spas, mountain resorts and at the seaside; primary non-suppurative infection of the nervous system in relation to hydro-mineral therapy; utilization of spas by the French army, and the legal control and survey of mineral waters. Sir James Purves-Stewart will contribute a report on infections of the nervous system. After the congress four days will be devoted to motor car tours in Languedoc, Pyrenees and the Côte d'Argent. Further information may be obtained from Dr. François Françon, Aix-les-Bains.

THE Fourteenth Exposition of Chemical Industries will be held in New York in the Grand Central Palace, during the week of December 4. The number of exhibitors, and the progress of the exposition generally, at this date, is equal to the progress in any of the more prosperous years. It is somewhat better, at a corresponding date, with respect to the last exposition, which was held in 1931. Three floors of Grand Central Palace are reserved for the event and, at this date, contracts have been signed which take care of two floors and part of the third. In the most prosperous days, the number of exhibitors at this time has been no greater in proportion.

DR. LINSLY R. WILLIAMS, director of the New York Academy of Medicine, issued the following statement on July 8: "Many physicians engaged in teaching and research in Germany have been deprived of their civil rights so that it has been impossible for them to continue their activities in either of these fields. They have also been deprived of means of support for themselves and their families. Many non-Aryan physicians in Germany have made notable contributions to medicine in teaching and research and German medical science in general has always had many ardent followers in the United States. It is impossible to believe that the present policies, which are doing so much harm to German science and culture, will have the lasting approval of our many German colleagues, with whom we wish to maintain the most cordial and friendly relations." The statement has been signed by a large number of physicians, including Dana Harlow Brooks, Lewis A. Conner, William Darrach, A. R. Dochez, Eugene F. DuBois, John A. Hartwell, G. Canby Robinson, Peyton Rous, James J. Walsh and Shirley W. Wynne. The explanation is made that although many of the signers are affiliated with various medical organizations, their signing of the statement should not be taken as officially representative, but simply as their personal view.

IT was stated in the issue of SCIENCE for May 12 that the works of Dr. Franz Boas, professor of anthropology at Columbia University, had been removed from the library of the University of Kiel, from which university Professor Boas received the doctorate degree in 1881 and was last year given an honorary degree. We are informed from the office of the rector of the university that the books by Professor Boas were not removed from the library but were withheld from circulation for a few days as a protest against an open letter to President von Hindenburg which was signed by Professor Boas.

DISCUSSION

INTERNAL CHROMOSOMAL VARIATION AND ITS PROBABLE CAUSE

IT has been known for some time that in the mosquito there exists a very interesting chromosomal condition. In the cells of all the tissues the nuclei and the cells themselves are of different dimensions, and corresponding to this situation there are parallel differences in chromosomal equipment. The present writer has found this situation in other cases among insects, notably in the blackfly. Not only does this remarkable condition exist in insects, but it has been found quite generally in the case of plants, for example, in the genera Nicotiana and Crepis. This state of affairs also presents itself in so-called graft hybrids and in chimeras.

It has occurred to the writer in connection with a wide series of investigations covering both plants and animals that an explanation of this remarkable situation might be supplied by a study of the meiotic or reduction division. The blackfly and the mosquito were chosen for this purpose and it has been observed that in the active larvae of both these types there are very interesting conditions present in the primary spermatocytes. At metaphase certain smaller chromosomes of the type which it is customary at the present time to designate univalent (a singularly unfortunate appellation!) lag notably on both sides of the equatorial plate. As is commonly the case in animals and lower plants, these chromosomes ultimately reach their proper place in the metaphase plate. In anaphase the abnormal distribution of the chromosomes is still more marked, particularly in the mosquito, where they cover the spindle from end to end in an extremely aberrant fashion. The only reasonable explanation of this situation in accordance with our general knowledge at the present time is the presence of interspecific hybridism. This suggestion is in line with what we know of the cytology of chimeras and internal heteroploidy. In the orange and apple, for example, which are notoriously prone to the forma-

tion of chimeras, the reduction division is strikingly abnormal and the product of pollen is largely sterile. It seems reasonable to suggest in this connection that the internal variation of chromosomal equipment in cells of the same organism where it is present is the result of previous crossing of species. Into this connection should be brought, according to the present writer's investigations, as yet largely unpublished, the clonal or bud variations of types like the Boston fern. On account of the large number of very small chromosomes in the Boston fern, it has been impossible to correlate its innumerable variations with any chromosomal basis; but if there is a reliable foundation to the chromosomal hypothesis of heredity, the very numerous abnormalities appearing as bud sports in the Boston fern must have a heterochromosomal basis.

It is suggested in accordance with this brief summary of conditions in the case of forms which show a high degree of internal variability that heterozygosis or crossing affords a reasonable explanation, as it obviously does in the case of species which vary individually, that is, produce a wide series of different types from the sowing of seeds.

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DISTRIBUTION OF LEAFY SPURGE (EUPHORBIA VIRGATA) IN THE UNITED STATES

LEAFY spurge is a perennial weed that is proving to be one of the most difficult weeds to eradicate. Recent correspondence with botanists and agronomists in agricultural experiment stations and with curators of herbaria has led to the assembling of some important facts that will be of interest to plant workers throughout the country. It is important to locate primary infestations of this weed so that eradication or control measures may be taken at once.

Leafy spurge is listed in the manuals and weed bulletins as *Euphorbia esula* L. According to recent identifications and correspondence received from Herbert Groh, botanist, Department of Agriculture, Ottawa, Canada; P. C. Standley, Field Museum, Chicago; P. Aellen, Basel, Switzerland, and C. V. Morton, Smithsonian Institution, Washington, D. C., it appears that the correct name is *Euphorbia virgata* Waldst and Kit. instead of *E. esula*. C. V. Morton wrote that he was preparing for *Rhodora* a taxonomic note which will give reasons for the change in name.

The present distribution of leafy spurge, so far as the writer has been able to ascertain, is shown on the map (Fig. 1). Each dot represents one or more localities in which the weed has been found. In some cases the infestation may cover many acres, in other cases the weed may be rare. The earliest record found was

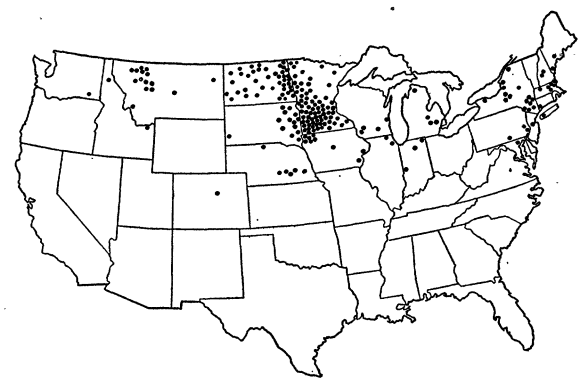

FIG. 1. Map of the United States showing present distribution of leafy spurge. Each dot indicates one or several neighboring infestations.

an herbarium specimen bearing as part of the label, "Essex Co., Mass., 1842, Wm. Oakes." The states in which infestations appear to be most serious at present are Minnesota, North and South Dakota and New York. It appears to have only recently invaded the states of Wisconsin, Iowa, Illinois, Nebraska, Colorado, Montana, Idaho and Washington. So far, there appears to be no record of its presence in Oregon, Utah, Wyoming, Kansas, Missouri, Kentucky, Ohio, Virginia, Delaware, Rhode Island, Vermont, or in other states south of those now showing infestations.

Undoubtedly, leafy spurge has a wider distribution than indicated on the map. In the state of Washington it is known that it is more wide-spread than shown by the single dot, but definite records do not seem to be available now for other localities. In West Virginia it appears that it was collected there last summer, but definite information is not yet available.

It is to be expected that leafy spurge will appear sooner or later in Middle Western and Western states adjoining the states that now show infestations. Judging from present indications it appears possible that leafy spurge will become a serious weed over a wide area extending from New York to the state of Washington and as far south so as to include Oregon, Utah, Kansas, Missouri and Kentucky.

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THE TYPE OF THE GENUS LECANIUM

IN SCIENCE for August 9, 1929 (p. 150), I discussed the type of this important genus of scale insects, and referred to Kirkaldy's indication of *L. hesperidum* (L.), 1906, as being earlier than the designation of *L. persicae* (Fab.) by Sanders in 1909. I had quite forgotten that I myself explicitly designated *L. hesperidum* as the type in *Entomologist*, 1901 (p. 91).

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