

world, to the welfare of the community and to the dignity and honor of the nation.

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THE IRWIN EXPEDITION¹

THE Irwin Expedition of Indiana University organized in cooperation with the University of Illinois which started in June, 1918, to study the fresh-water fishes of Peru and Chile and of the Titicaca basin, has returned, bringing very large collections. Miss Adele Eigenmann, a medical student in Indiana University, returned in January, Mr. W. R. Allen traveling fellow of the University of Illinois, returned in April, and I returned the first of June.

Aside from the institutions mentioned the expedition had the cooperation of the American Association for the Advancement of Science, and the Bache Fund of the National Academy of Sciences.

Five weeks were lost in New Orleans waiting for passports. This delay made it inadvisable to attempt to cross the Andes at Cajamarca as planned and the expedition went directly to Callao. From Callao we went together over the Central Railway of Peru to Oroya. From Oroya Mr. Allen went to Lake Junin and down the valley of the Huallaga. Miss Eigenmann and myself first went south as far as Huancayo, later east to La Merced, at an elevation of 2,500 feet, then north to Cerro de Pasco and Gollalarsquisca, then to Casapalca, from where we examined various lakes, reaching an elevation of 15,900 feet. We then returned to the coast, went south by steamer to Mollendo, and by the Southern Railway over the crest of the Andes at Crucero Alto (nearly 14,000 feet) and north to Cuzco. Collections were made at Cuzco, in Lakes Lucre, Urcos, and Langilaio, Chinchero and Huaipo, and in the Urubamba, from its source at La Raya (13,370 feet) to Santa Ana, in the tropics at an elevation of 2,500 feet. We visited La Paz to secure concessions

¹ Mr. Will G. Irwin, of Columbus, Ind., made the expedition possible. See SCIENCE, August 2, 1918.

for Mr. Allen in Bolivia, and then we returned to Lima, at the end of 1918. Early in January we went by steamer north to Paita, from where Miss Adele returned home. I went inland from Paita to Piura, south to Pacasmayo and inland from Pacasmayo to Llaillan. I returned to Lima at the end of January.

Mr. Allen, after some delay from fevers and other causes, returned from the Huallaga early in November to Lima, and then went direct to Lake Titicaca. He spent the time from December to May about Lake Titicaca. He went entirely around the lake, in part by rail, in part by boat, and in part afoot, collecting in many of the tributaries. He devoted particular attention to securing a set of the parasites of the fishes of Titicaca for the University of Illinois. It is hoped that the parasites will give some indication of the origin of the peculiar fishes so abundant in the high Andean lakes.

In February I went south to Chile, and collected in some of the rivers between Puerto Montt and the Rio Copiapo, which is the last of the rivers south of the Desert of Atacama. I also crossed from Puerto Varas, on Lake Llanquihue, to Lake Nahuel-Huapi, in the Argentine, collecting on the way in Lake Todos Santos and in Laguna Fria.

Large quantities of material were collected, and it will take many months to make a complete report. It is interesting to state that we secured four distinct faunas. The fish fauna of the region about Puerto Montt is highly tintured with species belonging to families that are also found in Australia. These begin to decrease north of Valdivia. At Concepcion, aside from the lampreys, only one Australian type was found. The fauna about Santiago is quite different from that about Puerto Montt, and north of Santiago this fauna gradually dwindles. In the last river south of the desert, at Copiapo, only introduced gold fishes were found. It is probable that pejerreyes and other fishes of marine origin are to be found about the mouth of this river. About Copiapo it rarely rains, but at Puerto Montt and Valdivia in the south the

rainfall is very excessive. The faunas of western Ecuador and western Colombia are distinctly Amazonian in type and in northern Peru, at Piura, the fauna is Ecuadorian. The species decrease in number from north to south. The exact point where the northern Amazonian fauna disappears and the Chilean fauna begins has not been determined.

The Titicaca fauna is distinct and very interesting. No other lake of the same altitude has as many species; all of the species of the lake belong to two genera, *Orestias* and *Pygidium*. *Pygidium* is a genus of catfishes distributed over all the mountains of South America. The species found in Lake Titicaca is one of the largest of the genus and of some economic importance. The other genus, *Orestias*, is confined to the Andean lakes of Peru and Bolivia. There are a number of species in Lake Titicaca; some of them reach a foot, more or less, in length, and are brought to the markets about the lake. Others are minute, and sold in the markets in the neighborhood dried. *Orestias* is found northward at least to Cerro de Pasco, both in lakes and in stagnant portions of the rivers. It extends down the Urubamba valley to Ollantaitambo, and in the Oroya valley at least to Huancayo. It is essentially an Alpine genus, ranging from about 7,000 feet to over 15,000 feet in elevation. Considerable effort was made to get species from the lakes near Titicaca. Near Ticlio, the crest of the Central Railway of Peru, specimens were secured at an elevation of more than 15,000 feet.

The expedition had the heartiest cooperation of the authorities in both Chile and Peru. In Chile the government provided railway transportation. Professor Maldonado, of the Chilean government, will extend the examination of the Chilean rivers south of Puerto Montt. In Peru, Mr. Cesar Elguera, of the foreign office, took particular interest in the success of the expedition, and provided, through the government, the free entry of the equipment, and passes over the steamship lines between Paita and Mollendo. President Pardo of Peru furnished the expedition with orders to the prefects of Arequipa, Puno and

of Cuzco to give us all facilities and they carried out the recommendations. The Prefect of Cuzco, Colonel Gonzales, took particular interest in the expedition, furnishing a sergeant as companion and interpreter between Quetchua and Spanish. Sergeant Medina carried orders from the prefect authorizing him to requisition anything needed by the expedition along its way and became an enthusiastic fisherman. Mr. Morquill, president of the Peruvian Company, gave the expedition passes over all the railways of Peru; and Mr. Blaisdell, manager of the Southern Railway of Peru, supplemented these by orders to the various officials along the line. The cooperation of Mr. Morquill and Mr. Blaisdell meant much more than the saving of railroad fares.

Of private individuals, Señor Duque, who entertained the expedition at Santa Ana, and Sr. Corazao, at Ollantaitambo, deserve first mention. Mr. Rawlins, Mr. Babbit, Mr. Murdock and Mr. Emerson, of the Cerro de Pasco Corporation, and Mr. Roper, of the Backus and Johnson Company, helped by supplying horses, living accommodations and beasts to explore the high lakes between Casapalca and Gollalarsquisca. Messrs. Bridge and Woodbridge, of the Transandean Railway of Chile, provided for a trip to the crest of the Andes in Chile. Mr. Roth helped in various ways on the trip between Puerto Varas and the Argentine, and many others helped in one way or another.

In conclusion, it must be mentioned that President Prado and Professor Rospigliosi, of the University of San Marcos, in addition to numerous courtesies have promised cooperation in other expeditions planned for the part of Peru east of the Andes.

The only item that hampered the expedition was the delay in the first instance in rendering a decision on passports. Passports were then refused. A direct appeal by Indiana University and the University of Illinois to President Wilson brought a commutation of the sentence rendered by the state department, on charges preferred by a person who in his modesty does not want to be made

known. Five weeks were lost at New Orleans and the trip from Cajamarca to the Marañon had to be omitted.

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DR. ABRAHAM JACOBI (1830-1919)

DR. ABRAHAM JACOBI, the father and founder of American pediatrics, died at his summer home at Bolton Landing, N. Y., on July 10, at the age of eighty-nine years.

Dr. Jacobi was born of Jewish parents in the village of Hartum, Westphalia, on May 6, 1830. His people were not well-to-do, his education was accomplished through privation and struggle, but he early acquired a knowledge of Latin, and, after the usual courses of instruction in the village school and the Gymnasium at Minden, he went to the University of Greifswald, in 1847, at the age of seventeen, to matriculate as a student of Oriental languages. Becoming interested in medicine, he turned to anatomy and physiology. Following the peripatetic plan of the German student, he proceeded to Göttingen, where he came under Frerichs and Woehler, winding up his course at Bonn, where he graduated in 1851, with a Latin dissertation "*Cogitationes de vita rerum naturalium*," which has considerable philosophic depth. In the meantime, the Revolution of 1848 had broken out and run its course, and in this brief drive for liberty, Jacobi, with Ferdinand Freiligrath, Karl Marx, Carl Schurz and others, had been a leading spirit. When he went to Berlin, to take his state examination, he was apprehended by the Prussian authorities, imprisoned for a year and a half in a German fortress at Cologne, convicted of *lèse majesté*, and again held in detention for six months at Minden. In 1853, through the friendship of his jailer, he managed to escape, took ship at Hamburg, and after some vicissitudes in England and New England, settled down to practise at 20 Howard Street, New York. Here, beginning with such modest fees as 25 and 50 cents for office and house visits, five to ten dollars for obstetric cases, he soon managed to make a living. In the first year

of his practise, he made \$973.25. During the next year (1854), he invented a laryngoscope of his own, which was unfortunately not ever patented or made public before the appearance of Manuel Garcia's instrument (1855). By 1857, Jacobi was lecturing on pediatrics in the College of Physicians and Surgeons of New York. This was the starting point of clinical and scientific pediatrics in this country. In this branch of medicine, Jacobi had only one other American colleague (in no sense a rival or competitor), the devoted and unworldly J. Lewis Smith, whose famous treatise of 1869 passed through eight editions. In 1860, Jacobi was called to the first special chair of diseases of children in the New York Medical College; in 1861, Smith became clinical professor of pediatrics in the Bellevue Hospital College. In 1865, Jacobi took the clinical chair of his subject in the medical department of the University of New York. In 1870, he became clinical professor of pediatrics in the College of Physicians and Surgeons (1870-99). Officially, he taught pediatrics in New York for nearly half a century, actually, all his working life.

In 1862, Jacobi established a pediatric clinic in the New York Medical College Building in East 13th Street, which ran for two years. In this way, bedside teaching in pediatrics antedated bedside teaching in internal medicine in the United States.

Meanwhile, Jacobi had been an active and brilliant contributor to medical literature. In 1859, he published a volume of "*Contributions to Midwifery and Diseases of Women and Children*," with Emil Noeggerath,¹ who was to be Jacobi's coadjutor in founding the *American Journal of Obstetrics* (1862). During 1859-1903, Jacobi wrote much on diphtheria, and published successive treatises on diseases of the larynx (1859), dentition and its derangements (1862), infant diet (1872), diphtheria (1876), intestinal diseases of infancy and childhood (1887), diseases of the thymus gland (1889) and therapeutics of infancy and child-

¹ Author of the now well-established theory of the latency of gonorrhœa in unsuspected carriers (1872), which has been of great moment in the science of causation of pelvic disease in women.