

which they are willing to share with us and which we greatly need . . . The separation between the laboratory man and the systematists already imperils the work, I may say the sanity of either."

It is true that the accumulation of facts in regard to each one of hundreds of thousands of individual species shows endless variety in the details of modified divergence. It is therefore impossible to condense in a single phrase all that we know of its phases, unless with Darwin we use the term "Natural Selection" as the antithesis to supernatural creation and adjustment, thus including in one word not only the results of the Survival of the Fit, but also all other natural processes which may be coincident with it.

As a matter of fact, no phenomenon of nature is better understood than that of the origin of species, taking the word species in its original and natural definition as a definable form of animal or plant life as now existing on the globe. In the study of any one of these, we find the inherent factors of heredity and variation, the survival of individuals adapted to their environment, thereby perpetuating in a general way their particular traits. The groups thus formed lose their unity through "biological friction," "mating by propinquity," isolation, segregation or by whatever term we choose to indicate the effects of barriers. There is no better term than the one used by Moritz Wagner, "*räumliche Sonderung*." Thus taking the inherent life forces into consideration, adaptation is the result of sifting, species-moulding the result of bars to free movement within the species. Independent of the matter of adaptation, *sundering* separates groups with some differences in parentage and subjects them to new incidence of selection, so that in a longer or shorter time specific differences, usually non-adaptive, appear and become permanent. Whether the special variations are great or small in degree, mutations or fluctuations, is a secondary question, the latter most usually, but neither can become permanent except through *räumliche Sonderung*.

The origin of individual species of animal or plant runs closely parallel with that of individual words in a language. Each one of these springs from a "root"; through ancient docu-

ments (fossil records) the roots of words can be traced more perfectly than the roots of animal or plant species. Yet one may know the derivation of thousands of words while yet "expressing agnosticism" as to the origin of language.

The laws of distribution as to words or species alike may be summed up in simple propositions. Every word and every species is found in every part of the globe, unless (a) it has never found its way there, (b) it has failed to maintain itself, or (c) maintaining itself, it has been, through environment sifting or obstruction (selection or segregation), transformed into something tangibly different.

The Origin of Species for the most part is defined by proposition (c). The origin of any given species of the British fauna or flora, for example, can be traced from England to the Continent of Europe just as surely though not as accurately as a given word in the English language. The biological relations of words differ from those of animals or plants, but *räumliche Sonderung* produces corresponding results in both cases.

DAVID STARR JORDAN

THE KAIETEUR FALLS

TO THE EDITOR OF SCIENCE: I read with much interest in a recent issue of SCIENCE the account of the expedition of the New York Zoological Society to the Tropical Research Station at British Guiana. In this account was included a description of a visit to Kaieteur Falls, which were claimed to be the highest in the world. It seems a little unfortunate that the writer overlooked the fact that he has in his own country a magnificent waterfall which is several times as high as the one he described.

Quoting directly from the article, we find, "The Kaieteur Falls are the highest in the world, eight hundred and ten feet in all, about five times as high as Niagara." The statistics published by the Department of the Interior of the U. S. government give the height of the Yosemite Falls in the Yosemite Valley in California as more than twenty-five hundred feet in all, while the first sheer drop is fourteen hundred and thirty feet. I do not want to go on record as discouraging any one from visiting the Kaieteur Falls if the opportunity pre-

sents itself but I do agree with the advertising slogan of our railroads that we should "See America First."

ARTHUR C. HARDY

ROCHESTER, N. Y.

MUSEUM PESTS FEEDING ON GLYCERINE JELLY SLIDES

RECENTLY I accidentally found, in an ordinary box of 100 microscopic slides, two Dermestid beetle larvæ, exhibiting what is an apparently new feeding habit for these museum pests, as far as I can ascertain from entomologists here.

The two larvæ I saw at different times actually feeding on the black rim of asphaltum encircling the cover glass of a few slides, two in one part and five in another part of the box. From these was removed from one fourth inch to fully one half of the periphery, exposing the mounting medium at the edge. Excess asphaltum on the upper surface was not touched, which shows, as well as do other points given below, that the asphaltum was not the chief attractive food substance in the case.

Glycerine jelly was the mounting medium in all these slides. All slides touched were fairly thick mounts, all practically thick enough for at least a small larva to get in beneath the cover glass. Two slides show rather large, broad, irregular tunnels in the jelly. I did not actually see larvæ at work in the jelly, but sufficient evidence was there. Besides these spaces in the jelly, which could not have been due to any flow of material, or made by any other agent, a great many larval hairs were stuck around the cover glass, and in decreasing numbers, on other parts of the slide, and a cast skin was stuck to one.

One of these larvæ was inadvertently crushed, and the other one later died. A couple of big Dermestid larvæ were secured and offered fresh glycerine jelly. They ate of it readily, but I also noticed that they became badly stuck up in a rather short time, and soon died. Such result would be rather fortunate for the slide owner, thanks to the consistency of the glycerine jelly. If there are few larvæ there probably will not be much damage then. Still some good specimens may be exposed to injury, and this happen long before the injury is noted. It is a feeding

habit which the writer believes should be taken into account.

W. C. KRAATZ

OHIO STATE UNIVERSITY

NECTARINA IN TEXAS

My attention was first called to the presence of *Nectarina lecheguana* within the limits of the United States by a letter from a beekeeper living in the lower Rio Grande Valley, stating that there were insects there which made nests like the hornets and yellow jackets but stored honey like bees. He also stated that they swarmed like bees. An investigation of available literature failed to mention anything fitting the description given. A few months later, on visiting the region, several beekeepers confirmed the account and I was shown a number of abandoned nests but could find none which were occupied. My interest continued and I endeavored to secure specimens from friends living there. A few live insects were sent me in an ordinary queen cage. These were forwarded to the National Museum for identification and were identified by S. A. Rohwer as *N. lecheguana*. This species is recorded commonly from Mexico to Brazil, but so far as can be ascertained there is no previous record of its appearance north of the Rio Grande River. I have been unable to find any indication of its occurrence farther north than about twenty miles of Brownsville, Texas.

In the early summer of 1920 I secured a large colony which was shipped in its original nest to Hamilton, Illinois, in a cage by express. A few days after the nest was placed in the open, the insects absconded and were not located again for some time. They built a new nest as large as the old and at least one division established itself, but the third nest was much smaller. Since the insects can stand but little frost they could not survive an Illinois winter in the open.

These insects are remarkable in possessing so many characteristics of both bees and wasps. As already stated they make large paper nests like the wasps but they store up honey like the bees. When they sting, they lose their stings as do the honeybees. They show little resentment when one approaches the nest and I found no difficulty in observing their actions at close range. When a forager returned from