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## THE ORNITHOLOGICAL COLLECTION OF THE BERLIN MUSEUM.<sup>1</sup>

BY T. G. AHRENS.

THE ornithological collection of the Berlin Museum of Natural History forms an integral part of the collections of the University of Berlin. When the University was founded in 1810 the zoological collection was also started. The first curator of the collection was Dr. Karl Illiger, an entomologist of Brunswick. The beginning of the ornithological collection was very modest indeed, but soon a considerable increase could be noted. Peter Simon Pallas (1741-1811), donated his bird collections to the museum, some of which were from Transbaikalia, collected in 1772. Most of the specimens are described in his 'Zoographia Rosso-Asiatica.' A few specimens were obtained during a journey which Pallas made to the Caucasus regions in 1793, and some were collected by Dr. Merk in Kamchatka and Alaska in 1790. In the same year that the collection was founded it was largely increased by Count Johann Centurius von Hoffmannsegg, a well-informed zoologist who maintained relations with a number of well-known travellers and savants. Antonio Gomez collected birds for him in Bahia, Brazil and Franz Wilhelm Sieber in the state of Pará. The latter returned to Europe in 1810, and although Illiger devoted himself particularly to the birds of South America, his investigations were not published owing to his death in 1813.

Illiger's successor as director of the museum was Dr. Heinrich Lichtenstein (1780-1857), then 33 years of age, a physician by training who had been tutor in the family of the governor of Dutch South Africa for five years and had returned to Europe in

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<sup>1</sup> All the data in this paper were obtained from Dr. Erwin Streseman, Curator of the Bird Collection in the Museum of Berlin. Read at the Pittsburgh Meeting of the A. O. U.

1807. In 1810 he received the degree of Ph.D. for zoology, became director of the Berlin Botanical Garden in 1812 and after 1813 devoted all his energies to the Zoological Museum, which was opened to the public in the summer of 1814. At that time it contained 2000 birds, belonging to 900 species. Lichtenstein understood the importance of opening relations everywhere and obtaining the cooperation of travellers and colonists in all parts of the world. He was in sharp competition with his friend Temminck, then curator of the Leyden Museum which, being the property of a colonial power, found it much easier to secure material for its collections.

In 1815 new specimens again began to arrive; at the outstart from Bahia, where the Frankfort naturalist, G. W. Freyreiss, was working. Largely owing to his influence the Potsdam botanist Friedrich Sellow who was living in Brazil decided in 1816 to offer his services to the Berlin Museum as a collector, and from 1817-1831 he sent thousands of bird skins from all parts of Brazil to Berlin, many of which were new species. The expense of his expeditions—24700 Thaler—was almost entirely covered by the sale of duplicates. Unfortunately Sellow was drowned in 1831, but his name will always stand at the head of those who obtained fame for the museum.

In 1818 the number of persons collecting for the museum increased to such an extent that a detailed chronological summary of their names must cease.

After 1825, collections began to arrive from other neotropical countries. Ferdinand Deppe who had accompanied A. von Sach to Mexico in 1825 made extensive collections there at that time and was sent again in 1829 to Central America. Somewhat later Gustav Haeberlin accompanied von Sach to Colombia, but died there in 1826 after having sent about 100 birds to Berlin.

In 1832, Meyen collected in Chile, and after 1840 Eunom Bernhard Philippi worked for the museum in Peru and Chile, and from 1840-44 Richard Schomburgk collected in British Guiana. Of all these various collections, only those of Schomburgk have been worked up, not by Lichtenstein who rarely had time for such work, but by Jean Cabanis, his assistant, who became later director of the ornithological collection.

Lichtenstein devoted himself not only to America, but especially

to South Africa with which he was personally acquainted. In 1820 he prevailed upon Ludwig Krebs, a German settler in Uitenhage near Port Elizabeth to collect for him, and for twenty years, such a number of specimens were sent from Cape Colony that most of the natural history museums of the world were supplied with duplicates from Krebs' collections.

In 1820, also, two young zoologists, Dr. Ehrenberg and Dr. Hemprich, started for a scientific exploration of the Nile region, an expedition financed by the Prussian State. Hemprich died of fever in Eritrea in 1825 after having made explorations with his colleague in north-eastern Africa, Palestine and Syria, and as a result of this expedition many hundreds of birds were sent to the Berlin Museum.

Lichtenstein's connection with Dr. Eduard Eversmann, one of his former students, resulted in the receipt from Eversmann between 1818 and 1822 of specimens of birds from the southern Ural and all the zoological collections he had made on a journey from Orenburg to Bokhara, a territory at that time practically unknown,

The poet Adelbert von Chamisso, who was also a naturalist, sent to the museum the collection of birds he had made during his circumnavigation of the globe with the expedition under the command of Admiral von Kotzebue in 1815-1818. This collection is not very large, but some of the sea birds from the island of Unalaska (Aleutian group) and Bering Sea were at that time unknown.

The Berlin collections under Lichtenstein's direction were open to all zoologists in the most liberal manner and many took advantage of the opportunities offered. In July 1846, Lichtenstein states in a letter to a friend that the ornithological collection of the museum at that time comprised 10,500 specimens arranged in three large rooms 150 feet long and 60 feet wide.

Lichtenstein, about this time beginning to feel the effects of age, was obliged to abandon many of his plans and died in September 1857, during a journey to Denmark, at the age of 77. He was able to show that a poor country without colonies could establish and maintain a zoological museum of the highest class.

Jean Cabanis (1816-1906) stands out as the central figure of the second period of development of the Berlin bird collection. Cabanis had made a journey between 1830 and 1841 to South Carolina,

during which time he had resided principally in the neighborhood of Charleston. In 1841 Lichtenstein called him as assistant to the Berlin Museum, to take charge of the ornithological department, which he directed till 1892. Cabanis' influence upon the development of ornithology is well known to bird students. Like Lichtenstein he understood the importance of opening relations with numerous travellers, who turned over their bird collections in part or entirely to the Museum. Continuing Lichtenstein's work, Cabanis devoted himself at first principally to Neotropical ornithology. Johann Jacob von Tschudi and Richard Schomburgk sent him valuable collections from Peru and British Guiana in the 'forties; Dr. Gundlach, the famous explorer of the Antilles was in correspondence with him subsequent to 1854, and valuable specimens from Costa Rica were received from Dr. Alexander von Frantzius about 1860. After 1878 Fritz Schulz collected for the museum in northern Argentina. Special scientific interest attaches to the collections made by Carl Etler from 1867 onward, in the Cantagallo district, of the State of Rio de Janeiro, and also to the valuable specimens obtained by Constantine Jelski in western Peru, about 1873. But Cabanis did not confine his interest to the avifauna of any one region. Modern methods of specialization were unknown to him and he devoted himself with as much energy to African as to Neotropical ornithology. As the founding of the German Empire created a desire for colonies, several expeditions were sent to Africa subsequent to 1871 to make commercial treaties and found settlements. Some of these expeditions were accompanied by enthusiastic naturalists. In 1872-73 Anton Reichenow made a scientific expedition to the region of the Gulf of Guinea and brought back the first information of the birds of the later German colony of Cameroon. In 1873 was organized the first German expedition to the Loango coast, which was accompanied by Dr. Falkenstein and Major von Mechow, two travellers whose names will always be connected with the exploration of the avifauna of Angola. The new species discovered by these travellers were described by Cabanis, but the collections increased so greatly that it became necessary to appoint an assistant to the custodian of the ornithological department and Anton Reichenow, who had become known by reason of his ex-

pedition to Guinea and his elaboration of its results, was appointed to the position.

Reichenow devoted his attention chiefly to the avifauna of Africa and, as is well known, made a number of contributions to Ethiopian ornithology which were published in his three volume work: "Die Vögel Afrikas" (1900-1905). He succeeded Cabanis in 1893 and remained director until 1921. It was Reichenow who about 1875 began to work up all the collections from Africa. The most important of these acquired before the founding of the colonies were those of Dr. Gustav Adolf Fischer made in eastern Africa in 1877-1886 and those of Dr. Richard Böhm made in 1880-1884 in the later colony of German East Africa. Later accessions belong to recent times and may here be omitted.

In 1924 the Berlin Bird Collection contained about 100,000 specimens, of which 25,000 are mounted. The number of types is about 2000. The most valuable specimens in the museum are several extinct birds, among which may be noted: *Ara tricolor*, collected by Dr. Gundlach in Cuba; *Chaunoproctus ferreirostris*, from Bonin-Shima, collected by Kittlitz; *Hemiphaga spadicea* from Norfolk Island, and a number of extinct Drepanididae, collected partly by Deppe in 1838, and partly by Behm in 1841 in the Sandwich Islands.

*Boothstrasse 21, Berlin, Germany.*

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## BIRD NETTING AS A METHOD IN ORNITHOLOGY.<sup>1</sup>

BY JOSEPH GRINNELL.

A chain of circumstances, fortuitous as far as I, the reporter, am concerned, has prompted me to give the following recital, and, in particular, has put at my command the material for some inductions that may prove of interest to serious ornithologists.

On October 21, 1923, Deputy John Burke of the California State Fish and Game Commission for San Mateo County, arrested four "Italians" for the illegal killing of song birds. The birds had been taken by netting, and they and the five nets were confiscated. By

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<sup>1</sup> Contribution from the Museum of Vertebrate Zoology of the University of California. Read at the Pittsburgh Meeting of the A. O. U.