LETTERS TO THE EDITOR.

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The Concilium Bibliographicum of Zürich.

THERE appears to be in England some misapprehension in regard to the Concilium Bibliographicum of Zürich. All zoologists are probably aware that the international agency founded by the International Congresses of Zoology and Physiology has for twenty-one years been concerned in editing the "Bibliographia Zoologica"; but many seem to believe that the ownership has remained vested in the hands of Wilhelm Engelmann, of Leipzig, and that the undertaking has consequently fallen a victim to the war. To give the proper historical perspective to the work, its genealogy may be tabulated as follows:—

Series		Titles
I. ("Bibliotheca historica naturalis," I.)	1700-1846	13,560
II. ("Bibliotheca Zoologica")	... 1846-1861	40,750
III. ("Bibliotheca Zoologica," II.)	... 1861-1880	125,000
IV. (<i>Zoologischer Anzeiger</i>)	... 1861-1895	115,000
Prior to Concilium		294,310
V. ("Bibliographia Zoologica")	... 1896-	202,500
Total...		496,810

On the death of Prof. J. Victor Carus, in 1903, the Concilium Bibliographicum became sole editor of the "Bibliographia Zoologica"; but the work remained a part of the *Zoologischer Anzeiger*, and was printed and distributed in Leipzig. In 1909 arrangements were made for printing in Zürich. Three years later the Concilium Bibliographicum acquired all rights over the "Bibliographia," and the relationship with the *Zoologischer Anzeiger* was severed. Vols. xxiii.-xxv. (1912-13), however, were still distributed to the book trade through the intermediary of Wilhelm Engelmann, the last part being ready in March, 1914. Vol. xxvi. went to press in April, 1914, and a circular announcing the fact that all services had been brought together in Zürich and that the new volume would be sent only to such as filed a new order was issued in June and July. The vacations and the outbreak of the war have caused this circular to be entirely overlooked, so that many zoologists have fancied that the great historic work had been suspended. This is far from being the case. Despite formidable difficulties, vols. xxvi.-xxix. have appeared, and vol. xxx. is in the press.

There has doubtless been a great falling off in the scientific output of all European countries, and the postal service is to blame for many gaps, but, in general, the experience of the past two years has shown the wisdom of the choice of a small neutral State as the centre for international co-operation. It is also worthy of being pointed out to the world of science that Switzerland, in spite of financial difficulties, which made it necessary for the Government to suspend almost all its support of Swiss science, made an exception for this international agency. The President of the Confederation proclaimed allegiance to the "Red Cross" of science, and our international institute continued to receive State subsidies. At the same time a public subscription brought together the necessary funds for covering the war-time deficit.

HERBERT HAVILAND FIELD.

Director of the Concilium Bibliographicum.
Sunnyside, Mayow Road, Forest Hill, S.E.,

October 31.

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Scarcity of Wasps.

JUDGING from the correspondence which has recently appeared in NATURE, the dearth of wasps this autumn in many parts of England has been most pronounced, but I have not noticed any reference to the county of Somerset.

From August 26 to September 12 I was staying, with my wife and son, in a cottage on Christon Hill, on the Mendip Hills, situated between Loxton and Banwell, and although sunshine was only occasional, and rain somewhat frequent and often very heavy, we were simply besieged by wasps, which were particularly tiresome at the breakfast-table. They were so numerous at times, coming in from the open windows, that we frequently had to abandon our meals temporarily to punish the offenders, my son continuing his captures often for half an hour at a time. They were killed by the score daily, but still they seemed to infest everything, not only preserves and other food, but one's clothing also. In neighbouring houses we heard of the abundance of wasps. About 150 yards from our cottage we found a large nest of wasps in a bank by the roadside.

I cannot recollect ever having seen so many wasps in a house, unless it was during the hottest part of 1911 (August 31 to September 9), when I was conducting archæological excavations on Exmoor. At the hotel we were greatly pestered by the quantities of wasps which attacked the food.

H. ST. GEORGE GRAY.

Taunton Castle, November 4.

A Peculiar Thunderclap.

REFERRING to Mr. Don's letter (NATURE, August 17), it may be of interest to note that for many years I have been observing thunderstorms, often from high places on Etna, and from a distance, and I have never seen a lightning flash which was a single one. Lightning flashes from the clouds to the earth are always two, three, or more, either very rapidly repeated on the spot and along the same track, or in different places, sometimes very far apart, and simultaneously.

In connection with the remarks by "H. O. F." (NATURE, August 24), it may be worth mentioning that, as is well known, a lightning stroke induces in volcanic rocks a permanent magnetisation, often strong enough to make the needle of a pocket compass turn through an angle of 180°. From a large number of observations on Etna and Stromboli, my brother, Prof. Gaetano, and I have noted that, when lightning strikes a wall, or a large lava block, or the earth-wire of a lightning rod near a wall, south polarity is found in the lava, or in the bricks of the wall, to the right of the observer, and north polarity to the left. Such a disposition shows that the discharge was from +electricity of the ground to -electricity of the clouds.

Other observations on similar autoregistrations of lightning strokes and of their direction have shown that the discharge from the clouds to the earth is much less frequent than that from the earth to the clouds.

My brother and I will be glad to send our published notes to anyone who cares to have further details on the subject.

GIOVANNI PLATANIA.

University of Catania, October 6.

The Pollination of Toadflax.

CAN any reader kindly state—from observation—which insect pollinates the round-leaved toadflax—*Linaria spuria*?

S. P.

Linaria spuria, Miller, is a not uncommon weed of cornfields on calcareous soils in the Midlands and south of England, in western, central, and southern

Europe, in northern Africa, and in western Asia, and it occurs adventitiously in North America. I have never observed insects pollinating the flower. The corolla is closed, and probably small insects are unable to effect an entry; there are no "nectar-guides"; the four anthers are adherent, mature simultaneously with the stigma, and dehisce internally. It would seem, therefore, as Kunth ("Handbook of Flower Pollination," English translation by Ainsworth Davis, vol. iii., p. 177) states, that "automatic self-pollination is inevitable." I fear "S. P." will regard this answer to his question as analogous with the dictum: "There are no snakes in Iceland!" C. E. Moss.

Botany School, Cambridge, November 9.

SCIENTIFIC GLASSWARE.

AN interesting account of the efforts which have been made in France to replace glassware for scientific and technical purposes which had formerly been imported from Germany and Austria by home productions is given in an article in the July-August number of the *Bulletin de la Société d'Encouragement pour l'Industrie Nationale*. The article consists of a detailed account of an exhibition of French products of this kind, and affords interesting comparisons with the similar but much smaller exhibition recently held in the rooms of the Institute of Chemistry in Russell Square. The French exhibition included optical glass, and utensils for the heavy chemical trades.

In regard to optical glass, of course, it is not surprising to find that the French are in a far better position than that yet reached in this country. The firm of optical glass manufacturers which was founded in Paris by one of the Guinand family has been steadily developed, and has for years past—under the names of Mantois and latterly of Parra-Mantois—issued lists of optical glasses of a range and quality quite as wide as, and in many respects more satisfactory than, those of Schott, of Jena. It is, in fact, worth remembering that on many occasions during the twelve or fifteen years preceding the war the British manufacturer of optical glass was confronted with a more serious competition from Mantois than from Schott.

This state of affairs must be held highly to the credit of the French glass-makers, and we see indications of similar skill and enterprise in other directions connected with the glass industry. French plate-glass, associated with the name of the great firm of St. Gobain, has long held a high reputation, while the name of Appert is a household word wherever glass is studied. Accordingly we see in the present record of the French exhibition a most comprehensive list of products of all kinds, including not only laboratory-ware, such as beakers, flasks, etc., but many specialities such as glass for X-ray tubes and glass for serum tubes. The list of exhibitors is so large, the range of products exhibited so wide, and the claims made for the quality of the products so sweeping, that one might well suppose that the French efforts in this direction had been crowned with complete success, and that their industries had been rendered

entirely independent of imported goods. It is sincerely to be hoped, in the interests of our Allies, that this impression is correct, and that the ordinary users of this ware are really able to obtain it in the regularity—as regards both quality and quantity—which is essential for practical purposes.

So far as can be judged from the printed descriptions and the photographs with which it is illustrated, the French exhibition was on an altogether larger scale than the one recently held by the Institute of Chemistry. The latter was, in fact, somewhat disappointing as regards both number of exhibitors and range of exhibits. Some very creditable achievements were, of course, represented, particularly in regard to laboratory-ware, such as flasks, beakers, and similar articles. Those exhibited were excellent examples of their kind so far as workmanship and the obvious qualities of the glass are concerned. It was disappointing to find, however, that there was no evidence as to the real qualities of the various articles shown. Public testing laboratories are available in this country perfectly competent to give certificates of quality in regard to all articles of this kind; this being the case, why were not these exhibits accompanied by such certificates showing the behaviour of the glass to chemical reagents and to sudden changes of temperature? In the absence of such evidence we can only hope that the glasses labelled "resistant" are really fairly satisfactory for their purpose, and that the flasks and beakers will stand the usage to which they are of necessity exposed in the laboratory.

Another marked feature of the Institute of Chemistry exhibition was the circumstance that it was confined very largely to the lighter kinds of laboratory-ware. While manufacturers are to be congratulated upon the measure of success which they have achieved in this very important direction, it seems desirable to direct attention to the fact that laboratories cannot exist on light glass-ware alone. There is a whole range of glass articles of a heavier type which are also necessary—such as desiccators, separating funnels, jars and cylinders, etc.—which were formerly obtained from abroad. So far as the writer is aware, English-made articles of this class are not yet available, although the difficulties of manufacture are probably much less than those connected with ware which has to resist severe physical and chemical conditions.

In conclusion, it may perhaps be suggested that, while a good exhibition is of considerable value in bringing before those interested the best samples of the home products now available, the future of this glass industry and of the technical and scientific operations related to it depends upon a factor which can never be brought out by any exhibition—i.e. the steady and regular trustworthiness of the articles produced. In the chemical laboratory, for instance, it becomes a serious matter if at intervals a beaker or a flask should crack at a critical point in a long and delicate