indicated that the loss has been equally heavy in other western states.

The condition is characterized by an upward rolling of the basal portion of the terminal leaves, which may be somewhat smaller than normal and stand more or less upright. They early take on a chlorotic appearance that may develop to a distinct yellow and in extreme cases an early dropping of the leaves. The nodes become enlarged and all buds are abnormally active. The effect upon the tubers is just as pronounced. If the set has taken place the growth is checked. When the tubers are not definitely formed, numerous stolons are thrown out with small tubers forming into a chain effect. Such tubers frequently give rise to sprouts. In advanced cases aerial tubers are characteristic.

Considerable work has been done to determine the exact cause of this abnormal development, without evidence that it is of bacterial or virus origin. The best evidence supports the theory that it is of the nature of a toxin injected into the plant by the insect. This theory is strongly supported by the rather remarkable recovery shown by plants upon removal of the insect parasites.

Numerous tests are under way with a large series of possible controls with outstanding early results being shown from lime-sulfur applied as a spray. It shows a very definite lethal effect upon the insects and apparently has a positive residual effect in preventing the location of the small scale-like nymphs. Plants showing distinct psyllid yellow symptoms have after spraying shown almost complete recovery, as evidenced by a normal top growth and good tuber production. In an early field of the Irish Cobbler variety the checks produced at the rate of 51 bushels of marketable potatoes while a block receiving only one application of lime-sulfur, testing 33 degrees Baume, used at the rate of one gallon to 40 gallons of water, produced at the rate of 209 bushels of much better quality and size. In another field the check produced at the rate of 128.9 bushels and the sprayed portion 378.5.

Extensive tests are being carried on in the late-producing areas and several hundred acres have been sprayed by commercial producers. The early indications of results are promising. A more complete report will be made after the harvest.

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WHERE DID THIS REALLY HAPPEN?

RECENTLY, in rereading Darwin's account of his journey around the world in the *Beagle,* I read in Chapter VII of an attack by a jaguar on priests in a church at Santa Fé, in the Argentine, a few years previous to his visit in October, 1833. Two priests were killed by the animal. When I read this I at once recalled that Seton, in "Lives of Game Animals" (Vol. I, pp. 28–29), quotes from Baird's "Mammals of the Mexican Boundary Survey" an account of a jaguar attacking and killing four people in the church of the convent of San Francisco, which it seems was situated on the Rio Grande 18 miles from Santa Fé! Seemingly, this convent is no longer in existence. This attack was on the tenth of April, 1825. I have looked up this account in Baird, and he apparently copied it from Kennerly's notes.

Knowing that Dr. Alexander Wetmore had been at the South American Santa Fé, I wrote to him, asking if he could tell me if there was a convent of San Francisco there, and he apparently took the trouble to ascertain for me that there is both a church and a convent of the San Franciscan Order at that place. A few years previous to 1833, the time of Darwin's visit to Santa Fé, could very well be 1825.

Baird's account is an abridged translation from the Spanish, and is prefaced by the following remarks:

> Many stories about the ferocity of this animal are told among the inhabitants of the western regions, but none substantiating the fact that a jaguar unprovoked will attack man. In the annals of the Convent of San Francisco, in Santa Fé, a bloody occurrence is recorded which contains some indication of the jaguar's nature.

Then follows the account.

Where did this attack actually take place? It would be strange, indeed, if two such attacks occurred at about the same time at places of the same name so widely separated as these two Santa Fés. Therefore,

the story of the attack must have been transferred from one Santa Fé to the other, but how and in which direction?

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A CHANGE OF NAMES

ON June 29, 1933, in the *American Museum Novitates* No. 638, I gave a preliminary description of an ancestral crocodile, naming it *Archaeosuchus richardsoni,* establishing the family Archaeosuchidae.

It has been called to my attention that *Archaeosuchus* is preoccupied (*Archaeosuchus cairncrossi,* Broom, R. 1905), and I take this occasion to rename this important Triassic reptile *Protosuchus richardsoni,* changing the family name to Protosuchidae.

BARNUM BROWN

DECEMBER 19, 1933

REPORTS

TRI-STATE GEOLOGICAL FIELD CONFERENCE OF THE UPPER MISSISSIPPI VALLEY

FIFTY-TWO geologists from the universities of Chicago, Illinois, Iowa and Wisconsin, Northwestern University, the State Geological Survey of Illinois and the Northern and Western Illinois State Teachers Colleges met at LaSalle, Illinois, on October 28 to organize the Tri-State Geological Field Conference of the Upper Mississippi Valley and participate in its first annual field trip. The tri-state conference is an outgrowth of a series of annual field trips that have been sponsored for some years past by the Illinois Geological Survey. As a result of suggestions made by Professor W. H. Twenhofel, of the University of Wisconsin, Dr. M. M. Leighton, chief of the Illinois State Geological Survey, issued special invitations to the geologists of Iowa and Wisconsin with the view of enlarging the scope of the field conferences and creating an opportunity for discussing and correlating current geological investigations that have common interest to the geologists of Illinois, Iowa and Wisconsin.

The two-day field trip was conducted by M. M. Leighton (glaciology), J. M. Weller (Pennsylvanian stratigraphy), H. B. Willman (physiography) and L. E. Workman (pre-Pennsylvanian stratigraphy) of the Illinois Geological Survey staff in the upper Illinois Valley between Starved Rock and the big bend. The Illinois Survey has recently completed a restudy of the geology along the Illinois River in preparation of a report on the geological resources adjacent to the new Illinois Waterway. This investigation in the Upper Illinois Valley was carried on by H. B. Willman.

Exposed near LaSalle are thick Pleistocene deposits, including tills, outwash and loess of various ages, 500 feet of Pennsylvanian beds, representing more than 12 cycles of deposition, and the Galena, St. Peter and Shakopee formations of the Ordovician system. In addition, 2,000 feet of older unexposed beds are known from well borings. The predominant structural feature in this part of Illinois is the LaSalle anticline, dipping steeply to the west and gently to the east. Folding occurred along this axis in pre-Pennsylvanian time as well as more recently and the Pennsylvanian beds overlie Middle Ordovician sediments with an angular unconformity which is the most important in the state.

On the morning of the 28th the conference proceeded eastward from LaSalle, and observed the LaSalle limestone rising sharply upon the west flank of the LaSalle anticline. This limestone is the thickest Pennsylvanian limestone in Illinois and near LaSalle furnishes the raw material for three large Portland cement plants. After reaching the crest of the anticline the route of the party extended for several miles upon an upland bedrock surface that was swept by the Kankakee torrent in the Carey substage of Wisconsin age. The preexisting valley was inadequate to accommodate the large volume of water derived at this time from the rapidly melting Lake Michigan and Saginaw glacial lobes, the glacial Kankakee River overflowed, and previously deposited glacial materials were swept from the bedrock surface. East of LaSalle this surface is formed by the Galena dolomite, St. Peter sandstone and Shakopee dolomite. It is rendered uneven by scoured undrained depressions and gravel bars and is an example of scab-land topography on a small scale mantled by soil. Near Utica the Shakopee dolomite has been used in the manufacture of hydraulic cement, and some of the old abandoned mine entrances were seen in the north bluff of the Illinois, where this variable formation is well exposed on the crest of the LaSalle anticline.

At Utica the conference turned southward, crossed the Illinois River and proceeded to Starved Rock State Park for luncheon. Starved Rock is a precipitously sided remnant of St. Peter sandstone, rising more than 100 feet above the flood plain of the Illinois, that was separated from the south valley wall by the Kankakee torrent. From its top, which is less than an acre in extent, a magnificent view of the Illinois valley may be obtained.

The afternoon was devoted to the study of four Pennsylvanian sections in the bluffs of the deeply