

finding the missing link in the chain, the actual spawning fresh-water eel in the intermediate waters somewhere above the abysses of the open ocean.

Again, take the case of an interesting oceanographic observation which, if established, may be found to explain the variations in time and amount of important fisheries. Otto Pettersson in 1910 discovered by his observations in the Gullmar Fjord the presence of periodic submarine waves of deeper salter water in the Kattegat and the fjords of the west coast of Sweden, which draw in with them from the Jutland banks vast shoals of the herrings which congregate there in autumn. The deeper layer consists of "bankwater" of salinity 32 to 34 per thousand, and as this rolls in along the bottom as a series of huge undulations it forces out the overlying fresher water, and so the herrings living in the bankwater outside are sucked into the Kattegat and neighboring fjords and give rise to important local fisheries. Pettersson connects the crests of the submarine waves with the phases of the moon. Two great waves of salter water which reached up to the surface took place in November, 1910, one near the time of full moon and the other about new moon, and the latter was at the time when the shoals of herring appeared inshore and provided a profitable fishery. The coincidence of the oceanic phenomena with the lunar phases is not, however, very exact, and doubts have been expressed as to the connection; but if established, and even if found to be due not to the moon but to prevalent winds or the influence of ocean currents, this would be a case of the migration of fishes depending upon mechanical causes, while in other cases it is known that migrations are due to spawning needs or for the purpose of feeding, as in the case of the cod and the herring in the west and north of Norway and in the Barents Sea.

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JOHN SAHLBERG

JOHN REINHOLD SAHLBERG passed away on the eighth of May, 1920, in Helsingfors, Fin-

land, seventy-five years of age, having been born in Helsingfors, June, 1845.

Descriptive entomology has lost one of its prominent men; entomological societies—especially the famous *Societas pro Fauna and Flora Fennica*—an enthusiastic member and officer; the University of Helsingfors a learned teacher, who knew how to guide his pupils to the very source of biological knowledge—nature herself.

John Sahlberg was an unwearied and highly experienced collector, famous all over Europe, who up to his old age, undertook extensive and strenuous excursions throughout all parts of his native country. He also collected in many other countries of the old world, traveling through the northern parts of Scandinavia and Siberia, and staying in the Caucasus, Turkestan, Greece and Italy. Three times during the years 1895 and 1904 he visited Asia Minor, Palestine and Egypt. Although thoroughly familiar with all branches of entomology, it was the *Cicadariae* and the *Coleoptera* which attracted his especial attention, and to these groups he devoted much study.

Among the many publications of John Sahlberg the following may be mentioned:

- 1871: *Öfversigt of Finlands och den Skandinaviska halföns Cicadariae*.
- 1873-89: *Enumeratio Coleopterorum Fenniae*.
- 1878-80: *Bidrag till Nordvestra Sibiriens Insekt Fauna*.
- 1900: *Catalogus Coleopterorum Fenniae Geographicus*.
- 1912-13: *Coleoptera Mediterranea Orientalia*.

He has left his entomological collections, which are large and of rare systematic and faunistic value, to the Zoological Museum of Helsingfors.

John Sahlberg belonged to an old Finnish family which for generations has been connected with the learned institutions of their native land. His grandfather (Carl Reinhold S.) was professor in natural history, first at the Åbo Academy of Science, later at the University of Helsingfors. After extensive travels over all parts of the world, his father (Reinhold Ferdinand S.) was for a period teacher in zoology at the University of Helsingfors.

John Sahlberg himself was only twenty-six years old when he was appointed teacher in zoology at the University of Helsingfors. At the same institution he was professor extraordinarius in entomology from 1888 to 1918.

John Sahlberg's son is Dr. Uuno Saalas, Helsingfors (now Helsinki), an entomologist of very high standing and of international reputation.

John Sahlberg was a man of firm character and deeply interested in Christian movements and associations, especially the Y. M. C. A. and a Christian association of Finnish University students. He also was a very enthusiastic spokesman for prohibition, especially advocating it among young men. He has published and lectured on prohibition and Christian subjects.

A. G. BÖVING

SCIENTIFIC EVENTS

THE PUBLICATION OF SCIENTIFIC BOOKS IN FRANCE

THE Paris correspondent of the *Journal of the American Medical Association* writes:

The paper shortage and publishing difficulties still arouse a lively interest. M. Ducrot, in an informative article in the *Revue Scientifique* on the subject of scientific publishing in France, showed that if there was a crisis in the publication of literary works, this was particularly acute in the case of works on pure science. In fact, the elements of bookmaking have increased considerably in cost as compared to prices before the war: compositors and pressmen are paid from three to four times as much as in 1914, the price of paper is five times as great, and these factors contribute to make the cost of a book from three to four times as much as before the war. Now, the income of the intellectual classes, the only purchasers of theoretic works, has barely doubled, while the budgets of public institutions, libraries, laboratories, etc., have been greatly reduced. A book, even one that constitutes a veritable working tool, is not a prime necessity. It should not, therefore, exceed a certain price, above which it will not sell, and at the present moment, the maximum has apparently been reached.

This condition, which constitutes a veritable danger to the advance of science, is not peculiar to France. A statistical study by M. Fernand Roches

in the *Correspondant* discloses the progressive decrease of the number of publications in the principal countries since 1914. Exclusive of periodicals and musical works, the figures show that a number of books published in 1918, as compared to 1917, decreased in France from 5,054 to 4,484; in Great Britain from 8,131 to 7,716; in Italy from 8,349 to 5,902; in the United States from 10,060 to 9,237, and in Germany from 14,910 to 14,743. The production in 1919 is not yet known, but it was probably less than in 1918.

It is interesting to note that the decrease in Italy totaled 2,447 books; in the United States 823; in France 570, and in England 415; but Germany, defeated and disorganized, showed a decrease of only 167 works.

So far as French medical books are concerned, statistics recently published in the *Bibliographie de la France* indicate that the number of such works, which had suffered a great decrease before the war (from 1,230 in 1910 to 721 in 1914), had again greatly declined in 1915, namely, to 202 works. A tendency to improvement was noted in 1916, and again in 1917, when 292 books appeared. However, in 1918, a new decline set in which it was believed would be accentuated in 1919, but nothing of the sort occurred and in that year 309 new books appeared.

CHEMICAL RESEARCH IN LONDON

A COMMITTEE presided over by Professor J. F. Thorpe, of the Imperial College of Science and Technology, London, has made a report recommending the creation of an All-India Chemical Service, the establishment of a central research institute at Dehra Dun, and of a similar laboratory in each province near the chief seat of industry. The broad object is to assist by scientific investigation in overcoming the difficulties and deficiencies in Indian industrial organization pointed out by the Holland Commission.

The summary in the *London Times* states that while it is the intention of Professor Thorpe and his colleagues that the research institutes should be staffed mainly by Indians, it is manifest that the universities and institutes of the country do not provide adequate training for the research work which will fall to the service. The qualifications laid down are an honor degree in the first and second class or its equivalent; a suitable training in