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XVI.—*The Travels and Collections of Johan August Wahlberg, 1810-1856: a Pioneer Naturalist in South Africa.* By Count NILS GYLDENSTOLPE, F.M.B.O.U., C.M.Z.S.

(Plate VIII.)

AMONG those scientists and naturalists who in the first half of the last century explored the unknown and almost unpacified wildernesses of South Africa in order to unveil their Natural History secrets, the name of Johan August Wahlberg will always be remembered and honoured. Although an untimely death from wounds inflicted by a charging elephant put an end to his fine career as explorer and naturalist, he accomplished a wonderful performance in bringing together—often under the greatest hardship, and with the risk of his own life—magnificent collections of different branches of Natural History.

His collections of birds and mammals, most of which are deposited in the Royal Natural History Museum in Stockholm, are still—although nearly a hundred years have elapsed since they were made—in an excellent state of preservation. They are real models for cabinet-skins, even according to modern conception, thus clearly demonstrating his great skill as a field-taxidermist. All the skins are carefully labelled not only with date and locality and information about the colours of the soft parts, but also, in several cases, with short biological notes.



The collection of birds amounted to nearly 2600 specimens of about 525 different species, several of which turned out to be new to science. During his last journey to Damaraland and Ngamiland Wahlberg devoted part of his time to bird-collecting, though to a less degree than previously. The Museum thus received from him nearly 200 specimens of birds belonging to about 130 different forms, more than half of which are peculiar to Damaraland and Ngamiland, and which consequently had not been obtained by Wahlberg on earlier occasions.

Wahlberg was a very intelligent man and was never idle. Being a methodical person, he always wrote detailed diaries during his travels. These diaries were, furthermore, written with the utmost care and exactitude. They not only contain extensive and valuable biological notes, but also usually vivid descriptions of the country passed through,—often accompanied by well-drawn sketch-maps,—descriptions of the natives and their tribal customs, as well as narratives about some of the adventures he almost daily had to meet during his long and often lonely travels in a hostile country.

The diaries in question are at present deposited among the treasures of the Library of the Royal Swedish Academy of Sciences. As they have never been made public, either in full or in part, except in a Swedish newspaper and in a popular Swedish periodical of more than fifty years ago, I have taken this opportunity of giving a short account in the English language of Wahlberg's life and travels in South and South-West Africa. This account has to a certain extent been based on his own notes in the above-mentioned diaries, but I have also frequently made use of Wahlberg's letters to friends in Sweden.

When I published in 1926 the account of the "Types of Birds in the Royal Natural History Museum in Stockholm" (*Arkiv f. Zoologi*, Band 19 A, no. 1), Wahlberg's own diaries were, unfortunately, not available for study, and I had to rely on the references written on the respective labels. Some of the type-localities given in the above-mentioned paper have thus to be slightly altered, while some may now be more definitely fixed. For example, the locality "Mohapani,"

from where several new species were described, is not situated in Bechuanaland—as previously stated—but in the Witfontein Berge in Western Transvaal.

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 Johan August Wahlberg was born at Lagklarebäck, near Gothenburg, on 9 October, 1810. At an early age he showed talents for the study of Natural History, and as quite a small boy he used to make toy guns, playing that he was hunting lions and elephants with them. After the death of his parents, and after having finished school at Linköping, he went to the University at Upsala, which he, however, soon left to study forestry and chemistry. Having in due time passed his examination, he was appointed Teacher at the Forest High School in Stockholm. Shortly afterwards he visited Germany, where he studied geodesy. After his return to Sweden he undertook several official journeys to the northern parts of the country as well as to the higher mountain regions of Norway.

The year 1837 becoming a turning-point in his life. The Swedish Consul in Cape Town, J. A. Letterstedt, then paid a visit to Stockholm and promised to provide funds for a Swedish Natural History expedition to South Africa. Wahlberg declared himself willing to undertake this expedition, further pecuniary assistance being given by the Royal Swedish Academy of Sciences, as well as by himself. He left Gothenburg on 5 July, 1838, in a Norwegian sailing-ship, and at the end of the same month he arrived in London. There he stayed until 13 October, when he embarked on the 'Eleonore.' During his prolonged stay in London he assiduously studied the material of South African birds and mammals in the Museums and in the Zoological Gardens. He made the acquaintance of a number of famous zoologists such as Bennett, Gray, Owen, Burchell, Andrew Smith, Waterhouse, and Yarrell, who all promised to help him as much as they could. After nearly a four months' voyage on the small vessel—on which he had, on account of the shortness of his funds, only taken a second-class passage—he at last arrived at Cape Town, on 1 February, 1839.

During his stay in Cape Town he made almost daily excursions in the neighbourhood of the town. He not only climbed

the Table Mountain several times, but also visited—always collecting assiduously—Rondebosch, the Cape Flats, Camps Bay, Kalk Bay, etc. From all these localities he brought together valuable material of Natural History specimens, which were gradually shipped to Sweden. These collections soon made his name known to the scientific world. Although only two then unknown species of birds were obtained from the Cape Peninsula, viz., *Zosterops capensis capensis* from Rondebosch and *Streptopelia capicola capicola* from the Cape Flats, several interesting birds were incorporated with his collections.

He did not, however, satisfy himself only with the zoological exploration of the Cape Peninsula. On 15 May, 1839, he went on board the schooner 'Mazeppa,' bound for Port Natal. On the ship he met the French naturalist Delegorgue and the German Dr. Kraus, who both also intended to make a collecting trip to Natal. Wahlberg arrived at Port Natal on 11 June, 1839, after having made a short stop at Port Elizabeth. During the stay at this port he made some collections at the Zwartkop River.

Port Natal now became his headquarters for a long time. He settled down near the camp of the Boers at Congella. At first he lived in a small reed-hut, which, according to his own words, "was quite satisfactory during the dry season, but during the rains I am forced to write and work under the shelter of an umbrella. The top of a firkin is my chair, a mattress put on the top of two boxes, together with a blanket, my bed and writing-table. The floor is only made of earth. My nearest neighbour is Delegorgue." Later on, however, he bought himself a small house for two guineas, to which he then transferred his belongings.

Only a few days after his arrival in the 'Mazeppa,' Wahlberg started collecting. He visited the Umgeni River valley, as well as the environs of the Umkomaas, Umzinto, Tugela, Umhlali, Umhlanga, and Tongaat Rivers. From all these excursions much material was brought together, and Wahlberg soon considered that his collections from the coastal regions of Natal were more or less complete. Preparations were accordingly made for the carrying out of a long

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inland journey, during which he intended to visit hitherto almost unknown districts.

On 7 October, 1841, everything was ready, and he started—
 76 accompanied only by a young Boer, Willem Nel, and two
 1177E 2102 still younger native servants of the Amazulu tribe. His means of transport consisted of a single trek-wagon drawn by twelve oxen. With this small force he was determined to penetrate a country where but few Europeans lived, where there were practically no roads, and where treacherous natives made life uncertain for the travellers.

To begin with, he proceeded slowly westwards, passing Uysedoorn and Pietermaritzburg. From there he continued his march, and the Umgeni, Mooi, Bushmans, Little and Great Tugela Rivers had to be forded before he reached Bezuidenhout's farm at the foot of the Drakensberg Mountains. A hailstorm broke when he was climbing these mountains, from the top of which "I had a splendid view of a large plateau with immense steppes which, like the sea, are blending with the blue horizon, and where the eye in vain tries to detect and rest on a single tree or a bush. Numerous herds of game, such as quagga, gnu, springbok, and hartebeest, graze in scattered numbers. Concealed in the high grass near the waterholes the ferocious lion crouches, taking its toll among the animals coming there to drink." Without too much trouble and delay he reached Wilges Spruit, after having forded the Nieuwjaars Spruit and the Elands River, from where "an unbroken chain of partly snow-clad mountains spread itself before my gaze on the left side of the road." At the neighbourhood of Nieuwjaars Spruit he obtained several Larks, such as *Certhilauda curvirostris semitorquata*, *Certhilauda albofasciata albofasciata**, and *Spizocorys conirostris conirostris*, the latter then unknown to science. At the neighbourhood of Wilges Spruit he shot his first eland, and he also obtained for the first time specimens of the Blue Crane (*Tetraptyx paradisea*). The country was hilly, and the vegetation consisted of short grass and a few scattered trees, the first ones he had seen since passing the Drakensberg.

* Quite recently separated by Roberts as *C. a. atticola*.

He proceeded farther in a north-westerly direction, managed to ford the Rhenoster, Vaal, and Mooi Rivers—where the Boers were building the town of Potchefstroom—and at last he arrived at the southern slopes of the Magalies Mountains. "I pressed on my journey," he writes, "as I was very anxious to reach my destination as soon as possible in order to be able to explore the forest-clad slopes of these beautiful mountains."

The Magalies Mountains were passed along a deep valley, and on 16 November camp was pitched near a place "where a small brook runs into the Crocodile River, along the banks of which weeping willows are growing, these being reflected in the smooth surface of the water, under which numbers of crocodiles are lying in wait for prey. Now a time of constant work followed, during which the hoot of the owls and the yell of the hyænas found me awake, and the early choir of the singing birds was being cruelly interrupted by the reports of my gun."

At this camp Wahlberg stayed to the beginning of January 1842, having in the meantime lost one of his oxen, which was killed by a lion. Having received from the Boers due permission to penetrate farther inland, the Sterk Stroom, the Hex River, and the Crocodile River were forded, and a visit made to the Basuto chief at Mamachali, where Wahlberg wanted to engage as guides and oxen-drivers "two fearless men whom the chief could recommend. I promised to pay the chief two goats if the men showed themselves useful and trustworthy. The chief demanded, however, an extra payment in fat from the animals I might be able to shoot. I promised him this, and I then got two of his warriors as guides, the one showing numerous marks of wounds from lion-claws and the other marked on the shoulders and on the face by the bites of a leopard."

Wahlberg now left the last outpost of the Boers, and "only for a few days we had some kind of a track to a saltpan* from which the Boers used to collect their salt. From there the real wilderness begins. We went in an easterly direction,

* Probably Hamanskraal, situated 28 miles north of Pretoria.—N. G.

and after a long day's journey through unbroken forest, where giraffes and rhinoceroses were fairly common, we pitched our camp on the banks of the Ape (=Aapies) River."

A thorny boma was built, in which the oxen, as well as the travellers themselves, were comparatively safe from the nightly visits of lions and rhinoceroses. During the nights Wahlberg and his servants often had to fire shots to keep the wild animals at a safe distance from the camp. The black, as well as the white, rhinoceros appears to have been quite common in this neighbourhood, and several were killed. Wahlberg's most appreciated trophy from his stay in the Magalies Mountains seems, however, to have been the Sable Antelope (*Hippotragus niger*), of which he at last obtained several specimens after twelve days' arduous hunting.

Wahlberg stayed at the Aapies River until 2 March, 1842, on which date he commenced his return journey to Port Natal. From his second main camp at the junction of the Aapies and the Crocodile Rivers he proceeded to Mamachali, forded the Crocodile River, passed Blauw Wildebeest Kop, and then continued across the Hex River and the Sterk Stroom through the Magalies Mountains to the Vaal River. From there he went to the Rhenoster River and then past Doornkop, Veehtkop, and the Drakensberg Mountains to Pietermaritzburg, where he safely arrived, on 29 May, with a full load of various beautifully prepared and rare specimens.

Hostilities between the British and the Boers were going on in Port Natal at the time of Wahlberg's arrival at Pietermaritzburg, and he was, therefore, forced to make a long stay in this small town. On 1 August, however, he went down to Port Natal, where he found that all his belongings had been looted or destroyed.

In ordinary cases a rest would certainly have been badly needed after all these misfortunes and hardships, but for a man like Wahlberg such was apparently quite unnecessary. On 15 August he shipped his collections to Sweden, and a few days afterwards he again departed, this time to Zululand. From Port Natal he first went to pay a visit to the Zulu chief Panda, in order to get permission from this powerful monarch to push on to the Umvolozzi River in pursuit of

big-game. He finally got this permission, but he was not allowed to shoot elephants, as Panda wanted to keep them for himself. The neighbourhood of the Umvolozzi was very rich in elephants, of which herds of more than 200 individuals were frequently encountered by Wahlberg during his excursions.

Panda's orders to Wahlberg not to shoot elephants did not, however, include his native companions. A few elephants were shot by them, and as Wahlberg generally accompanied them on their wanderings, he had excellent opportunities of studying the behaviour of these huge pachyderms when being hunted. This was certainly of the greatest use to Wahlberg, who on later occasions himself killed a great number of elephants. Two white rhinoceroses, one leopard, several buffaloes, etc., were, however, shot by him, besides numerous birds. Among the latter Wahlberg obtained specimens of three unknown species, viz., *Platysteira peltata peltata*, *Pogoniulus bilineatus bilineatus*, and *Buccanodon leucotis leucotis*, which were all collected in the forest-covered hills near the Umlalazi River (not at the neighbourhood of the Umlazi River near Port Natal, as I have previously stated in my account of the types of birds in the Stockholm Museum).

Besides these novelties, he collected, among others, a race of *Poicephalus fuscicapillus* described by Peters in 1854 as *P. cryptoxanthus*, *Bessonornis humeralis*, *Macronyx ameliae ameliae*, *Francolinus sephena zuluensis*, and *Numida mitrata coronata*. Wahlberg himself had apparently noticed the differences between the Zululand specimens of the Brown-headed Parrot and those of the typical form from Zanzibar. After his return to Sweden in 1845 he commenced to write a 'Bird Fauna of Africa,' in the manuscript of which this bird was named *Poicephalus pandae*, a name which he, however, never published.

On his return journey to Port Natal—where he arrived at the end of November 1842—he was forced to make an unforeseen three weeks' stop at the Tugela River, which he was unable to ford on account of high water. During this stop he suffered greatly from the want of provisions, and was nearly starved to death.

return to
Natal 13-42

13-42
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ZULULAND

return to
Natal

In December he again made a short excursion to the Upper Umvoti River, this time in company with Delegorgue. To Port Natal he returned at the beginning of April 1843, after having shot three elephants and prepared two complete skeletons of buffaloes as well as one of a hippopotamus.

In Port Natal he at once commenced to make preparations for a second inland journey. On 1 June, 1843, everything was ready, and he left Port Natal, this time with two trek-wagons, each drawn by twelve oxen. He intended to take his former route to Pietermaritzburg, the Mooi River, the Drakensberg Mountains, and then *via* Wilges Spruit, the Elands River, Leeuw Riet, and Vechtkop to the northern slopes of the Magalies Mountains. He was, however, forced to stop at Pietermaritzburg for about a month, as his fellow-companion and right-hand man, Willem Nel, there became seriously ill. Soon after the start one of his double-barreled rifles got almost completely broken by a falling stone. This was a great loss to Wahlberg, who had only a very limited number of guns and rifles. From now on he had to use an old rifle, the barrels of which on a former occasion had been broken, so that the muzzle had been cut off. The butt-end was fractured by the bites of wild beasts and the hammers were almost functionless. When using this rifle he was—according to his own words—“compelled to pull the trigger with the forefinger as well as to support the hammer with the thumb when firing a shot.” Nevertheless he shot several buffaloes with this rifle, although also he could only use the left barrel!

“When I arrived at the Mooi River,” he writes, “I was forced to stop in order to let the oxen repose, as they were now in a very poor condition, and some were nearly dying from foot-disease. The cold was intense, and on 17 August snow fell foot-deep. On the following day six of my oxen perished, and I strongly suspect that the remainder are also going to succumb.”

After a week the weather fortunately improved, and he could then slowly continue his journey. The Magalies Mountains were passed, and from a settler there he bought six new oxen. He proceeded forwards in a north-westerly

direction to Matlapinis Berg, where he met Delegorgue. They, however, soon separated, and Wahlberg continued his travels to the central parts of the Witfontein Berge, and from there towards the south-east to Leroma, where the native chief Pillaan then had his kraal.

From Pillaan he received two guides, who accompanied him due northwards to a place called Mohapoani, apparently situated among the eastern parts of the Witfontein Mountains. For more than one month he stopped at Mohapoani, bringing together large collections of mammals and birds, among the latter several then new to science, such as *Hieraaëtus wahlbergi*, *Prodotiscus regulus regulus*, *Mirafra passerina*, *Anthus caffer caffer*, *Eremomela scotops scotops*, *Anaplectes rubriceps rubriceps*, etc. He left Mohapoani on 27 November, 1843, in a northern direction. On 2 December, after having passed the surrounding mountain regions, he pitched his camp on the western banks of the Lower Crocodile River, or the Limpopo, as he himself calls this river.

“This,” he writes, “is the same river as I during my first journey knew under the name of the Crocodile River. Now it has, however, become very big, and during the rainy season it overflows its banks and is surrounded by a forest composed of the highest acacias I have ever seen in South Africa. The banks of the river are clothed with a very luxuriant vegetation of numerous kinds of trees and plants. With delight and pleasure I spent a fortnight at this lovely camp, but then a series of misfortunes commenced to happen. It accordingly became necessary to retreat through the same immense grassy plains that I had already often surveyed with such delight from the hills surrounding Mohapoani. The fact was that my two Basuto guides had deserted. A few days afterwards the two Kaffirs—who had accompanied me from Port Natal—also disappeared. As they were almost indispensable to me as oxen-drivers, I decided to pursue them on foot. I left Willem Nel and a young Kaffir boy to guard my wagons and took only a young Boer with me. To commence with, we went together to a Basuto kraal, where I tried to engage a new guide. From this kraal we separated and went

2^d inland
journey
1843

in different directions, as we were uncertain about the way the fugitives had taken.

"My native guide soon started to raise objections, telling me that he had forgotten his sandals and, therefore, wanted to fetch them at the kraal. He returned to the village, but the chief—who had also accompanied me part of the way—now told me that the guide certainly would not come back any more. I told the chief in plain words that he had to follow me himself if he did not provide me with another guide. At last he yielded to my orders, and we were soon off again, but not before I had been forced to beat him with my stick. After a while he absolutely refused to proceed any further. When I tried to take back my rifle from him he refused to hand it over to me. There was a struggle, and I had to beat him hard with my stick. I was even compelled to point the rifle—which, however, was unloaded—against his breast, and then he at last obeyed my instructions. When the untrustworthy guide noticed that his chief was marching away in front of me he relieved him at once.

"For food I had only taken with me some dried rhino-meat. After a while I became very thirsty, and as my feet were full of blisters I told the guide to conduct me to a place where water was obtainable. Soon I got very tired, and the guide was sent to fetch water. He returned shortly afterwards and told me that there was no water to be found. As I did not trust his statement I myself went away in search of water, which I, sure enough, very soon found. We continued our march and arrived at a small river, which my guide—who carried my rifle and tinder-box—crossed ahead of me. When he had reached the opposite bank I told him to come back and fetch my clothes, but all in vain. He only continued his walk, and was soon lost sight of. Once he returned in great haste and asked for help from a charging rhino. When I only laughed at him, he, however, disappeared for good. Unfortunately he was well ahead of me before I had been able to cross the river myself. At sunset I lost sight of him and was left quite alone in the wilderness. I shouted but received no answer. It was extremely unpleasant to be left alone, surrounded as I was by numerous wild beasts and with

only a stick as a weapon. Finally I also lost my own way, and had nothing to do but to spend the night alone among the small knee-high thorny bushes that the black rhinoceroses like so much for food.

"I made a bed of grass and tried—but always without success—to make a fire with the help of my percussion caps that were fired with the aid of two stones, near which I had put a piece of linen covered with gunpowder. Several times I was disturbed by hyenas and jackals, and quite close to my sleeping-quarters the lions killed a blue wildebeest, the death-cries of which were mingled with the roaring of lions and formed a horrible concert. At last, however, dawn came. Frozen, hungry, and with blistered and swollen feet, I crept out from my hiding-place and went in search of water, which I soon found, thanks to the croaking of the frogs. After having quenched my thirst I returned to the place where I had been forced to spend such an unpleasant and memorable night. Some Basutos who, aided by the vultures, had found the kill of the wildebeest, luckily soon turned up. They informed me how to find their kraal, which I then reached, absolutely exhausted. Great, nevertheless, was my joy when I found my rifle and other belongings at the kraal. The unfaithful guide, however, never showed himself any more.

"I got a new guide from the friendly Basutos, started again, and at sunset I came to another small village, where I sat down in front of one of the huts. The chief was persuaded to help me to find the fugitives, but all our united efforts proved fruitless. I was very astonished, indeed, when I suddenly observed my two escaped men slowly approaching. They had seen my footprints outside the village, but after asking some women—who, luckily, were unaware of my presence in their kraal—about my whereabouts, and after receiving the answer that I had already passed, the two deserters gladly went to the village to spend the night there. They were, of course, very astonished and annoyed to find me in the kraal, and at once abandoned all further thoughts of escape.

"Together with my two re-discovered Kaffirs I returned to the spot where I had left my wagons. During this march I suffered greatly from blistered feet. When at a long distance

from the camp-site I observed numbers of vultures circling in the sky above it, and I at once understood that something serious had happened there during my absence. Unfortunately I was right in my suspicions. The two Boers were ill and all my oxen were more or less prostrate with illness, some even dead. I succeeded, however, in retreating to Mohapoani, although with the loss of several oxen, which, according to the natives, had been bitten by the tsetse-fly, but which, according to my personal opinion, had succumbed by feeding on some poisonous grass."

The retreat appears, from Wahlberg's own words, rather simple, and he states that "it was only rather difficult, and I had to work hard." When one bears in mind that he had only two sick Boers and one Kaffir boy to help him with the wagons besides five other natives and two former deserters, one can easily understand that great difficulties had to be overcome. Furthermore, he had only eight oxen in all, and the usual team for two wagons consists of twenty-four oxen. There were no roads, and he had to pass a country where, according to his own words, "the forest is composed of countless trees, usually of comparatively small size. A number of thorny bushes and creepers, interwoven with tough ratan-like reeds, are growing in the interspaces, and constitute impenetrable thickets, through which it is impossible to penetrate except where rhinoceroses, buffaloes, and hippos have passed. More than once I have been forced to entangle myself by creeping for hours on hands and feet."

As soon as he had put up his new camp at a more healthy place, he was compelled to think of his future. It was far from promising. "I was," he says, "without enough beasts of burden and, still worse, without money to purchase new ones. Nothing else was to be done but to exchange one of the wagons or to commence to shoot elephants for their ivory in order to purchase oxen. I followed the latter decision, and on 31 January I started on foot, accompanied only by one of my faithful Boers, two Kaffirs, and two Basutos. Mohapoani was passed once more, and from there we continued our march in a north-westerly direction through the immense steppe-country. My Basutos daily told me different tales

about all kinds of dangers that we were going to encounter, but still I was absolutely determined to continue. Our provisions consisted only of a small bag of rice and an ox-bladder filled with roasted coffee, but as game was plentiful everywhere we had fresh meat in abundance. On the fourth day after our start we tasted our coffee for the first time. As a cup we used part of an Impala skull. Five days after our departure from the wagons we arrived at the junction of the Marico and the Limpopo Rivers. We stopped at this place for a few days and were successful in obtaining one elephant. Then we again continued our march for another three days up the eastern banks of the Marico, always through unbroken forest. Luckily enough we got several elephants. We fed mainly on rhino or buffalo beef, sometimes also on roasted Impala meat.

"Soon, however, it became evident that our Basutos were making plans to abandon us. To prevent this, we were compelled to take their spears, and during night-time we always carefully guarded these in our tent.

"In due time we returned with heavy loads of ivory to our main camp at the junction of the two magnificent rivers. From there I despatched five Basutos with loads of ivory to my wagons. The remainder of my party then once more set out in a northerly direction, following the course of the Limpopo. Soon, however, we came to the Marico River, which, after some difficulty, we managed to cross by the aid of a fallen tree. The river was infested with numerous crocodiles, but we safely reached the opposite side, although one of my men nearly got caught by one of these ferocious monsters. The Limpopo became broader and broader, and the river-banks were clothed by a most luxuriant vegetation. In the river-bed there were a great number of small islands. Game was everywhere very abundant. Five days after the crossing of the Marico we reached the Notwani River. Elephants, hippos, rhinoceroses, and buffaloes were extremely common at the neighbourhood of this river, and two of the first-mentioned were shot.

"We crossed the Notwani and followed the course of the Limpopo for another day's march. The river had previously

followed a north-westerly direction, but suddenly it turned towards south-east and then again north-east. My Basutos now absolutely refused to continue, as we were coming into a territory of hostile tribes. It was with the deepest regret that I was forced to return. Before leaving this interesting country for good I ascended a hill to get a better view of the surroundings. Extensive forests were visible in all directions, and towards the north three high table-like mountains were clearly visible. Towards the north-north-east there were also high mountain regions, apparently situated in the neighbourhood of the large Motosi River (=Pongolo River?), which is said to run in an easterly direction until it joins the Limpopo.

"When I told my native companions that I had decided to march back to my wagons, they danced and shouted for joy. I inscribed my initials in the bark of one of those three high acacias that were growing at the junction of the Notwani and the Limpopo, and then commenced my forced retreat. During this retreat I managed, as a rule, to obtain fresh meat every day, but one evening I returned to my tent empty-handed. The hungry Basutos, however, considered themselves lucky in finding the sun-dried skin of a buffalo that I had shot several weeks previously. After having roasted the skin they bruised it between two stones and then gladly consumed it. On 22 March I reached my wagons after seven weeks' trek, after having crossed the Marico a little higher up than on the former occasion. As soon as I reached the wagons I sent one of my Boers with a load of ivory to the settlers in the Magalies Mountains to purchase oxen."

While waiting for the arrival of the new oxen Wahlberg made several shorter excursions on foot in the neighbouring country. He shot a few giraffes, one of which was prepared, together with its complete skeleton. On a later occasion he moved his wagons to the immediate neighbourhood of the Inkolube or Varkens River near Spitzkop, to which place his faithful servant returned, having bought eighteen oxen with the ivory. Before Wahlberg undertook his final retreat he, however, made another excursion on foot in a south-westerly direction, crossed the Upper Marico, and penetrated through the Dwars

Berge as far south as to Buys Poort. During this trip, which lasted nearly one month, he "only shot two elephants, besides numerous rhinoceroses and other game."

This latter excursion was mainly undertaken to get information about the *Keilloa*, said to be a different species of rhinoceros. He was, however, on this occasion unsuccessful in his efforts to get a specimen of that animal. Later on he succeeded in shooting two specimens, but had to spend a long time in the pursuit. "After having seen this animal myself, which had been described as a different species, and which I have taken great care and a long time to obtain, I must state that I strongly doubt that it is distinct, and I feel almost certain that no specific differences really exist."

On 11 June he definitely began his return journey to a more civilized country. "Almost every day," he writes, "we shot black rhinoceroses, as I was anxious to incorporate a fine undamaged specimen of this animal with my collections. At last I succeeded in obtaining a fairly large specimen, and I could conscientiously continue my retreat."

From the Inkolube River he went straight to Pillaan's Berg, and from there across the Elands River to Magate and Buffelshoek, and then to the Mooi River. At this latter place he nearly lost everything. Through the lack of caution of one of his native servants a grass-fire broke out near the camp, but "we managed to extinguish the fire, although our clothes were badly burnt during our efforts to get it under control."

On 25 July he arrived at the Mooi River Drift, where he purchased a small house, in which he left his collections. Instead of returning at once to Port Natal, he again started, with his two wagons, on another excursion. He went in a north-easterly direction, *via* Wonderfontein and Holfontein, to the settlements in the Magalies Mountains, as he wanted to get permission from the Boers to proceed to the Aapies River and from there farther east and north. The permission having at last been granted, he continued his travels at once. The Crocodile River was forded near Mamachahi, and after having crossed several other rivers he arrived at a place called Mahallakoana and situated near the sources of the Great Nyl Stroom. From there he made short excursions among the

11 May - June
1899

Mooi River
Drift

Bads Berge, but as food for the oxen became scarce he was soon forced to return with his wagons to the small Masoba Lake.

At this lake he left his wagons and made an excursion on foot towards the north. During this trip he one day lost sight of his companion when out shooting. At sunset he was therefore once more compelled to spend the night alone in the wilderness. "I made my night-quarters in a thicket near the banks of a river. My sole company consisted of Guinea-fowls and monkeys that slept in the trees above my fire. During the night I was often disturbed by the crocodiles, which I could distinctly hear moving on the sand-banks or plunging into the water. Early in the morning I ascended the top of a low hill, fired a shot, and was fortunate in being answered. During this eventful night nine of my native servants had run away, and only four were then left to carry my heavy loads. But none the less we continued our march."

During this excursion Wahlberg at first followed the course of the Pongola River. Then he went more towards the north-east, crossed the Tamboeti River, and on 12 September he arrived at the banks of the Palala River. Two days afterwards he was successful in shooting a very large elephant bull, the complete skeleton of which he decided to prepare, although he had only four natives to assist him with this laborious and difficult work.

"We camped among the thorny bushes close to the carcass of the fallen giant, constructed a rough shelter, the roof of which was made of a portion of the skin of the elephant. On the second day the animal had been cut up and most of the meat removed. Two of the natives were then sent to the wagons in order to fetch one of these. During the week that passed until they returned I completed my arduous task with the assistance of only two servants. A path had also to be cut through the forest to enable the wagon to reach the spot where the skeleton was being kept. I was much disturbed by hyenas, which were attracted by the awful odour that I was compelled to endure. On the last night of our stay at the carcass lions also showed themselves and

fed on the meat. When the wagon arrived we at once loaded it with the skeleton and left the river."

During the return journey Wahlberg was once overtaken by a terrific hailstorm, the hailstones being "almost as large as goose-eggs. Twigs and bark were knocked off trees and fields were badly damaged by the storm." A few days afterwards four of his faithful Basutos were murdered by a marauding band from a hostile tribe. Notwithstanding these adventures, Wahlberg, on 13 October, 1844, safely arrived at his house at the Mooi River. Ten days afterwards he continued his journey, this time with five fully-loaded wagons. He came to Pietermaritzburg on 14 November, and made his entry in Port Natal a few days afterwards. On 28 December he landed in Cape Town, after having spent five and a half years in Natal and the hinterland. As usual, Consul Letterstedt gave him a friendly welcome in Cape Town. As there was no direct ship from there either to Sweden or England at the time of his arrival, Wahlberg at first collected a number of sea-birds in the Table Bay, such as *Spheniscus demersus*, *Hydrobates pelagicus*, *Ardenna gravis*, *Procellaria equinoctialis*, and *Thalassarche melanophris*, species not obtained by him on earlier occasions.

He went then to the Saldanha Bay, where he brought together further collections of birds, among which were specimens of *Francolinus capensis*, *Pternistis afer castaneiventer*, *Afrotis afra afra*, *Colinus colinus colinus*, *Calendulauda nixosa nixosa*, *Certhilauda curvirostris curvirostris*, *Calendula magnirostris magnirostris*, *Erythropygia coryphæus coryphæus*, *Polioptila angolensis angolensis*, and last, but not least, *Emarginata sinuata*, a species subsequently described as new by Sundevall.

On 5 May, 1845, Wahlberg left Africa's soil. After more than two months' voyage he landed in London. He arrived at Stockholm in August the same year, after having been absent from his native country seven years and two months.

When news reached Europe that Livingstone had discovered Lake Ngami, Wahlberg decided to return to Africa. Although he had been busy writing an Avifauna of Africa, the manuscript of which fills up three closely-written volumes, he

Return to
Natal 1844

Departure

Pongola = Mokolé

interrupted this work. From what he told some of his friends, he apparently planned to undertake a large expedition across the African continent. He seems also to have been especially anxious to explore zoologically the country near Lake Ngami, from where he seems to have intended to penetrate the large and unknown plateau that is drained by the Zambesi River and its numerous affluents.

In October 1853 he left Sweden. After a short stay in London he sailed for Cape Town, where he arrived at Christmas-time. On 22 March, 1854, he embarked on the 'Witch of the Wave,' bound for Walvis Bay. At this place he landed on 14 April, after a tedious journey, during which the vessel had called at several of the small islands along the coast of Great Namaqualand in order to load guano.

"During the loading of the guano," he writes, "all my belongings had to be stored on deck, where they got completely covered by the fine guano-dust. Nevertheless I got some compensation for all this annoyance, as I had time to visit and collect on the small islands at which we anchored. I was thus able to land on Possession Island, Long Island (where the crew slaughtered about 50 sea-lions, one big male of which I prepared), Halifax Island, Penguin Island, Ichaboë Island, and Mercury Island. Penguins (*Spheniscus demersus*), four species of Cormorants (*Phalacrocorax lucidus*, *P. capensis*, *P. neglectus*, and *P. coronatus*), Black-necked Grebes (*Proctopus nigricollis gurneyi*), Gannets (*Morus capensis*), Gulls of two species (*Larus dominicanus* and *Larus hartlaubii*), Oystercatchers (*Haematopus moquini*), as well as some small wading-birds, were the only inhabitants of these barren islands.

"In Walvis Bay millions of dead fish were either floating on the surface of the sea or thrown up on the shore and polluting the air. Thousands of Terns (*Sterna balcanarum*, *S. sandvicensis*, and *S. dougallii*), numerous Flamingoes (*Phaenicopterus ruber antiquorum*), and two species of Skua (*Stercorarius parasiticus* and *S. pomarinus*) were observed or obtained. Several Flamingoes were shot for food. My belongings were landed on the sandy beach, where I pitched my camp, trying to make everything as home-like as possible. At the earliest opportunity I sent a native to a missionary station, situated

some distance from the bay, in order to hire oxen for my wagons. A team of oxen soon arrived, and I was able to move inland. We had great difficulty in getting through the drift-sand, but at last we reached a large sandy plain. From here the oxen were, however, unable to proceed farther, as they were completely exhausted. I was forced to send them back and await the arrival of fresh ones. During this unforeseen stop my three native companions deserted me, and I was left quite alone to guard my belongings. On the following day some people from the mission at Scheppmansdorf, however, arrived, and I was able to reach this hospitable place at sunset. A few days afterwards my second wagon also came safely to Scheppmansdorf.

"It now only remained for me to purchase oxen. Together with five native servants, and five ride- and pack-oxen loaded with goods for barter, I left for the Swakop River. For twenty hours we either marched or rode across a large sandy plain until we reached the river-bed, where we could only obtain water by digging. We followed the river to the neighbourhood of Otjimbingwe, from where we went to the residence of Jonker Afrikaner at Eikhams (=Windhuk). Jonker Afrikaner, who is one of the most powerful of the Namaqua chiefs, received me cordially, but told me that only four days before my arrival his village had been attacked by the united forces of six other Namaqua chieftains. They had, however, been successfully repulsed. Jonker accompanied me himself to the battle-field, where a number of freshly-made graves and much blood remained as horrible witnesses of the fight.

"I only stopped a single day at Eikhams, as the chief refused to sell oxen except for gunpowder. As I had promised the British Government never to give away gunpowder to the natives, I went off empty-handed except for some fat-tailed sheep which were highly appreciated, as game was very scarce in this district. Instead, I decided to pay a visit to Jonker's enemy, Willem Zwartbooi, at Rehoboth. I carried with me a message from Jonker Afrikaner saying that Willem at once had to leave the district, and that Jonker himself in a few days would come and see whether he had been

Return to
Cape

1854

to Walvis Bay

obeyed or not. Unfortunately I did not succeed in my efforts to obtain oxen from Zwartbooi, as his people were on the point of anarchy. Nevertheless I got five oxen as well as several goats from the kind missionary, Kleinschmidt.

"We continued our journey slowly, and once my guides lost their way among the high sand-dunes, so that we were without water during four days. One of my Damaras then luckily found some water, and in return I presented him with a shirt, a big gift in this part of the world. At last we approached the sandy banks of the Kuiseb River, where beautiful acacias were growing. As grass was very scarce, the pods of the acacias served as the only food for our cattle. We had to dig fairly deep for water, as all the rivers in this country have running water only during two or three months in the year. In the middle of June I made my entry in Schoppmansdorf. During this trip I had seen a number of game such as giraffes, oryx, steenhoks, klippspringers, duikers, zebras, ostriches, as well as spoors of lions and rhinoceroses. I did not collect much, as I was always in a hurry."

Francofins and Guinea-fowls were often shot for the pot, but a small number of interesting birds were also collected, such as *Poliohierax semitorquatus semitorquatus*, *Lanioturdus torquatus*, *Monticola brevipes*, *Priniops ocularius*, *Achaetops pycnopygius*, etc.

As it had become too late to undertake a long inland journey that year on account of bad climatic conditions, Wahlberg decided to make a short collecting trip to the coast-land before the final start to Lake Ngami was undertaken. "The coast-land," he writes, "is a veritable desert, with nothing else but drift-sand that has been blown together into dunes, often several hundred feet in height. There is hardly any water, and only a very scanty vegetation, except along the river-beds. Rain is extremely rare, but this is compensated for by a very heavy dew during night-time. The ground is consequently quite wet in the early mornings."

From this trip Wahlberg, on 11 October, once more returned to Schoppmansdorf, bringing with him a small collection of birds, among which were specimens of *Ammomanes grayi*, *Eremomela icteropygialis damarensis*, and *Karrucincla schlegelii*

schlegelii, all then unknown to science. Wahlberg had himself noticed that these species were unknown, and he, therefore, sent descriptions of them to the Royal Swedish Academy of Sciences. "Game was rather scarce," he writes in his diary, "and as I was always occupied by getting enough meat for my native servants, I had not time to collect much."

At the end of December 1854 Wahlberg was ready to make the start for Lake Ngami. Unfortunately it is not definitely known which road he used for reaching the lake, as nothing has been mentioned about it either in his letters or in his diary. He seems, however, to have travelled *via* Okahandja, Otjihaenena, the Nosob River, Gobabis, Rietfontein, Ghanzi, and Tsau, at least to judge from the labels of a number of birds collected in February and March 1855.

A fortnight before the arrival at the lake he met Mr. Green, an English trader, who afterwards accompanied him. In a letter dated Lake Ngami, 21 November, 1855, Wahlberg writes "that the environs of the lake are rich neither in birds nor in mammals. They did not at all fulfil my expectations."

Besides shorter collecting trips in the neighbourhood of his main camp on the southern shores of the lake, Wahlberg undertook a shooting expedition up the Taoge River, which from a north-westerly direction runs into Lake Ngami. This expedition lasted from July to October 1855, and Wahlberg reached as far northwards as Libebe. With the exception of some interesting birds, such as *Lamprotornis mevesii mevesii*, *Sigmodus retzii retzii* (both then unknown), *Laniarius ferrugineus guttatus*, *Vinago waalia damarensis*, *Cypsiurus parvus brachypterus*, etc., he records having shot game, among which were fifteen elephants. During this trip he also found the nests, with eggs, of *Anhinga rufa rufa* (31. x.), *Scopus umbretta bannermani* (2. ix.), *Rynchops flavirostris* (16. ix.), and *Melittophagus bullockoides* (31. viii.).

From Lake Ngami itself and its immediate neighbourhood he either obtained or observed—besides those birds already mentioned above—*Pelecanus rufescens*, *Mesophoyx intermedius brachyrhynchus*, *Sphenorhynchus abdimii*, *Ephippiorhynchus senegalensis*, *Leptoptilus cruminiiferus*, *Hagedashia h. hagedash*, *Plegadis f. falcinellus* (5. xi.), *Platalea alba*, *Phoenicopterus ruber*

To Lake Ngami

antiquorum, *Nyroca erythrophthalma*, *Anas capensis*, *Anas punctata*, *Dendrocygna viduata*, *Alopochen ægyptiacus*, *Sagittarius s. serpentarius*, *Cuncuma vocifer*, *Numida papillosa damarensis*, *Fulica cristata*, *Recurvirostra avocetta* (7. vi.), *Larus cirrocephalus*, *Eremialector burchelli*, *Ceryle r. rudis*, *Dicrocercus h. hirundineus*, *Parisoma plumbeum orientale*, *Cinnyris talatala*, *Sitagra velata velata*, *Xanthophilus xanthopterus castaneigula*, *Fringillaria impetuanii*, etc.

"I am now leaving my collections and the ivory (he writes) in charge of Letschulatebe (a native chief who had his village at the north-eastern corner of the lake), and I am now starting—this time in company with Messrs. Green and Castry—towards the north-east. We intend to travel along the course of the Tzoga River (Botletle River) and then in a north-easterly direction with the special purpose of hunting elephants and rhinoceroses to get some compensation for my heavy travelling-expenses. We are leaving Lake Ngami tomorrow, as the unhealthy season is approaching, and several of our men have already had fever."

They started on 22 November, but on account of heavy rains and thunderstorms they did not reach their actual hunting-grounds until the beginning of February 1856. They followed the southern shores of the lake, and after five days' trek they arrived at the Botletle River, where they camped for some days. Three elephants were shot in the neighbourhood of the Kwaebi Hills. On 5 December they continued their journey to the junction of the Tamalakane and the Botletle Rivers, and from there to the Madenassana flats, where game was rather abundant. At Christmas-time they came to an enormous grassy plain, and then passed a large reed-swamp near the Mababe River. At the beginning of January they had come into a more open and park-like country, where giraffes and white rhinoceroses, as well as bontequaggas, blue wildebeests, springbucks, etc., were numerous. On 6 January they camped near a small hill, but continued the following morning, when they reached a more forest-covered country. They went still further northwards, through thick forests, to a small vlei, where they decided to stop. A small

hut was built, and from this camp both Wahlberg and Green made daily excursions in the neighbourhood. They obtained more than twenty elephants during their stay there, "although it seems dreadful to slaughter so many of these huge creatures merely for their tusks, for if there are no natives in the neighbourhood the carcasses are abandoned to the hyænas and the vultures. Ivory is, however, the only thing obtainable in this country with which to defray the heavy expenses of travelling."

On 28 February Wahlberg left the main camp, only accompanied by two Damaras and a few Bushmen. At the same time Green also left, but in another direction. As Wahlberg did not come back after about ten days' absence, Green and his companion Castry became worried, particularly as they were unable to get any news from the natives about Wahlberg's doings. On 11 March news was spread in the camp that Wahlberg's caravan was in sight. Green and Castry at once went out to meet him, but they immediately observed that Wahlberg was not at the head of his people, as he always used to be. The natives who had accompanied him told them the following narrative about the excursion, that proved to be Wahlberg's last:—

"On the same day as we left the wagons we struck the track of a young elephant bull, which was followed for three days, when we came up to him. The bull was in company with three older bulls, two of which were shot. We remained at the carcasses during the night. On 4 March our master killed the remaining old bull, while the young one escaped. We followed its tracks until sunset, when we slept on the spoor, although we were without water. On the following morning we again continued, and our master succeeded in shooting a zebra, on which we fed. Towards the evening we arrived at a small vlei, where we spent the night. On 6 March we again took up the pursuit, and at noon we came to a river where we took a short rest at a small village. In the afternoon we started again, and towards the evening we overtook the elephant on a fairly open plain. The bull was now together with another old one. We approached them as close as

Killed by
C. Lepinon.

possible and Wahlberg fired at the young bull, which, however, was not instantly killed, but escaped towards the river-bed.

"Our master now ordered us to drive the elephant towards a spot which he pointed out to us, and at which he intended to overtake the wounded animal. We succeeded in driving it out from the thicket by means of a shot, and the infuriated bull ran in the direction of the place where Wahlberg was standing, but, unfortunately, out of range for him. Wahlberg at once followed the bull, this time only accompanied by a native from the neighbouring village. The elephant, however, only continued his flight for a short distance, and took cover among some thick bushes. When Wahlberg arrived there, he was suddenly charged. Our master had no time to shoot, and was thrown to the ground and at once killed by the animal, which then disappeared, trumpeting furiously. Wahlberg's rifle was broken at the butt-end and his body was frightfully mutilated. We dug a deep grave at the foot of a large tree, buried him there, and made a small mound over his last resting-place."

In such tragic way the career of a most daring elephant-hunter and of one of the most distinguished old-time explorers and naturalists was abruptly ended. The magnificent collections that he had succeeded in bringing together will always stand as a lasting monument to the memory of a man who, without weariness and despair, spent the prime of his life and all his energy to bring honour to his native country, and whose sole purpose was to be useful to science.

It is a great pity that time never permitted Wahlberg to fulfil his intention of publishing an Avifauna of Africa. As I have already cursorily mentioned, there are kept in the Library of the Royal Swedish Academy of Sciences three volumes in manuscript which contain carefully-drawn descriptions, measurements, biological notes, etc., of all such species of birds that were then known to inhabit the African continent and islands. These notes, generally written in the Latin language, are often accompanied by well-drawn text-figures made by himself. Had time permitted him to complete his task, this avifauna would certainly have been a standard work for a long time.

Those people who consider that Wahlberg only showed a hunter's eagerness to pursue and kill as much as possible for the purpose of getting a record bag are greatly mistaken. To him the study of Natural History was the sole motive, and the hope of bringing together collections which would be of value from a scientific point of view helped him to keep up his spirit during his lonely and adventurous journeys.

The numerous animals which he shot were, in the first place, meant to benefit science and, secondly, for food, or sometimes in order to save his own life on critical occasions, never for the pleasure of killing or to boast about. It is not definitely known how many elephants or other big-game were shot by himself or by his companions during his lengthy travels in the former game-paradise of South Africa, but they are certainly not few.

Wahlberg's character, as well as his mental ability, were extraordinary. He never told a lie, and he always avoided anything that could hurt the feelings of other people. Society life, in which he seldom, and then unwillingly, took part, was almost a torment to him. At times his modesty approached shyness, and he generally kept his feelings to himself, being rather taciturn. He was very kind-hearted, and cutting words worried him often more than they should have. He was a man without guile, and as a naturalist undoubtedly one of the very first.

It is to be regretted that a comprehensive account of the ornithological collections brought together by Wahlberg has never been published. Since nearly a hundred years have now elapsed since he commenced his pioneer work in Africa, it seems to be the right moment to give at least this short summary of his travels. As already stated above, a great number of the birds collected by Wahlberg are still kept in the Royal Natural History Museum in Stockholm, where they form the nucleus to the African collections. In addition, numbers of his specimens were exchanged with the principal Museums in Europe, such as the British Museum, the Berlin and Leyden Museums, etc., and some were also presented to several provincial Museums in Sweden.

I have taken this opportunity to give a revised list of the type-localities of such new birds as were obtained by Wahlberg, and which, through a study of his diaries, it has been possible to fix definitely:—

Restricted Type-localities of certain Birds described from Material obtained by J. A. WAHLBERG. (The remaining ones have already been properly fixed: cf. Arkiv f. Zoologi, Bd. 19 A, no. 1, 1926.)

Aquila wahlbergi Sundev. = *Hieraaëtus wahlbergi* Sundev.

Type-locality.—Mohapoani, Witfontein Berge, W. Transvaal.

Charadrius frontalis Sundev. = *Stephanibyx lugubris* Less.

Type-locality.—Umhlanga River, Victoria District, Natal.

Buceros epirhinus Sundev. = *Lophoceros nusutus epirhinus* Sundev.

Type-locality.—Upper Crocodile River, S.W. of Pretoria, Transvaal.

Megalaema bilineata Sundev. = *Pogoniulus bilineatus bilineatus* Sundev.

Type-locality.—Umlalazi River, Zululand.

Megalaema leucotis Sundev. = *Buccanodon leucotis leucotis* Sundev.

Type-locality.—Umlalazi River, Zululand.

Prodotiscus regulus Sundev. = *Prodotiscus regulus regulus* Sundev.

Type-locality.—Mohapoani, Witfontein Berge, W. Transvaal.

Mirafra passerina Gyldenst. = *Mirafra passerina* Gyldenst.

Type-locality.—Mohapoani, Witfontein Berge, W. Transvaal.

Alauda fasciolata Sundev. = *Corypha fasciolata fasciolata* Sundev.

Type-locality.—North of Potchefstroom, Transvaal.

Alauda brevisunguis Sundev. = *Heterocorys brevisunguis* Sundev.

Type-locality.—Spitzkop, N. of Witfontein Berge, W. Transvaal.

Alauda fringillaris Sundev. = *Botha fringillaris fringillaris* Sundev.

Type-locality.—Leeuw Spruit, Heilbron District, Orange River Colony.

Alauda conirostris Sundev. = *Spizocorys conirostris conirostris* Sundev.

Type-locality.—Vechtkop, S. of Heilbron, Orange River Colony.

Anthus caffer Sundev. = *Anthus caffer caffer* Sundev.

Type-locality.—Mohapoani, Witfontein Berge, W. Transvaal.

Anthus lineiventris Sundev. = *Anthus lineiventris* Sundev.

Type-locality.—Dwars Berge, Marico District, W. Transvaal.

Platystira peltata Sundev. = *Platysteira peltata peltata* Sundev.

Type-locality.—Umlalazi River, Zululand.

Pogonocichla margaritata Sundev. = *Pogonocichla stellata stellata* Vieill.

Type-locality.—Upper Umgeni River, Natal.

Eremomela scotops Sundev. = *Eremomela scotops scotops* Sundev.

Type-locality.—Mohapoani, Witfontein Berge, W. Transvaal.

Camaropectera olivacea Sundev. = *Camaropectera brachyura brachyura* Vieill.

Type-locality.—Umkomaas River, Durban District, Natal.

Drymoica chloris Sundev. = *Cisticola natalensis natalensis* A. Smith.

Type-locality.—Pietermaritzburg, Natal.

Drymoica fulvifrons Sundev. = *Cisticola galactotes galactotes* Temm.

Type-locality.—Umvoti River, Victoria District, Natal.

Hirundo semirufa Sundev. = *Hirundo semirufa semirufa* Sundev.

Type-locality.—Magalies Berge, junction of Hennops River and Crocodile River, S.W. of Pretoria, Transvaal.

Hirundo spilodera Sundev. = *Petrochelidon spilodera spilodera* Sundev.

Type-locality.—Valsch River, E. of Kroonstad, Orange River Colony.

Zosterops lateralis Sundev. = *Zosterops pallidus pallidus* Swains.

Type-locality.—North of Potchefstroom, Transvaal.

Xanthodira flavigula Sundev. = *Petronia superciliaris superciliaris* Blyth.

Type-locality.—Hamauskraal, N. of Pretoria, Transvaal.

Ploceus (Hyphantornis) rubriceps Sundev. = *Anaplectes rubriceps rubriceps* Sundev.

Type-locality.—Mohapoani, Witfontein Berge, W. Transvaal.

XVII.—On the Forms of *Leucosticte arctoa* (Pall.).

By E. V. KOZLOVA.

In the summer of 1929 I was at the head of the zoological party of the Mongolian Expedition which, in exploring Khangai in Northern Mongolia, had, at the suggestion of the late Prof. Sushkin, as its main object the investigation of the high mountain fauna of that country.

Within the region of the snow-clad mountain summit of Otkhon-tengri (4100 m.), 140 km. to the east of Uliassutai, the party discovered the breeding-quarters of *Leucosticte arctoa*, here represented by a very well-defined geographical race, described by me below, and which I propose to name *Leucosticte arctoa sushkini*, subsp. nov.

At the present time the Zoological Museum of the Academy of Sciences possesses a sufficient number of specimens of *Leucosticte arctoa* to enable me to recognize three distinct forms of the White-winged Mountain-Finch, of which one inhabits Central and Southern Altai, another the Sayans, with its range extending eastwards to the Khamardaban mountain range, skirting the south-eastern shores of Lake Baikal, and the third the Khangai.

With the recognition of a new geographical race of *Leucosticte arctoa* from the Khangai and a confirmation of the existence of the race *cognata* Madaraz from the Sayans (*terra typica*—the Tunkin Alps), the question arises as to which form should be considered the typical one.

Pallas, in his 'Zoographia Rosso-Asiatica' (vol. ii. p. 21), as was pointed out in his time by Brandt*, describes under the one specific name of *Passer arctoa* three distinct species of *Leucosticte*, of which "var. α " is equivalent to *Leucosticte arctoa*, "var. β_1 " and "var. β_2 " to *Leucosticte brunneinucha*, and "var. γ " to *Leucosticte griseonucha*. With regard to the last two, Pallas quite correctly indicates their ranges, so far as known to him, assigning the Kurile Islands to *L. brunneinucha* and Unalashka to *L. griseonucha*. *Leucosticte arctoa*, as Pallas says, occurs "ad Jenisseam et in orientali Sibiria. . . . In Crasnojarensi regione frequentior quo severior hyems." In addition to this, Pallas quotes an observation of Steller: "Stellerus eandem decembri mense in Insula Beringii naufragus observavit."

If the reference to Steller, as based only on the oral report of the observer, who had undoubtedly seen a form allied to *Leucosticte griseonucha*, be disregarded, it follows that the range of *Leucosticte arctoa* would be confined to the Yenisei and Eastern Siberia alone. From Eastern Siberia Pallas could only have had *L. brunneinucha* or *L. gigliolii*. But *L. brunneinucha* was recognized by him as var. β_1 and β_2 , while *L. gigliolii* he left unrecorded, confounding it possibly with *L. arctoa*.

Pallas's description of *Passer arctous* var. α fully agrees with the species *arctoa*, and is most applicable to the form inhabiting Russian Altai. Pallas possessed only winter specimens of birds which might have descended into the Krasnoyarsk district and the Yenisei region generally, either from the Altai or from the Sayans.

* Brandt, G., "Remarques sur le *Passer arctous* de Pallas, comme étant vraisemblablement le type de trois différentes espèces d'oiseaux," Bulletin de la classe physico-mathem. de l'Académie Imp. des Sciences de St. Pétersb. 26 Nov. 1841, t. x. p. 251.