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## Chapter I

# Swedish Exploration of South African Animal Life during 200 Years

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Untamed Africa has attracted Swedish explorers and students of Natural History since the seventeenth century. In Southern Africa Swedish scientific work started about 1770 and since then many botanists, zoologists, ethnologists, anthropologists and other specialists have followed in the tracks of the first polyhistors who with ardent enthusiasm tried to record all African Nature.

It is not my intention to write a history of Swedish scientific travelling in South Africa, though I am sure it would be a fascinating task. This series of volumes deals with zoology only and so I shall try to trace zoologists and explorers who have secured collections of animals during their travels.

A fair number of natural history specimens has been brought to Europe and studied by Swedish scientists. For a long time this material had a purely systematic interest and provenience was recorded very broadly—if at all.

Among zoologists, most early Swedish travellers are at present known only from their collections: specimens labelled “*Aethiopia THUNBERG*”, “*Africa THUNBERG*”, “*Kap DE VYLDER*”, “*Damara ERIKSSON*” &c. The labels do not give the whole truth! In journals and diaries valuable data can often be found. And gathering facts from all available sources sometimes reveals complete itineraries presenting much of importance for those working on a zoogeographical, ecological, or chorological basis. The itinerary frequently gives a clue as to the provenience of a series of type specimens.

From a scientific point of view, the publishing of such an itinerary demands exact indications of where the traveller went, according to present geographical designations. When dealing with early travellers who explored lonely fields far off the beaten track, this can hardly be done without tracing their way in the field, as has been done by the officials of the Van Riebeck Society before editing old South African journals. Mostly, however, it is quite possible to find out the route by means of a detailed map. I have used the following recent maps. For the Union of South Africa the topographical edition in 1 : 500,000, printed by the Government Printer, Pretoria, and issued in 1948–1952 (21 sheets); the topo-cadastral series (49 sheets) in 1 : 250,000, edited by the Government Printer, Pretoria; and for south-western Cape sheets of the topographical edition in 1 : 50,000, edited by the Govern-

ment Printer, Pretoria. For southern Angola, northern Southwest Africa, northern Bechuanaland and adjacent areas: topographical map G.S.G.S. 2465 sheets SD 33, SE 33, SF 33, SD 34, SE 34, SF 34, SE 35, and SF 35, in 1 : 1,000,000, published by the British War Office in 1948-1949. For Southwest Africa. "Südwestafrika" by P. SPRIGADE & M. MOISEL in 1 : 2,000,000 (in MEINERT's Handbook, Windhoek, 1936/1937) was also used.

After having identified a Swedish traveller and collector who worked in South Africa, I have tried to follow his route over more or less unknown country, so far as it was possible to map it from available sources of information. I have also tried to find out the fate of his collections and to state the scientific results published. Usually, I have been successful; in some cases the obscurity continues.

As to the publications dealing with such South African material, I have usually included only reports on entire systematic groups. In more recent times this material may have been revised or certain specimens may have been picked out and included in a monograph or other general paper, but in such a case the identification of the material of that expedition has not been the main purpose of the publication. Further, it would require too much space to give full bibliographic evidence for all these articles. After the name of the taxonomic group I have listed the authors and printing years of the publications. Full data may be obtained from general bibliographic catalogues.

Before LINNAEUS, specimens of Natural History brought to Sweden from South Africa were handled as curiosities—as such things would be today in most cases. As well as shells and plants, the collections contained odd stones, pieces of wood, parts of animals (such as rhinos' and antelopes' horns, lions' teeth, and jackals' claws) &c. Usually they were delivered by officers of Swedish ships who had procured them in Cape Town. After the foundation of the Swedish East India Company (1731) its directors had a standing demand for such curiosities.

Certainly there were some few early travellers who brought real zoological specimens, like NILS MATSON KIÖPING, who made extensive journeys to Africa and Asia in 1647-1656. In 1656 he spent 3 weeks at the Cape and in his book "Een kort Beskriffning Uppå Trenne Reesor och Peregrinationer" (Wisingsborgh 1667) he gives a rather interesting description of Table Bay, also describing some of the animals found at the Cape at that time. Some of KIÖPING's specimens, via OLOF and MAGNUS BROMELL, went to the Academy of Uppsala where a few were still present when LINNAEUS started his work. So far as I can discover, there were no Cape animals among these early Linnaean specimens.

But there was no true Swedish investigation of the Cape fauna until the Linnaean period started within descriptive zoology. Only when classification and exact description of the animals (and plants) was possible, and when the museums had started the change over from being Wonder Cabinets to scientific collections, could the scientists bring order to the material gathered and start tracing the obscure relationships between the biota of the continents.

LINNAEUS was considerably interested in the exploration of foreign countries and in some of his speeches he stressed the importance of a fair knowledge of their Natural History. He furthered the exploration in various ways. Most important in this relation is that he sent many of his pupils abroad.

LINNAEUS's connections with the Swedish East India Company enabled him to place his pupils as surgeons on board the ships bound for China and East India and from these areas he soon had many fine specimens. The East Indiamen sailed via the Cape and usually called at Cape Town after the long journey over the Atlantic, as they did on their return from China. During their stay at Cape Town the travellers gathered what they thought useful and so various South African material came in, first and foremost to LINNAEUS and to the Swedish Academy of Sciences. Such material was presented by M. GRUBB (1728-1808, visited the Cape e.g. April 1764. In K. Vetensk. Akad. Handl. 1765, p. 225 BERGIUS says: GRUBB "showed me many rare natural history specimens procured with other beautiful collections out there"), C. F. GRÖNDAHL (1760-1816), G. LANGE (1743-1795), F. P. OLDENBURG († 1774) (THUNBERG in *Flora Capensis* 1807, p. 11: "in Campis Urbem [sic. Cape Town] circumiacentibus comes saepe meus indefessus Anno 1772 fuit, et eodem anno iter cum D. MASSON instituens, plantarum copiam collegit."), and C. G. OSBECK (1766-1841). When D. SOLANDER (1733-1782) visited the Cape in 1771 as a member of Capt. J. COOK's first voyage round the world in 1768-71, he accompanied the famous botanist Sir JOSEPH BANKS into the Cape Town mountains, in spite of bad health, and made "splendid collections" (THUNBERG op. cit.) which are now in the British Museum, Nat. Hist.

For various reasons these early travellers had few opportunities to collect outside Cape Town. Usually the ships stayed only a short time on the roads. And even if they had time enough, they were not usually allowed to collect in the field, since the Dutch East India Company had prohibited foreign students of Natural History to work in the Cape.

It appears that, in the 1750's, the Swedish East Indiamen avoided the Cape, calling instead at Ascension, St. Helena and Madagascar. Yet some good observations of sea birds and marine invertebrates were made in South African waters at this time, e.g. by PEHR OSBECK: *Dagbok öfver en ostindisk resa åren 1750, 51, 52*. (Stockholm 1757).

LINNAEUS himself was very anxious to send one of his students to the Cape of Good Hope. In a letter to Count C. G. TESSIN he writes (May 1st, 1752, transl.): "There is no place in the world with so many rare plants, animals, insects and other wonders of Nature as Africa, and it seems as if they have been concentrated to the Cape". At first he chose MÄRTEN KÄHLER (1728-1773) and in 1752 arranged his journey. He addressed himself to King ADOLF FREDRIK and Queen LOVISA ULRINKA to secure their benevolent interest in the voyage (cf. TH. M. FRIES: *Bref och Skrifveller af och till CARL VON LINNÉ*, 1:4, p. 159, Stockholm 1910). But the Dutch East India Company refused to grant KÄHLER a permit for studies in the Cape. Diplomatic appeal by the Swedish envoy in the Netherlands, baron J. FR. PREIS, was

unsuccessful. Once more, LINNAEUS attempted to have an investigation made of the Cape Flora and Fauna. Among his students was a DANIEL SCHEIDENBURG who had an uncle at the Cape. LINNAEUS held that the Company could not forbid SCHEIDENBURG to visit his relative and, when once there, he might at least be able to "take of the grass on the ground, the flies round his ears and the mussels east ashore by the sea" (In letter to Count C. G. TESSIN, Oct. 2nd, 1753, transl.). SCHEIDENBURG was granted permission to make the voyage, but it was never realized.

There were some Swedish naturalists, however, who succeeded in travelling far into South Africa in these early days, in spite of all obstacles. They were all more or less in service with the Dutch East India Company. Two of them were pupils of LINNAEUS and skilled naturalists, viz. SPARRMAN and THUNBERG, and their connection with the Honourable Company was rather formal. The third man, WIKAR, was a layman, later famous for his geographic discoveries.

HENDRIK JACOB WIKAR from Göteborg served with the Dutch East India Company as a writer to the Honourable Company's Hospital at the upper end of Adderley Street in Cape Town (1773-1775). After having been publicly insulted, he deserted from the Company's service on April 4th, 1775, and disappeared inland. Of his adventures between April, 1775, and September, 1778, we know nothing, but from that time till June, 1779, he was roaming the waste and rugged country along the lower Orange River. Before him the River had been crossed by very few Europeans—so far as we know, viz. by PIETER DE BRUYN in the 1730's, by J. COETSEE in 1760 and H. HOR and party in 1761. Yet, they only passed the area and left the final exploration to WIKAR, who mapped the country and gave an account of his journey in a diary, describing the discovery of the Aughrabies Falls, one of the world's biggest waterfalls. The diary is very important from several points of view and an annotated edition appeared in print in Cape Town in 1935 (Van Riebeck Society, vol. 15). On September 25th, 1779, WIKAR was pardoned and reinstated in the Company's service, after having presented to Governor VAN PLETTENBERG his diary and "a collection of natural objects and rarities". Besides ethnographica, the collection is known to have contained skins of mammals, birds and reptiles, curious plants and minerals. It has now vanished completely.

In the meantime, Captain CARL GUSTAF EKEBERG, a famous traveller in service with the Swedish East India Company, had secured a permit for a Swedish student of Natural History to visit the Cape. LINNAEUS chose SPARRMAN. In a letter dated Nov. 13th, 1771, to the *Consistorium Academicum* of the Uppsala University, he applies for a grant to SPARRMAN and continues: "We know of no country in the world producing so curious and different products of Nature as Caput Bonae Spei. I have always wanted to send a naturalist there. Only now has an opportunity arrived". (Transl.)

ANDERS SPARRMAN (1748-1820), medical doctor and professor of physics at Stockholm, was a pupil of LINNAEUS. After three months in a Swedish East Indiaman he arrived at Cape Town on April 12th, 1772. He lived at Alphen Farm near Constantia as a tutor to the children of the Resident Governor, Mr. HEMMING. Soon after his arrival he met THUNBERG and they saw the flora and fauna of the south-western Cape together. During this time he left the Cape Peninsula only once, for a trip to Paarl in October. With a native boy he walked via Tygerberg to Paarl and curved to the south back to Constantia, spending 6 days on botanizing and insect collecting.



Fig. 1. ANDERS SPARRMAN 1748-1820.

In November he accepted an offer to accompany Captain JAMES COOK as assistant naturalist on his second voyage round the world and on November 22nd, 1772, they sailed for New Zealand.

On the 1st of March, 1775, he arrived safely at the Cape again and started preparing a voyage to the eastern parts of *Promontorii Caput Bonae Spei*, the southern Cape Province.

With a young South African, by name D. F. IMMELMAN, SPARRMAN set out for Warm Bath (Caledon) by horse and ox wagon on July 25th, 1775, driving over the sandy Cape Flats to the foot of the Hottentots Holland Mountains. They ascended the steep tracks of the Eland Pad (now the safe Sir Lowry's Pass), studied the Proteas of the eastern slopes, waded the Palmiet River at Grabouw and via Botrivier arrived at Caledon on the 28th. On the way they saw herds of haartebeests, bonteboks, Cape zebras, and ostriches. Caledon was a centre from which SPARRMAN made excursions, also visiting the ravines of Zwartberg. On the 26th of August they left for Swellendam. They pitched camp at the Steenboks River, then turned to the NE, riding close to the Riviersonderend Range, and passing Ganskraal and Tygerhoek. The Breede River was crossed by a ferry boat. They arrived at Swellendam on Sept. 2nd. Here SPARRMAN saw quaggas for the first time. In the mountains there were at that time large forests whence wood was sent to the Dutch East India Co. in

Cape Town. Next day they went on eastwards, waded the Buffeljagtsriver and botanized in the fine woods (called Grootvaders Bosch) on the southern slopes of the Langeberg Range (south Tradouw Mnt.). They passed the upper reaches of the Duivenhoek R., Kafferkuils R. (at Riversdale) and Valsch River. The Gourits River must have been crossed near Hells Hoogte, since thence they drove through the Heuningklip Kloof to the shores of the Little Brak River. SPARRMAN rode to Mosselbay and visited the harbour.

SPARRMAN now approached one of the fields he aimed at, the wooded Outeniqua Mountains, "Houtniquas Land". After crossing the Great Brak River he proceeded to the SE, arriving at the mouth of the Els Rivers (Maalgaten). He sought a ford, turned to the north and crossed the middle reaches of the Els and Geelhout Rivers. Apparently he passed what is now George and worked in the virgin forests along the Zwart R. and Kaimaans R.

On Oct. 9th they returned westwards to the Klein Brak and followed the river upstream. They crossed the mountains via Attakwas Kloof (Robinson Pass) and reached Safraan Rivier on the plains north of the Outeniquas. Over the dry plains they rode to the east, crossing the Doorn River and entering the Lange Kloof, to the north bordered by the Kamanassie Mnts. and to the south by the Outeniqua Mnts. Via the Potjes River Heights they arrived at Avontuur ("Avanture"). The valley of the Couga R. was found to be dry and stony but the fauna and flora became more abundant as they passed on to the east, into the Tzitzikama Mnts. On the 1st of November they reached the Kroom River, near what is now Kareedouw, and followed the narrow valley to Essenbos where SPARRMAN discovered a forest formed by trees of an unknown species, named by him *Ekebergia capensis*. The environments presented an abundance of fauna and flora. The last two weeks of November were spent at a farm near the mouth of the Seekoei River, southeast present Humansdorp. SPARRMAN found many new insects. He studied the swarming and collected the type specimens of *Termites capensis* DE GEER (1778). Hippos were noted in the rivers.

On December 1st they proceeded eastwards by the Kabeljous River, the last place inhabited by Europeans. At the Gamtoos R. they found a big native kraal. To avoid steep slopes they passed Van Stadensberg so far to the south that the water in the river was found to be salt. Over grassy plains they arrived at the site of present-day Uitenhage, crossed the Swartkops River and went southeast of the Swartkops Zoutpan which yielded very rich collections of insects. On the way they met big herds of quaggas and hartebeests. The Sondags River was waded at an easy ford and they penetrated into hilly country where buffaloes were plentiful (lice collected from one of them were described by DE GEER in 1778), passing the upper reaches of the Coerney R. which had brackish water. When they advanced towards the Boesmans R. (south present Aliceadele) they found many lions, quaggas and buffaloes.

On December 14th they turned northwards in the hilly country west present Grahamstown and on the following days crossed the Assegaaibos R. and New

Years R., arriving at Kommadagga (about 2,000 springboks at the fountain) where they stayed until Dec. 21st. The area was also rich in lions, rhinos, quaggas, buffaloes, hartebeests, and elands. During late December they worked along the lower Little Fish River and in the fields between the Fish Rivers down to the junction. On the plains were big herds of antelopes. January 1776 was spent along the upper reaches of the Little Fish River and at the Klein-Bruintjieshoogte which were green and fresh with many peculiar plants. Here SPARRMAN also obtained good harvests of insects and other animals. SPARRMAN's party did not proceed any further. On Febr. 6th they set out for the Cape again, retracing their steps, thus passing Kommadagga, the Boesmans R. and Sondags R. Thence they took a more southerly route, close to the sandy coast (north of present Port Elizabeth) seeing several salt pans and vleis (Febr. 17th). They crossed the Gamtoos R. on Febr. 24th, the Cabeljou R. on the 26th and stayed another week with JACOB KOCK at his farm at the Seekoei R. On the 7th of March they took up the old track through the Lange Kloof and arrived at Swellendam on April 5th. Now they branched off, driving along the northern shores of the Breede River (over present Worcester) below the Hex River Mnts. to the Tulbaghweg at the Roodezandsberge. They again saw Zwartland and hastened to Cape Town where they arrived safely on April 15th, 1776.

SPARRMAN has described his South African voyages in a volume "Resa till Goda Hopps-Udden, Södra Pol-kretsen och Omkring Jordklotet samt till Hottentott- och Caffer-Landen Åren 1772-76." Pt. I. Stockholm 1783. (English translation: London 1785). It is a charming book, by a young and very modest author. It contains many valuable notes on animals, plants, and people and gives type localities for several creatures collected by SPARRMAN and described by him or other authors as originating from the "Cape". I hope it will be easy to trace his localities and apply them to present-day places by comparing the data with the above itinerary.

SPARRMAN made good collections of animals and many of the specimens are still kept in the Riksmuseum, Stockholm, as for instance a foal of the extinct quagga and a male of the blue antelope which was exterminated at about the end of the eighteenth century.

No comprehensive scientific report was ever written. When SPARRMAN's first collections from 1772 arrived at Stockholm LINNAEUS's health was already broken and he could not enjoy the riches. CH. DE GEER described some of the insects in the last volume of his *Mémoires pour servir à l'histoire des insectes* (tome VII, Stockholm 1778). SPARRMAN himself wrote many articles on South African fauna and flora in *Kongl. Vetenskapsakademiens Handlingar* (1776-1786), *Nova Acta Reg. Societ. Upsaliensis* (1783) and *Götheborgska Wetenskaps och Witterhets Samhällets Handlingar* (1778) (cf. *Biographie öfver ANDERS SPARRMAN* in *K. Vetenskaps Acad. Handl.* 1820). About a dozen species of birds (together with some collected by HORNSTEDT, vide below) were figured and described by SPARRMAN in "Museum Carlsonianum", fasc. 1-4 (Holmiae 1786-89).

CARL PETER THUNBERG (1743-1828), medical doctor, professor of physics and botany at Uppsala University.

THUNBERG was a pupil of LINNAEUS and was stimulated by him to go to Holland and France. During this journey he visited great botanists and zoologists and saw their collections. In Amsterdam he met professor JAN BURMAN, who was so impressed by the young naturalist's skill and knowledge that he offered him a journey to some foreign country at Dutch expense. THUNBERG asked LINNAEUS for advice



Fig. 2. CARL PETER THUNBERG 1743-1828.

and in a letter of April 27th, 1771, LINNAEUS heartily supported the plan, writing that "Fate offers Fortune rarely more than once". After about half a year in Paris THUNBERG returned to Amsterdam and it was resolved that he would travel to Japan—a country which was at that time closed to Europeans except the officials of the Dutch East India Company. THUNBERG therefore went into service with the Company as assistant ship's surgeon and he stayed at the Cape of Good Hope for some time to learn Dutch, since he had to appear as a real Dutchman.

As the "Father of Cape Botany", THUNBERG and his South African travels have been the objects of keen interest of botanists working on South African plants. KARSTEN in 1939 (*J. S. Afr. Bot.* V) and HUTCHINSON in 1946 (*A Botanist in Southern Africa*, London) summed up his travelling.

THUNBERG left Holland on board the ship *Schoonzigt* on December 30th, 1771, and arrived in Table Bay three and a half months later, on April 16th, 1772, after an eventful journey. The first months were spent on the Cape Peninsula. Early in

June, THUNBERG went to Paarl. At the end of that month he visited the eastern slopes of Table Mountain and some days later he walked to Constantia, noting that at that time (in early winter) the mountain streams were in flood. On July 21st he started a walk to Paarl and Stellenbosch.

In August the winter was over and THUNBERG commenced planning his first long journey. Gardener J. A. AUGE was to be his "sure and faithful guide". He was also accompanied by D. F. IMMELMAN who followed SPARRMAN to the Fish Rivers some years later, Mr. LEONHARDI, a hunter, and two native boys. They left Cape Town on September 7th and travelled northwards.

Sandveld and western Zwartland did not offer any difficulties. They passed some of the D. E. I. Company's farms and arrived safely at Groen Kloof, northwest Mamre, where they stayed for a week. In the vleis they saw considerable numbers of flamingoes. By Oranjefontain (SE Darling) and Uilenkraal they proceeded into the sandy fields between Theefontein and Elandsfontein and reached Saldanha Bay on Sept. 15th. On return ten days later they again saw the farm Theefontein but now they branched off to the north, to Bergrivier, crossing the Great Berg R. by a ferry boat. They followed the river to the SE, riding under the Piketberg and Heuningberg, wading the Twenty Four Rivers and proceeding along the Little Berg R. to the narrow Tulbaghweg (Roode Sands Kloof). Through the pass they reached the plains around Tulbagh and made their headquarters at Roodezand. This place is often referred to by early travellers. It has been rather puzzling to later botanists and zoologists, since it does not occur on general topographical maps. Nowadays, it is a farm 5 miles NNW Tulbagh, just below Saronsberg. During a fortnight THUNBERG did much collecting in the surrounding mountains, also visiting Witzenberg.

On October 6th the party pursued their journey in the Breede River valley, crossing the Hex R., Hartebeest R. (W of Worcester) and Breede R., to the Warm Bath at Brandvlei. Thence, via the Goree R., Klaas Voogds R. and Leeurivier, they arrived at Swellendam on the 18th of October. Next day they waded the Buffeljagtsriver and rode to Rietvlei (Rietvalley), a farm at that time belonging to the D.E.I. Company. They visited the Grootvaders Bosch, a large forest on the southern slopes of Tradouw mountain, but it was too early and nothing was in bloom. Before pushing on they exchanged their small cart for a large covered wagon drawn by 10 oxen. Thus better equipped they drove to the Kragga R. and Groot Kragga Hoogte ("Krakous Hill"), passed the Kaffirkuils R. and Soetmelks R. and rested at the farm Weltevrede close to the Valsch River. In the Union there are hundreds of farms with this pleasant name ("well satisfied"). This time a spot 12 miles E Riversdale seems to be indicated. On the 27th they waded the Gouritz River and proceeded to the Attaqwas Kloof. THUNBERG then sent IMMELMAN with the wagon through the pass to the Lange Kloof, the plains north of the Outeniqua Mountains, but rode himself, accompanied by AUGE and LEONHARDI, southeast of the mountains, by the Little and Great Brak Rivers to Kleinfontein at the Witte Els River. The dense Outeniqua forests were found to be thorny and very wet but yielded fine

collections. Having passed over the Kaaimans R., Goukama R. ("Koukuma") and Knysna R. ("Neisene") they left the dense forests behind. On the 5th of November they arrived at Pisang Rivier, close to the sea shore and just south of present Plettenbergbaai. Almost a week was spent here, during which time they recovered from a dangerous incident in the Goukama woods: they had been attacked by a ferocious buffalo which killed two of their horses and forced THUNBERG and his companions to climb trees. Before they passed on to the Keurbooms R., THUNBERG visited the Robberg, a mountainous peninsula pointing like a finger into Plettenberg Bay. At the Keurbooms River "ended Hautniqua's land, rich in grass, forests and buffaloes".

They then left the coast and proceeded up the Keurbooms River, traversing the Langkloof mountains, and reached the Lange Kloof. In this valley they went eastwards, almost the same way as has been described for SPARRMAN above: by Misgund, Krom R., and Essenburg to JACOB KOCK's farm at the mouth of the Seekoei R., where they arrived on November 22nd. The farm was their headquarters for some time and from there they made excursions in the vicinity, to the Kabeljous R. and to the Gamtoos R., which was the most easterly point visited by THUNBERG during this journey. Hippos were hunted at Gamtoos.

Early in December they returned, retracing their steps through the Lange Kloof to the Keurbooms R. but then passing north of the central Outeniquas by Wolwekraal, Ganzekraal and Ezeljacht. By this route they reached the Doring (Doorn) Rivers and passed north of western Outeniqua between Gamka Hill and Pogha Hill. Through the Platte Kloof pass they traversed the Langeberg Range and arrived at the above mentioned farm Rietvlei, east of Swellendam, on December 22nd.

From here they branched off to the south, crossing the Breede River and Sonderend River and came to Caledon, the Zwartberg Warm Baths. Then, they followed the usual southern tracks to the Cape (vide SPARRMAN above) by Botrivier, Eland Pad and Cape Flats and finally reached Cape Town on January 2nd, 1773.

THUNBERG spent the following months botanizing around the Cape Peninsula and its mountains. In January 1773 he ascended Table Mountain. In his description of the excursion he informs us that during his time at the Cape he climbed the top plateau of this mountain 15 times. From the Cape Peninsula he gives the following localities as visited: Hout Bay, Noordhoek, Constantia, Simons Bay (Simonstown), Muizenberg, Steenberg, Zeekoevlei, and Slangkop (Kommetjie). The surface of the salt pan Wilde Vogel Vlei, between Noordhoek and Kommetjie, is described as covered by flamingoes. The southernmost point on the Peninsula, examined by THUNBERG and mentioned by name by him, is Wildschut's Brand, 1.5 mile SW present Simonstown.

In August 1773 THUNBERG made preparations for another journey to the interior. Financial troubles at last were overcome and he procured good equipment. His companion was FRANCIS MASSON of the Kew Botanical Garden. They engaged a European driver and four native boys. The journey covered much the same area as THUNBERG's first trip, but they penetrated farther east.

The expedition left Cape Town on September 11th and proceeded by Jan Biesjes Kraal (Milnerton) west Tygerberg to the farm Rietvlei. Then, they traversed the eastern sandy parts of Blouberg and crossed the plains which were filled up with vleis. In the hills they stopped for some days at the D.E.I. Company's post at Groen Kloof. During this time THUNBERG rode to Ganskraal (7 miles W Mamre) and further on to the sea. From Groen Kloof they advanced along the track described above via Uilenkraal to Saldanha Bay, where they arrived on 22nd September. They worked here for about a week and in his diary THUNBERG writes about the bird islands in the Bay and along the coast. Now, they turned to the Vredenburg peninsula and by Heuningklip and Patrysberg arrived at the mouth of the Berg River. The Great Berg was in flood and could not be passed, so they proceeded along the river, crossed the Zout R. and drove over the northern slopes of the Swartberg to the central reaches of the Great Berg R., which was crossed by ferry boat. Having passed the grassy plains east of the Great Berg they reached the Olifantsrivier Berge and traversed the mountain ridge by the steep Kardouw Pass and took night quarters in the farm Blomhoef.

On the 10th of October they pursued their journey along the Olifants River and visited The Baths. After an accident to the cart, the vehicles were left behind to find their way to Roodezand while THUNBERG and MASSON went into the mountains SE present Citrusdal. Via the Elandskloof they arrived in the Kouebokkeveld and rode southwards over the bare fields. By Oskop and Tafelberg they passed into a narrow valley, following the Houtenbergs River upstream and via the Gydo Pass descending to the Warmbokkeveld. Thence they went into the present Michell's Pass which was at that time a narrow and dangerous ravine. They crossed the Tulbagh plain and arrived at Roodezand on October 2nd.

Now THUNBERG again visited the Winterhoek mountains and this time he climbed "to their highest peaks".

On October 28th they continued their journey, following the Breede River valley and passing via Goudini, Hartebeest R., Langvlei, Klaas Voogds R., Kogmaans R., and Swellendam to the D.E.I. Company's post at the Buffeljagtsriver. They stayed for some days and made rich collections. The type specimens of *Dicyophorus spumans* were taken here and THUNBERG described their defensive reactions. On the 13th they set out for Mosselbay, taking a more southerly route than during THUNBERG's first journey. From Rietkuil they crossed the Karnmelks R. and Slang R. When wading the Duivenhoeks River an accident happened to THUNBERG, who was almost drowned. After having crossed the Gouritz River they hastened to Mosselbay. THUNBERG spent a day on the coast and in the dunes.

On the 18th they travelled northwards. They passed the Outeniqua mountains by the Robinson Pass (Hartequas, Attakwas) and via Safraan Rivier came to the dry plains north the Outeniquas. After having waded the Klip R., Doring R. (Doorn R.), Brak R., and Matjes R. they penetrated into the Lange Kloof. Since THUNBERG had previously investigated the flora and fauna of the fields, he climbed the mountains and was delighted with the charming scenery. By the same route

as before. THUNBERG and his party arrived at JACOB KOCK's farm at the Seekoei River. They rested for some time, collecting and making field observations.

On December 9th they continued eastwards, crossed the Kabeljous R. and Gamtoos R., at this time the boundary of the colony. On the eastern side ruled the "courageous and intrepid caffres". They traversed Van Stadensberg, wading the Loerie R. and Van Stadens R., and reached the flat country which is now the Port Elizabeth district. At Van Stadens River THUNBERG found "the most beautiful forest he had ever seen in Africa". They met large herds of buffaloes and saw many lions. On the fields they observed zebras and quaggas, hartebeests and kudus. THUNBERG visited the saltponds at Swartkops and—like SPARRMAN—collected many rare insects in the water. On the 16th of December they advanced to the great Sondags River. Since their oxen were in a bad condition and the country on the other side was said to be dry and desertlike that year, they changed their plans and returned to the Cape from here.

They retraced their steps for a long way, thus passing Van Stadens Pass (by the northern route, *vide* SPARRMAN), KOCK's farm and Lange Kloof. In the Kammanassie Land they rode to the Warm Baths of the Olifants River. From here THUNBERG sent the wagons through the Attakwas Kloof to Rietvlei at Swellendam, while he himself and Mr. Masson headed for the plains around the upper Gourits River. They intended to traverse Langeberg via the Platte Kloof but could not find the way, so they returned and passed by the Attakwas Kloof. After having arrived at the post Rietvlei, THUNBERG made another trip to the Grootvaders Bosch.

On January 18th they left for the Cape. The Breede River was crossed by a ferry boat at the junction with the Sonderend R. Thence they proceeded to the farm Tygerhoek, noting that the blue antelope *Ozanna leucophaea* occurred there and further big herds of Cape zebras. The blue antelope is now extinct. They travelled the old route just south of the Riviersonderend Range by Soetmelksvlei and Swartrivier, north of the Zwartberg and then by the "Main road" (*vide* above) arrived at Cape Town late in January, 1774.

THUNBERG then spent some months in eagerly sorting and packing his collections. Much material was sent to his patrons in Europe, "insects, stuffed birds and other scarce animals". However, during his leisure hours, he "never neglected to visit the hills, mountains and fields near Cape Town". On some of these excursions he was accompanied by Mr. MASSON and Lady ANN MONSON, who acquired fine collections.

Through Governor VAN PLETTENBERG THUNBERG was given an opportunity to take ship to Madagascar in order to study its Natural History. But THUNBERG was already planning a third journey to the interior and declined. On his recommendation the Swede F. P. OLDENBURG joined the expedition, with fatal consequence for him.

THUNBERG's third expedition started on September 29th, 1774, and was through botanically and zoologically unexplored country in the northern Cape Province. He had persuaded FRANCIS MASSON to join him. They left Cape Town by the Sa-

River and having passed the lower course of the Mosselbank R. arrived at Vissershok. Thence, they turned eastwards, to Paarlberg. Travelling in a northerly direction they proceeded by Paardeberg to Kasteelberg which they climbed to its summit. They crossed the Great Berg River, passed Heuningberg and were ferried over the Matjes River. On the 14th of October they reached Piketberg. They travelled east of the mountain and crossed the Kruis R. which gives rise to Verlorevlei, a lake with "innumerable numbers of birds". (A similar bird lake—Voelvlei—east of Kasteelberg was previously mentioned by THUNBERG). They stayed at Verlorevlei for some days, following it right to its outflow into the Elandsbaai. The fields were sandy and driving was therefore hard and slow. Then they set out northwards. They crossed Langvlei 10 miles N of Verlorevlei and proceeded over the plains to an isolated mountain, Heerenlogementsberg, which they reached on October 25th. Next day they rode to a farm (probably Trawal) at the Olifants River where they rested for some days. On the 30th they crossed the river and followed the banks past present Klaver, driving close under the Windhoekkrans up to Troe-Troe. Now they turned eastwards. For three days they travelled through very dry country (the plains north of present Vanrhynsdorp) until they reached the Bokkeveld Berge. On Nov. 2nd they ascended the mountains (possibly at the Doring River) and found a vast high veld: to the southeast they saw the Roggeveld mountains, and further Hantamsberg, "more to the north of Roggeveld" (in the English edition the indications are erroneous). For some days they rode over the dry Bokkeland to Hantamsberg. They passed south of it, by present Calvinia (Oorlogskloof R. is called Rhennoster R.), and pushed on eastwards to Downes, close to Mierskloof. On the 16th of November they traversed the plains below the Roggeveldberge, rode along the Oorlogskloof R. (probably not the Droe R. which is mentioned) and ascended to a high mountain plain. Apparently they came close to the Roggeveld Escarpment on their way to the south and saw the path via Agterkop descend into the low veld. Then, turning to the southeast, they reached the Great Fish and proceeded along the river towards present Sutherland. On December 3rd. they descended by the Verlatenkloof and the following days they passed the Koedoeberge, crossed the upper reaches of the Ongeluks River and joined the road to present Ceres. Proceeding along the Doorn River they went into the mountains at Klein Zwartkop, passed Karoopoort and turned to the southeast. They rested for some days at Verkeerde Vlei (between Bonteberge and Matroosberg) which is described by THUNBERG as a most beautiful place. Thence, by De Straat, they descended through the Hex River Pass to the Breede River valley and rode northwards to Roodezand. Via Tulbaghweg, Burgersdrift (at Berg River NNW Wellington), and Paardeberg they arrived in Cape Town on December 29th, 1774.

After three years in the Cape, THUNBERG and his patrons agreed that he might now be ready for his voyage to the Far East. He left Cape Town on March 2nd, 1775. He returned in 1778, but for a fortnight only, when the ship from Batavia called at the Cape. No excursions were made. After some time in the Netherlands

and in England he arrived in Sweden (at Ystad) on March 14th, 1779. He had left on August 13th, 1770, for a short trip to Paris.

THUNBERG's travels were very successful and—as can be seen from his publications—they yielded great collections. In his journals he does not deal with these things so much as did SPARRMAX, and therefore the number of "type localities" which can be extracted is not very large.

THUNBERG described his travels in "Resa uti Europa, Africa, Asia. Förrättad Åren 1770-1779" (Uppsala, 4 vols. Pt. 1-2 dealing with South Africa were printed in 1788 and 1789 resp.). It was translated into English, German and French. The English edition appeared in London 1795. It is a pity that in this edition there are several bad slips, since the translator has not always understood the Swedish text or the author's views. Some of these slips, which are quite obvious, have caused queries in the above mentioned paper by M. KARSTEN.

THUNBERG was very productive as an author. He published about 460 books, dissertations, and articles on Natural History—besides academical "programs" and speeches. He was elected to membership of many scientific societies (66) to whose periodicals he contributed. South African animals have been named and dealt with in several of his publications. There are two biographies on THUNBERG: "Åminnelsetal öfver ... CARL P. THUNBERG", by G. J. BILLBERG (Stockholm 1832, 48 p.) and "Biographie öfver CARL PETTER THUNBERG", by C. A. AGARDH, in Kongl. Vetenskapsacademiens Handlingar för år 1828 (Stockholm 1829, p. 242-278). Together they give a complete catalogue of THUNBERG's scientific papers. Therefore, I shall not take a great deal of space by listing them here.

The main part of THUNBERG's collections of animals is in the Zoological institute of the Uppsala University. The insect collection is rich and mostly in a good condition. The development and fate of THUNBERG's zoological collections has been dealt with by Y. LÖWEGREN in "Naturaliekabinett i Sverige under 1700-talet", p. 202 ff. (Lund 1952; Studies and Sources Published by the Swedish History of Science Society, No. 13).

C. F. HORNSTEDT (1758-1809), medical doctor, was a pupil of C. P. THUNBERG. On THUNBERG's recommendation he was given an opportunity to visit the Cape during a journey to East Asia in 1782-1786. He arrived in False Bay on May 26th, 1783, and found the Cape Flats very dry and the plants faded. He stayed a fortnight in the Cape Peninsula and collected many specimens. On return he again visited the Cape Peninsula from October 22nd to December 22nd, 1784. During this time he climbed Table Mountain (12.XII. 84). He collected plants, insects and birds, esp. at the Stellenburg and Weltevreden estates (near Plumstead), at that time belonging to a Swede, Mr. CAHMAN.

HORNSTEDT presented his collections to King Gustaf III. They were later transferred to the Riksmuseum, Stockholm.

He described new Chrysomelidae in 1788. In Helsingfors (in the archives of Svenska

Literatur Sällskapet) there is a manuscript volume by him containing an article which has never been printed: "*Descriptiones animalium praestantiorum; conjectae in itinere orientali, in primis per Javam, Sumatram et Caput Bonae Spei*". It is dated 1784.

HORNSTEDT relates his voyage in "Anteckningar under en resa till Ostindien åren 1782-86", edited in 1888 after the author's manuscript by ERNST LÄGUS (*In Svenska Literatur Sällskapet i Finland*. Vol. 10).

This is the end of the Linnaean era in the history of Swedish exploration of Southern Africa. The enthusiasm which had forced so many young students into an unknown world—with fatal consequences for many of them—had decreased in proportion as the collections increased. The death of the beloved LINNAEUS diminished the number of students of Natural History, and when his pupil CARL PETER THUNBERG passed away the Linnaean spirit and interest in the exploration of foreign continents died with him. The curiosity of the Royal House and the statesmen faded away and their collections were given to the museum of the Swedish Academy of Sciences (Riksmuseum), to the universities or to other public institutions.

This is also the end of the early Swedish travels in the southwestern Cape. When the Swedish travellers of the nineteenth century faced South Africa, they turned to still unknown fields: to the southeastern provinces and to the arid and desert-like country in South West Africa and Bechuanaland. From this time the Cape is only a transit station for most travellers on their way to the big adventure.

About the middle of the nineteenth century there were some Swedish diplomatic representatives in Cape Town who were interested in Natural History. They were the consuls J. LETTERSTEDT, C. D. ARFWEDSON, and G. ÅKERBERG. They procured collections of specimens, esp. birds and insects, and donated the material to the Riksmuseum in Stockholm.

Consul LETTERSTEDT's interest was of considerable importance since it was on his invitation that J. A. WAHLBERG went to South Africa. He also inspired and supported CHARLES JOHN ANDERSSON. he organized the visit of the "*Eugenie*" expedition to Cape Town, and he helped J. F. VICTORIN to arrange his studies in the southern Cape.

He was a wealthy man: with four houses in Cape Town and a big farm at Rondebosch he possessed the facilities to make a stay at Cape Town easy for a naturalist.

Consul ÅKERBERG supported GUSTAF DE VYLDER.

J. A. WAHLBERG (1810-1856) was an engineer of the State Surveying Office in Stockholm. In 1837 consul J. LETTERSTEDT in Cape Town invited the Swedish Academy of Sciences to send a Swedish naturalist to South Africa. WAHLBERG accepted the invitation. He sailed from Göteborg on July 5th, 1838, and stayed for some time in London, meeting famous naturalists and explorers like BURCHELL, A. SMITH,

GRAY, and CAMPBELL. He departed from London on October 13th, and arrived in Table Bay on Feb. 1st, 1839. WAHLBERG remained collecting in the environments of Cape Town until the middle of May. Most of the time he lived in LETTERSTEDT's farm-house at Rondebosch. He visited Camps Bay, Kalk Bay, the western Cape Flats, Salt (Zout) River and several times ascended Table Mountain and the other Cape Town mountains. But they did not offer him much that was new, so he packed his belongings and, on May 15th, sailed for Natal. On board the ship was the French



Fig. 3. J. A. WAHLBERG 1810-1856.

naturalist DELEGORGUE who was to be WAHLBERG's intimate friend during five years collecting and hunting in southeastern Africa. While staying in Port Elizabeth (between 19th and 31st May) he made excursions beyond the Swartkops River for some days.

WAHLBERG arrived at Port Natal (Durban) on June 11th, and next day had already started collecting insects, birds, and plants. For some months he stayed in the close vicinities of Port Natal. He made an excursion to the Umgeni River on July 18th. On August 27th, he set out by horse with DELEGORGUE to the Umkomaas River, 25 miles SW of Durban where they hunted hippos and met herds of buffaloes and elephants. On Sept. 5th they rode fairly close to the Sea southwards to the Umzinto River where they collected and hunted for some days. They returned on Sept. 7th and via the Umkomaas reached Port Natal on Sept. 10th.

After heavy rains there was now fresh vegetation and abundant insect life around Port Natal and WAHLBERG stayed there collecting until October 31st. On this day he left for an excursion to the Tugela River. He was delayed on the way since the Zulu king DINGAAN was leading his impis towards Chief MPANDA and was said to have reached the Tugela River. On Nov. 7th he came to the Umvoti River and on Nov. 9th arrived at the Tugela. There were numerous hippos and big herds of buf-

faloes. Already on Nov. 11th he returned southwards via the Umvoti R., meeting lions and packs of wild dogs just as on the way to the Tugela. It was a rainy season and he stayed in Port Natal gathering many interesting birds and insects. However, on December 29th he left for a short trip inland, following the Umlazi River to its upper reaches. He spent January, 1840, in this area, having his headquarters in a zulu village. It was rather cold at times but the land was fresh and green and he made rich collections. On Feb. 7th he left for Pietermaritzburg and reached the town next day. He was fascinated by its lovely situation and collected there until March 19th, when he returned to Port Natal.

Now, WAHLBERG stayed in Port Natal and its surroundings until October. He was eagerly hunting birds and invertebrates at the Bay and in the forests around the locations. Sometimes he made excursions, e.g. to the Zeekoe Vlei (May 5th, and October 5th-8th) and to the mouth of the Umgeni River (August 23rd-31st).

On October 9th he went northwards to MAYER's kraal at the Umhlanga River, about 13 miles N of Port Natal. As usual he went on foot. He collected in these fields for about one and a half months, for some time moving his quarters to the Tongaat River (Unitugat) further to the north. On November 28th he left the Umhlanga for Port Natal where he arrived next day. Since his right foot had been hurt he had to live quietly in the town for a long time. This was easy to do, since at this time conditions were rather uncertain. The natives were troublesome. Boer commandos raided the zulu villages. And in Port Natal the Dutch inhabitants fortified the town in expectation of an English invasion.

On March 11th, 1841, WAHLBERG again left Port Natal for an excursion southwards. He walked to the Umlazi River and followed it to its mouth; he collected there until May 7th, when he returned to Port Natal. On May 16th he set out to the north, to the Umhlanga River, via the Umgeni. It was a short collecting trip and on May 20th he was already back in Port Natal. Then he worked in the surroundings, making excursions to the Zeekoe Vlei (June 3rd), to the lower reaches of the Umgeni River (June 4th-19th) and to the mouth of the Umhlanga River (June 24th-July 1st). He made fine collections of insects and birds.

On July 29th WAHLBERG left Port Natal for Pietermaritzburg, where he stayed collecting until August 24th. He made another visit to Pietermaritzburg between September 9th-21st, this time to arrange for a voyage to the interior. 1841

After detailed preparations he left Port Natal on October 7th, accompanied by DORIS POTGIETER, WILLEM NELL and two native servants. He had loaded his equipment on an ox wagon. The party took six days to reach Pietermaritzburg. They climbed the slopes northwest of the town and admired the scenery. On the road northwestwards they waded the Umgeni River on Oct. 15th and WAHLBERG saw the Drakensbergen blue in the distance. Next day he waded the Mooie River and pushed on to the Bushmans River, at present Esteourt. The way was rough and driving hard, so he stopped to rest and to make collections at the river. Passing along the slopes of the Maluti Range, they crossed the Little Tugela River and on Oct. 20th arrived at the Great Tugela, near present Bergville. Five hours driving

over beautiful grass veld brought them close to the Escarpment (Drakensbergen) which was climbed in three hours (at present Bezuidenhoutpas). Between table mountains and over plains with springboks and ostriches they arrived at the Nuwejaarspruit, which was easily crossed, and on the 23rd reached the Elands River, southwest present Harrismith. Still heading northwest they came to the Klerkspruit branch of the Wilge River. Then they traversed the wide plains to the north, where they saw herds of blue wildebeests, zebras, gnus, and ostriches. For seven days they drove over the plain (by present Reitz and Petrus Steyn) to the Renoster River. Between November 1st-7th they proceeded along the river, passing abandoned native kraals and collecting many birds and insects. On November 7th they waded the Vaal river (at Skandinawiedrift) and driving close to present Potchefstroom arrived at the Mooi River. Proceeding along the river they passed De Oog and Wonderfontein before turning northwards. WAHLBERG then headed towards Magaliesberg and reached Holfontein on November 12th. Two days later he arrived at HERMAN POTGIETER's farm, beautifully situated just under the mountains and "adorned by pretty gardens". Thence they drove through the broad valley between Magaliesberg and Witwatersberg to the Magalies River (the Upper Crocodile), passed Haartbeespoort and, on November 15th, pitched their camp at a small stream on the northeastern slopes of the mountains.

This place was WAHLBERG's headquarters for a long time. After good rains the insect life was found to be very rich. Scarabaeids came in millions in the evenings. Many birds were collected here, too. *Hirundo rustica* occurred in swarms "only to be compared with locusts". Big game was plentiful. Rhinos were common and lions sometimes attacked their oxen.

On January 8th, 1842, WAHLBERG left his camp at Hartbeespoort and moved on to the plains north of Magaliesberg. He crossed the Sterkstroom and drove southwards, traversing the mountain range at Olifantsnek to reach at POTGIETER's farm. Through POTGIETER he obtained permission to pass on to the Apies River (the head branch now called the Pienaars River). On January 14th he left the farm, again passed Olifantsnek and travelled eastwards over the plains to the Crocodile River and Mamagaliesberg. Then he changed direction to the northeast, proceeding until he reached an eastern branch of the Apies-Pienaars River on January 22nd. Camp was pitched close to the river. Black and white rhinos were everywhere, lions were rather common and herds of antelopes and giraffs roamed the plains. He stayed here collecting until March 3rd, when he moved the camp to the lower reaches of the (Pienaars) river. It was varied country and bird hunting in particular was successful along the flooded river, at a saltpan and in the hilly veld.

WAHLBERG departed on April 10th. He proceeded along the river to its junction with the Crocodile R. whence he turned southwards, pushing on to Sterkstroom. For some time he now made excursions on the plains between Sterkstroom and the Hex River and on the northern slopes of Magaliesberg. On April 29th he again traversed the mountain range at Olifantsnek and, having decided to finish his work in these areas, retraced his steps. Thus, passing De Oog, the Vaal River, Renoster River,

Doringspruit, and Vegkop, he arrived in the bush veld of the southeastern Transvaal which he traversed so that he could descend the Escarpment on May 21st. He reached Pietermaritzburg on May 29th. After a short stay here he went on to Port Natal (Durban) where he arrived on June 12th. Hostilities had broken out between the Boers and the British. His house had been confiscated and his property looted or destroyed, so he returned to Pietermaritzburg where he collected until July 29th.

On August 1st he was again in Port Natal. By this time his house had also been destroyed. He took a room with DELEGORGUE and carried on with his collecting. A fortnight was spent around Port Natal. Then he found that he could not proceed with his work until more money was available. So he resolved to fill his light purse by hunting elephants and selling the ivory. On August 20th he set out for Zululand, crossed the Umgeni R., Umhlanga R., Tongaat R., Umvoti R., Simkwazi R., Tugela R. (on August 26th), Amatikulu R., Umlalazi R., Mhlatuzi R. (Umslatas), and via Empangeni (Umpangane) reached the White Umfolozi River. He pitched camp west of the Umghane Hill close to the river on Sept. 7th. It was very dry and there was almost no water in the river bed. Until October 8th he was hunting in these areas which were very rich in big game. He collected a good share of ivory but also many interesting birds and insects. On October 9th he departed, slowly returning southwards and hunting on the way along the rivers mentioned above. He arrived in Port Natal on November 28th.

There were still disturbances in Port Natal. The Boers prepared attacks on the British garrison. After a fortnight WAHLBERG decided it was safer in the field so he returned northwards, to Zululand. This time he did not advance so far, however. The natives were also troublesome and after having been attacked by four zulus he drove northwards very slowly, collecting on the road, especially birds and insects. He passed the Tongaat River on Dec. 23rd, and arrived at the Umvoti next day. He walked along the river down to its mouth, collecting insects while his people shot elephants. On January 23rd, 1843, he made a trip to the mouth of the Nonoti River (Unonoti) and in February he moved the camp via the Nonoti to the mouth of the Tugela River. A week later (Feb. 27th) he set out southwards. He slowly passed the rivers and spent some time hunting along the Umvoti. He arrived at Port Natal on April 7th. He stayed in town arranging his material, sending away collections and preparing another expedition to the interior.

On June 1st, 1843, he was off again. In Pietermaritzburg his people and oxen fell ill and he had to wait until July 5th. On the same way as described above he pushed on with two ox wagons to Vegkop, 15 miles SSW present Heilbron. There he turned northwards, not following the Doringspruit and the Renoster River. He traversed wide plains and waded the Vaal river on July 28th. The country north of the river was dry and burnt and his oxen soon became weak. He stopped for some time (Oct. 9th-30th) at the Mooi River Oog (10 miles W present Westonaria) to allow the oxen to recover but the weather was bad, at times snow and storms, and six of them died. On September 1st he moved to HERMAN POTGIETER under Magaliesberg (see above) and bought new oxen. He departed on September 9th. This time he

went northwest of the Magaliesberg. Crossing the Selons River, Koster R., and Elands R. he arrived at Matlapengberg on Sept. 14th. He collected in the environments until the 28th when he moved to Pilanesberg (Lerone). He stayed here for some days, meeting DELEGORGUE before advancing to the north, to the Witfonteinrand mountain range (Mokopoani, Mohapoani) where he worked until early December making large collections of mammals, birds, and insects. Here he was close to the upper reaches of the Limpopo, at the branch which is usually called the Crocodile river (WAHLBERG wrote Limpopo and Aatis). On December 2nd he set out for the Limpopo (Crocodile R.) and in the evening reached the shores, shaded by enormous Acacias. He pitched camp here, which turned out to be disastrous. Tze-tze flies infected his oxen with ngana. His natives ran away. Since the oxen were dying, he had to go on foot to Chief PILAAN's kraal to find his servants; in another kraal he obtained native guides. With them he returned to the camp on December 31st. After one day he had to move the camp inland with some few oxen which were still alive.

Since WAHLBERG needed money to buy new oxen from the Boer farmers he had to commence to shoot elephants for their ivory. Accompanied by his European companion NELL and 11 natives he again set out for the Limpopo on January 31st. They walked northwards and on February 4th they arrived at the Marico River (Moriqua, Malenga, Molikoa). On Feb. 5th WAHLBERG visited the junction between the Marico and Limpopo (Crocodile R.) for the first time. Thence they proceeded along the Marico towards Derdepoort until Feb. 25th, hunting big game and collecting birds and insects. They crossed the river and followed it downstream to the junction and thence proceeded along the large Limpopo River. On March 13th they reached the junction between the Notwani R. and Limpopo. To the north was unknown country and WAHLBERG wanted to penetrate further into the plains. But the natives would not go any further and he had to return. They waded the Marico near the junction on March 19th. Until May 14th WAHLBERG was hunting on the plains west of the Crocodile River and south of the Marico. During the last month he penetrated far into the southwestern plains. He crossed the Upper Marico and traversed Dwars Berge as far south as Buys Poort. Then he returned to the northeast collecting his wagons and preparing for the return journey. He went straight to Pilanesberg where he arrived on June 19th. For three weeks he worked around the mountains and then decided definitely to return southwards. On July 10th he set off, travelled west of the Magaliesberg to the Oog of the Mooi River. When driving along the Mooi he found that he had left one problem unsolved which seemed to him to be rather important, viz. the taxonomic state of the Keithloa rhino described by Dr. A. SMITH. So he rented space for his collections at a farm on the Mooi, and turned northwards again on August 1st. He passed Wonderfontein, Hoffontein, Haartbeespoort (Crocodile Rivers poort) and traversed the Mamagalies plain by the Salt Pan, 23 miles NW present Pretoria. From the Apies River he went eastwards and started hunting and collecting along the Great Elands River. They came to a small lake where the surroundings were fresh and green. Here WAHLBERG left the wagons and set out on foot for the northeast. After a week he returned to

the wagons. Some days later he made another excursion southeastwards crossing the Moos River and arriving at the lake Masobe near the Olifants River. He sent for the wagons and pitched camp at Masobe. From here he proceeded up the Moos River to its springs (Sept. 2nd). After a short visit to the camp he chose a north-easterly direction and on Sept. 12th arrived at the Olifants River (Lepenula). He proceeded along the river until the junction with the Mooi R., reached the Mooi on Sept. 14th and on the other side shot a fine elephant, the skeleton of which he decided to bring to Sweden. So he sent his people for one of the wagons and stayed working on the carcass until the 22nd, when the wagon arrived. On Oct. 4th they crossed the Apies River. The Mooi River was forded on Oct. 13th. After ten days they were ready to set out for Port Natal. They proceeded along the same way as described above and arrived at Pietermaritzburg on November 14th. Having packed his collections, WAHLBERG went to Port Natal and from there by ship to Cape Town where he arrived late in December 1844.

In January 16th, 1845, he went to Saldanha Bay to collect sea birds. He stayed until March 8th, when he returned to Cape Town. After some short excursions in the Cape Peninsula (to Camps Bay and Rondebosch) he sailed on May 5th. He reached Sweden on August 12th, 1845.

For some years WAHLBERG was now busy in the Surveying Office in Stockholm. His leisure hours were used for descriptions and study of the birds brought home by him and he prepared an "Ornithologia Caffraria". He was not quite satisfied with his collections however, and in the early 1850's he started planning another journey to Southern Africa. LIVINGSTONE's discovery of Lake Ngami led him to decide that this time he should traverse Southern Africa from South West Africa via Ngami to the east and thus penetrate the high veld (eastern Bechuanaland) which he had seen from his northernmost station at the Limpopo in 1844.

He sailed from Sweden in October 1853, arrived in Cape Town on December 22nd and left Cape Town on March 3rd, 1854, with a boat which collected guano along the coast. Thus he had several opportunities to visit famous bird islands and study their populations: Possession I., Long I., Halifax I., Penguin I., Merouey I., and Ichaboe. His material was landed in Walvis Bay on April 14th, and the missionary BAM took it to Scheppmansdorf (present Rooibank). WAHLBERG then made a trip inland to buy oxen. He started on May 10th, proceeded along the dry Swakop river bed to Otjimbingue and thence turned to the southeast to Rehoboth, passing Eitkams (present Windhock). On return he went west from Rehoboth, but lost the way among the shifting sand dunes in the coastal Namib until after four days one of his natives found a water hole in the Kuiseb River. On June 16th he again reached Rooibank. This place was his headquarters for a fairly long time since he could not pass further inland during the dry winter. But he collected eagerly, especially insects, in the coastal Namib and also made some excursions along the Swakop River (July 19th–October 11th) and the Kuiseb River.

At the end of December 1854, WAHLBERG set out for Ngami. From labels on his bird material in the Swedish Riksmuseum it seems that he drove the well-known

route, opened by ANDERSSON in 1851 and 1853, thus passing Okahandja, Otjihaenena (Silversand), White Nossob, Gobabis, (Fort) Rietfontein, and Ghanzi to south-western Ngami. There is also a record from Tsau, 65 miles S Toteng, probably indicating one of his characteristic digressions, this time to open waterless country. En route to Ngami he met the English hunter and trader F. J. GREEN, who afterwards accompanied him and his fellow-countryman LINDHOLM, whom he had engaged in Cape Town. He arrived at Ngami probably in April 1855 and was disappointed: "the environments of the lake are rich neither in birds nor in mammals". Yet, he stayed at the lake for some time making excursions with a boat which had been brought by GREEN. After an orientation along the lower reaches of River Taokhe (Tiouge, Doughe) around the middle of June, WAHLBERG and LINDHOLM set out northwards along the river on June 29th. They travelled slowly, hunting and collecting, came through very fine elephant land and reached Libebe, about 175 miles NW of Ngami, on August 14th. After a week at Libebe WAHLBERG commenced the return journey. So far as possible they carried their rich collections over land, but soon found it necessary to build rafts and use the Taokhe for the transport. In this way they reached Ngami on November 6th.

After two weeks at Ngami, WAHLBERG decided to go northwards, hunting elephants to cover part of his heavy travelling-expenses. Accompanied by GREEN and his companion CASTRY he left on November 21st, travelling along the southern shore of the lake. They arrived at the Bottele River (Dzougha, Daukha) five days later and hunted along the river and in the Kwaebi (Kueba) Hills. On December 7th they were close to the junction between the Bottele and the Tamalakane River, whence they pushed on to the Madenassana (Namisan) plain. They passed a large reed-swamp (Riet pan) near the Mababe River late in December. Early in January 1856 they drove through forest but on Jan. 5th suddenly came on to a wide flat where game was very plentiful. They traversed the plain in northerly direction through thick forest to a small vlei where they pitched their main camp. From here WAHLBERG and GREEN made excursions to shoot elephants which occurred in great numbers. On February 28th WAHLBERG set out on such an expedition with two Damaras and a few Bushmen. On March 11th his natives returned, telling that for eight days they had been following an elephant bull which had been hurt. When WAHLBERG arrived at a dense bush where the bull hid, it suddenly charged and killed the hunter before he could raise his rifle. The mutilated body was buried at the foot of a large tree by his natives.

This was a great tragedy and a considerable loss to Science. WAHLBERG was a born naturalist and his career had just begun. The collections made by him were outstanding and his eagerness to study and record the biology of the species extraordinary. His character as a hunter was rather unusual for that time. In spite of his excellent qualifications for big game hunting, he thought the excessive killing of the big mammals unsound. After having shot several elephants near his last camp he wrote in his diary: "It seems dreadful to slaughter so many of these huge

creatures merely for their tusks. Ivory is however the only thing obtainable in this country with which to defray the heavy expenses of travelling".

WAHLBERG did not publish any report on his journeys. But in the library of the Royal Swedish Academy of Sciences there are several manuscripts which make possible a reconstruction of his life in Africa: two diaries covering the time from June 28th, 1838, to August 11th, 1845, and from May 30th, 1855, to Feb. 25th, 1856; letters to J. J. BERZELIUS, B. F. FRIES, J. LETTERSTEDT, A. A. RETZIUS, EMILIE RETZIUS, C. J. SUNDEVALL, and P. F. WAHLBERG; two lists of native words, and two lists of specimens sent to Stockholm from Durban. Finally, 3 volumes (1233 p.) *Aves Africanae*, containing descriptions and notes on all species of birds at that time described from Africa. "Had time permitted him to complete his task, this avifauna would certainly have been a standard work for a long time" (GYLDENSTOLPE 1934).

There are three papers by WAHLBERG describing new species of South African birds, in *Öfversigt af Kungl. Svenska Vetenskaps Akademiens Förfandl.* vols 11 (1854), 12 (1855), and 13 (1856).

I have found four special biographies about WAHLBERG: "JOHAN AUGUST WAHLBERG. Ett Minnesblad" by GUST. VON DÜBEN (Stockholm 1857), "JOHAN AUGUST WAHLBERG" by GUST. RETZIUS (in "Förr och Nu", Stockholm, Jan. 1876), "JOHAN WAHLBERG. Biografiskt utkast" by J. W. LINDBLAD (in *Sv. Jägarförb. Tidskrift* 1876, Stockholm 1877), and "The Travels and Collections of JOHAN AUGUST WAHLBERG 1810-1856: a Pioneer Naturalist in South Africa" by NILS GYLDENSTOLPE (in *The Ibis*, vol. IV, ser. 13, London 1934). The first three are of little interest from a zoological point of view. They are based on letters and personal knowledge of WAHLBERG. The latter by GYLDENSTOLPE is an excellent account of WAHLBERG as an ornithologist and also gives good summaries of the journeys and their results.

The above review of WAHLBERG's journeys has been extracted from his diaries and completed with details from his letters when the diaries fail. Thus, the latter do not cover the time between October, 1853, to May 29th, 1855. Is one book lost? Further, it is strange that in the journal which he used during his last expedition seven leaves have been cut away, so that the diary ends abruptly on Feb. 25th. His last days in the camp and the eight days on the elephant track are not covered in any notes by himself. This story was told by GREEN in a letter to CHARLES JOHN ANDERSSON and in another letter by GREEN and CASTRY to J. LETTERSTEDT in Cape Town. These letters are reprinted in *Öfversigt K. Vetenskaps Akad. Förh.* vol. 14, 1857 (edited 1858). In EEN's book "Minnen från en flerårig vistelse i Sydvestra Afrika" (Stockholm 1872) there is a slightly differing version (p. 70-71) which had been told EEN personally by GREEN. Further, there are many notes on WAHLBERG in A. DELEGORGUE's "Voyage dans l'Afrique Australe", 2 vols (Paris 1847).

WAHLBERG's collections were very rich and in an unusually fine state of preservation. They were given to the Swedish Riksmuseum and according to information by VON DÜBEN (op. cit.) they contained: 533 mammals, 2527 birds, 480 reptiles

and amphibians, about 5000 species of insects in a great number of specimens, further rich collections of fishes and molluscs and certain marine groups.

The collections have been treated in several publications: Mammals (SUNDEVAL 1845, 1847), Birds (SUNDEVAL 1850 and 1857), reptiles and amphibians (A. SMITH 1849; PETERS 1869), Coleoptera (BOHEMAN 1848, 1851, 1857, 1861; FAHRAEUS 1870-1872), Diptera (LOEW 1857, 1858, 1859, 1861), Lepidoptera (WALLENGREN 1856, 1857, 1865, 1872), Hemiptera (STÅL 1853, 1855, 1859, 1864-66), Orthoptera s.l. (STÅL 1855, 1856, 1858, 1871), Mollusca (KRAUSS 1848), Crustacea (LOVÉN 1845, 1846).

As a result of the taxonomic work on WAHLBERG's collections, a great number of new species was discovered. I think the holotypes must amount to more than 2000 items, the chief part among the insects. The holotypes are in the Riksmuseum, Stockholm. Many syntypes have been distributed to other museums. All vertebrates are carefully labelled. It seems as if the insects were arranged after the localities where they had been collected when they arrived in Sweden. Later it was found impossible to transfer the data of WAHLBERG's labels to every specimen, so printed labels were used to indicate the various regions from which the specimens originated. In several cases however, there are original labels left or the locality is indicated in the publication and then further details may be extracted from the above itinerary.

CHARLES JOHN ANDERSSON (1827-1867). Aged 22, ANDERSSON left Sweden in 1849 without any special determination to go to South Africa. But in London he met FRANCIS GALTON, a wealthy Quaker, who offered him the chance to take part in an expedition to Lake Ngami, which had been discovered by LIVINGSTONE in 1849. GALTON would bear all costs. ANDERSSON accepted. Thus started the travels which would make him "an explorer of Southern Africa second in importance only to DAVID LIVINGSTONE" (J. C. SMUTS).

On April 7th, 1850, the travellers embarked on a British East Indianman in Southampton. After a monotonous voyage they arrived in Table Bay on June 24th. According to their plans they would now traverse the country to the northeast and follow the Vaal River towards Lake Ngami. But they had to change their plans. News came that the Boers at the Vaal river turned back any traveller. No one was allowed to pass the frontier. So they decided to start from Walvis Bay in South West Africa. GALTON chartered a schooner on which they left Table Bay on August 7th.

The barren shore of Walvis Bay was their home only for a short while. They very soon moved to a place some miles inland, Sandfontein, where they found fresh water. On the sand dunes ANDERSSON collected his first mice, lizards and tenebrionids. The water was bad and there was no food for their donkeys so they pushed on still further inland, to Scheppmansdorf (present Rooibank) about 20 miles up the dry Kuiseb River. They needed draught animals for the transports so they set out for a village 8 days' journey away. By horse and cart they traversed the sandy coastal plain (Namib) and proceeded along the Swakop R. in a deep valley in the Tincap-

flats towards its junction with the Tsaobis R. (Tjabis). Lions struck a horse and one of their mules. Since they had been travelling under the burning sun instead of in the cool nights, they arrived exhausted at the mission station Richtersfeld at Otjimbingue. This place was to be their starting point for the greater part of their 16 years. Here a Dane, HANS LARSEN, was engaged and proved very useful since he knew the country and its people well after six years in these parts. ANDERSSON and LARSEN went back to Rooibank to break in their oxen and then returned to Otjimbingue by Onanis. They again suffered attacks by lions.



Fig. 4. CHARLES JOHN ANDERSSON 1827-1867.

On December 2nd they set out for Barmen (Otjikango SW of present Okahandja) and after two days rode into the small mission station, held by CARL HUGO HAHN. Soon they were off to Otjimbingue again and prepared for a journey to the interior.

They left on December 30th. Via Barmen they reached Schmeilen's Hope (present Okahandja) where they pitched camp. ANDERSSON reconnoitred in the environments and visited the Omburo Mountains and the Omatako River. On March 3rd, 1851, they pushed on northwards. They traversed vast plains, passed under the Omatako Mountains, crossed the upper reaches of the Omatako river and drove close to the high plateau west of the Omatako. Here they came into almost impassable thornbush. But the dry river bed of Hamakari (Otjironjuba) provided an easy passage and in this way they drove on along the Waterberg Range. On April 5th they reached their first goal, the Omuramba Omunbondo (38 miles S present Grootfontein) which had been described by the natives as a very large lake. It was found to be a broad, dry river bed. After some discussion the disappointed travellers determined to push on northwards, to the as yet unvisited Ovamboland. But first they moved to the northernmost Damara-kraal at Okamabuti where the wagons were carefully overhauled. ANDERSSON collected birds and insects.

On May 23rd they set out for Ovamboland. Via Otjikango they passed present Tsumeb and arrived at Otjikoto, where they discovered the deep Otjikoto lake and

the limestone caves. Thence, they struggled on through dense thornbush where water was scarce. On May 31st they discovered the Etosha Pan and passed its eastern border. This part of the lake was dried up and the game had left, so they did not bother much about their discovery. On the northern side of the lake they came upon a grassy plain which gave relief from the thornbush. They saw Ondanga, the rich Ovamboland, on June 5th, and some days later met chief NANGORO who lived in the vicinity of present Ondangua.

GALTON and ANDERSSON were told by the Ovambos that a big river (Cunene) was only four days' journey north of their camp. They planned to push on but failed. Their draught oxen were weak and Nangoro would not assist them.

On June 15th they departed, taking the same route as they had come, past Otjikoto and Okamabuti. They drove southwards to the river bed of the Omatako, proceeding along the right shore of the river as far south as Okatumba. Here they saw the well-known Omatako mountains again and some days later joined the old track. By Schmelen's Hope they arrived at Barmen on August 4th, 1851.

Now GALTON was called to England but since there was no ship leaving for Cape Town until December they decided to try to reach Ngami.

They left Barmen on August 14th and first drove to Eikhams (present Windhoek) to see the dreaded JONKER AFRIKANER, the chief of the Nama Hottentots. Then they travelled straight eastwards, crossed the White Nossob and arrived at Elephant Fountain (present Gobabis) at the Black Nossob about the 15th of September. The wagons were left there and they proceeded on oxen through sandy mopane bush to Tonuobis (Fort Rietfontein). Bushmen told them that the country beyond the water-hole was now too dry to be passed by oxen. They stayed some days for hunting and killed much big game, e.g. 30 rhinos. ANDERSSON shot 8 of these animals in one night. Then they retraced their steps to Barmen. By this time the rainy season had set in. ANDERSSON accompanied GALTON to Walvis Bay and took leave of him on Jan. 4th, 1852. With him went ANDERSSON's first collections containing, *inter alia*, about 500 birdskins and a thousand insects.

GALTON had shared part of his equipment between ANDERSSON and LARSEN after ANDERSSON had told him that he would try to reach Ngami. But in spite of this ANDERSSON found himself inadequately equipped for a long expedition. He needed instruments and provisions procurable only in Cape Town. So he decided to go thither with LARSEN. They would obtain cash by selling cattle.

They trekked from Rooibank on January 26th, 1852, with a great drove of oxen, and took the usual road to Eikhams (Windhoek) via Otjimbingue and Barmen. The rains had produced splendid pastures. But soon the country was invaded by enormous clouds of locusts which stripped it of green. ANDERSSON arrived at Rehoboth on March 15th, left people and cattle in LARSEN's care and rode back to Eikhams to see JONKER AFRIKANER and collect a debt. JONKER was away raiding, however, and ANDERSSON pushed on to Barmen collecting news of the depredations. After some time he returned southwards, met JONKER (who paid his debt) and proceeded to Rehoboth. About this time he was hurt by an ox and soon afterwards his hut

caught fire and he lost valuable instruments and clothing. 120 miles south Rehoboth they pitched camp on the shores of the Hutup River (near present Maltahöhe) in a valley rich in birds and game. Here ANDERSSON went down with fever. Still suffering from the illness, he proceeded with his people and oxen along the Hasaweb River and at the springs caught sight of the upper reaches of the River Konkib which he followed past Bethanie to the Huns river. They traversed the Huns plateau to the southwest and drove west of the mountain range to Sendelingsdrift at the Orange River. They left the Orange River on August 25th, passed Kodas and Anniesfontein and found Little Namaqualand dry and barren. Driving west of the high plateau they came through Komaggas, 25 miles SW Springbok. Thence ANDERSSON pushed on fast to arrange for the sale of his cattle. LARSEN followed slowly with the herd.

ANDERSSON arrived at Cape Town on September 22nd, 1852, and stayed for four months. During this time he made some excursions in the environments. He visited Piketberg and Bains Kloof which was shown to him by the famous roadmaker and geologist A. G. BAINS. In Cape Town he met his future wife, Miss SARAH AITCHISON. His friend HANS LARSEN departed for Australia—a victim of gold fever.

In January, ANDERSSON chartered a boat to carry his cargo and left for Walvis Bay on January 16th, 1853. When he arrived back in Scheppmansdorf, he found that JONKER AFRIKANER was again raiding the country. Damaras were killed and missionaries driven away. Lions swarmed and invaded camps and villages. ANDERSSON decided to try to stop JONKER's devastations. He went to Eikhams, though to little purpose.

On April 2nd he set out for the Great Lake, Ngami. The unusual rains of the previous summer had covered the land with grass and the desert with narras—a sort of cucumber—so that travelling was easy. By practically the same way as the year before he arrived at Tonuobis (present Fort Rietfontein). The game had scattered all over the country, since there was plenty of water, and the members of the expedition were starving at times. They followed the river Rietfontein—Otjombinde—Letiahan through dense bush until they reached the Kuruman track. Then they turned to the north and arrived at Ghanzi on June 18th. Water was scarce and game abounded around the waterhole. From Ghanzi they traversed sandy limestone fields often covered by dense forests. Water was fairly scanty. At Kobe they found a good waterhole and much game. ANDERSSON shot a white rhino and a big elephant of a herd of fifty. Several times he had very narrow escapes.

On July 23rd they pushed on, traversed dense thornbush and penetrated into beautiful country with baobab trees and plenty of wells. On the 25th they saw Ngami and for some days slowly proceeded along the southern shore until they reached the river Nghabe (Zouga) where camp was pitched. ANDERSSON met the Bechuana chief Lecholetebe in his kraal at present Toteng and obtained canoes so that they could cross Ngami and reach the outflow of the River Taakhe (Tiouge, Teoge). They paddled upstream. Game was plentiful. Hippos and crocodiles swarmed in the river. Nine days' paddling brought them to the Ikwokha land (*en route* to Libebe) where ANDERSSON tried to change guides and canoes in a village. But the

men were off hunting and soon he found that chief Lecholetebe had ordered that the men should not help him further. So he had to return.

On August 24th they floated with the stream southwards and without any major trouble ANDERSSON arrived at his camp at Nghabe on Sept. 5th. Now he found that his collections and stores had grown so much that he could not bring them westwards without a wagon. So he left the main part in the camp and rode off on an ox with a single attendant. He passed Nkulu. In Ghanzi he was joined by his people who had been brought there, together, with his material, by a Griqua caravan. He rode on to Wesley Vale (Noasanabis) alone and fetched draught animals. When all his goods had been brought together he left Ghanzi definitely on January 10th, 1854. His course was the same as before and past Rehoboth he soon arrived at Otjimbingue.

There, a letter awaited him, calling him home, since his father, the well-known hunter and author L. LLOYD, was seriously ill. ANDERSSON equipped a wagon and set out for the Cape. He followed very much the same route as had been taken in 1852. When he reached the Orange River the oxen were in a miserable condition, so he seized an opportunity to sail with a cutter to the Cape. On May 4th he arrived at Cape Town.

In Cape Town he met for the first time the big-game hunter and pioneer FREDERICK J. GREEN who was to be his companion and who would also accompany AXEL ERIKSSON, as he had previously accompanied J. A. WAHLBERG. On June 27th ANDERSSON sailed for England. In Sweden, he visited his father, who was by that time better.

In Summer 1856 he returned to the Cape. Here he accepted a post as mining superintendent at Rehoboth. He sailed for Walvis Bay with GREEN who stayed with him at Otjimbingue till April, 1857. When ANDERSSON's contract had expired he was very pleased to be able to resume his old way of life. At first he had meant to return to Cape Town, but an expedition to the Cunene by GREEN (supported by ANDERSSON financially) had been unsuccessful and so he resolved to penetrate to the Cunene himself, to hunt elephants and collect ivory. He would try to pass through unknown Kaokoveld.

On March 22nd, 1858, he was on the way. He travelled east of the Erongo Mts to Omaruru, a pretty district. He climbed the high plateau and dropped down to the Otjiongaro field. Dense thornbush had been a severe obstacle for long stretches but now the party drove into thin mopane bush. On April 16th ANDERSSON reached Epupa and then passed through very rugged country with fantastically shaped limestone rocks. Once the wagon slipped down into a ravine but by a miracle was not irreparably damaged. Wells were scarce and soon they again passed into rough country. By using local natives as guides he arrived at Okaoa past Otjitambi. Twice the expedition tried to go through to Okahokanna but had to return suffering painfully from thirst. And on May 21st they were definitely on the return trip. They retraced their steps and at length reached Omaruru, on July 1st.

It is very difficult to trace ANDERSSON's exact route during this journey, since those of the place names which can be found on available maps often occur several

times at various spots. But it seems rather probable to me from his descriptions of this part of the country, which I have passed myself, that the Otjitambi meant is a place 70 miles WNW Outjo; then Okaoa is Okawa 15 miles NW Otjitambi (10 miles SE Kamanjab: Kaokoveld Border) and the Okahokanna headed for in vain is Okahakana 60 miles NE Okawa, just west of Etosha Pan.

For some time ANDERSSON now hunted and collected in the field between Omaruru and Omatako. He had a camp at Otutundu, about 55 miles N of present Okahandja. The country was rich in game and big herds of elephants came to the waterholes. He procured good shares of ivory.

But his failure to reach the Cunene never left him in peace. He commenced preparing for a second attempt. On August 31st he was off. This time he followed the track from 1851 and proceeded along the Omatako River. Omuramba Omanbonde was found to be a lake at least four miles long and frequented by great herds of elephants, rhinos and much smaller game. On September 25th, he set off from Omanbonde to reconnoitre. He reached Otjihaenene (15 miles SW of present Grootfontein) and found the country easily passable. He stayed at Omanbonde for another three months, enlarging his collections of birds and insects. Late in the year he had brought together about three thousand specimens.

On January 5th, 1859, ANDERSSON definitely turned away from Omanbonde. After 11 days travelling northwards he passed Omuramba Ovambo. It was dry and he did not recognize it at once. So he left the wooded limestone region and passed into deep sand which, however, was soon replaced by thornbush and dense forest. His guides failed. At last he saw a small river running to the northeast. It was the Mbungu (Ombongo), a tributary of the as yet undiscovered Okavango. On the 20th they were again off and on the same day reached the Okavango, which was in maximum flood and made a most exciting impression. By canoe ANDERSSON went some miles down the river—eastwards—and visited Chief CHIKONGO. During his stay at the Okavango he often went down with fever. At intervals he made collections, especially studying the birds and the fish of the river. But soon every man in his party was sick and he himself lost strength rapidly, so he decided to leave the unhealthy area. On June 16th he started directing the caravan to the southwest. At the Mbungu he stopped for a month, collecting many birds. Unnatural diet and serious troubles had brought on intestinal ulcers and he endured much pain. Then he moved on to Sasib (90 miles NE present Namutoni at Etosha Pan) and pitched camp, where he stayed for three and a half months. His collection of birds now amounted to six hundred specimens. On Nov. 19th he heard that FR. GREEN had come to his help and that he was camping at the Ovambo River. Now, ANDERSSON had to abandon his project to proceed to the Cunene. He set off southwards into the desert and reached the Ovambo on Dec. 9th. On their way southwards they struck the Omuramba Omatako on January 1st, 1860, and proceeded along the river to Otutundu. Thence they soon arrived at his residence at Otjimbingue.

Early in June, ANDERSSON sailed for Cape Town from Walvis Bay. He arrived in Table Bay on June 28th, 1860, and married Miss SARAH J. AITCHISON on July 25th.

In October he was back in Walvis Bay planning a large store at Otjimbingue. Late in the year native bands again raided the country and this time also plundered European property. When peace was restored ANDERSSON began to prepare for overland transport of cattle to the Cape to earn money for his family. He left Otjimbingue with the droves on May 18th, facing many troubles. Owing to cattle lung-sickness the native tribes on the route had forbidden passage of live stock. But he went through and reached the Cape in October and saw his wife and their son. When he arrived back in Walvis Bay in the middle of October, the natives were again raiding and the fate of another cattle transport seemed uncertain. But these droves also reached the Cape safely. By December he was back in Otjimbingue with his family. He went to see Chief CHRISTIAN JONKER AFRIKANER, who had succeeded his father, but on the road to Eikhamas he was threatened by a native band and forced to kill the leader to get through with his family. However, he had the confidence of the native Chiefs and the court of the Namaqua clans exculpated him. Later, war broke out between Damara and Hottentots and furious fighting took place around Otjimbingue. In September, 1862, ANDERSSON moved to the coast where he thought he and his family, now enlarged by a daughter, should be safe. But when Topnaar Hottentots began to molest settlers round about, he withdrew to Otjimbingue. Then the Hottentots raided his cattle transports to the Cape. Mrs. ANDERSSON and the children felt unsafe and sailed for Cape Town. The native troubles were ruining ANDERSSON and he thought he could put an end to them by accepting the Damara's solicitation to be their leader. So he accepted the post as "Chief and Military Commander" of the Damara clans. War began. The battles were successful but the end was loss and disappointment. ANDERSSON led his Damara-men supported by FR. GREEN and R. HEYBETTEL. When storming a rock fortress he was struck by five bullets, yet was not very seriously wounded. The Damaras gained the victory. After a few days ANDERSSON laid down office and slowly went back to Otjimbingue to cure his right leg, crippled by a bullet. During this time he worked a good deal with his birds and started preparing a volume on the "Avifauna of South Africa".

On Nov. 23rd Mrs. ANDERSSON returned with the children, attended by a Swede by the name of SVANTE. SVANTE took part in trading expeditions to the interior to collect birds for ANDERSSON and died near the edge of Etosha Pan in May 1866 from a wound obtained in a fight with a Hottentot band. Mrs. ANDERSSON now definitely wanted to leave the country. Late in March they sailed to the Cape from Walvis. ANDERSSON stayed in Cape Town for almost a year, spending most of the time with his brother-in-law at Green Point. During this time he was engaged upon his *Avifauna* and worked with the bird collections in the South African Museum in Cape Town.

In spite of his crippled leg, which healed very unsatisfactorily, ANDERSSON could not rest without seizing another opportunity to visit Damaraland and the Cunene River. GALTON had obtained a permit for him to visit Angola. News from Damaraland influenced him. On May 22nd, 1866, he sailed. He was accompanied by two

Swedes, Captain T. G. EEN and AXEL ERIKSSON, the latter a youngster sent out by ANDERSSON's father. He was to become a reputed hunter and collector.

They debarked at Walvis on May 9th and soon moved to Otjimbingue. ANDERSSON started trading, but results were slow and bad. In the meantime he made excursions. By cart he went to Omapju, some 50 miles north of Otjimbingue. Thence he proceeded to Omaruru and enjoyed some shooting along the river to the west (to Ojombabe) before returning. From the Damara chief KAMAHERERO he obtained considerable areas of land round Omaruru, where he wanted to settle.

In December he heard that EEN and ERIKSSON had been successful on a trip to Ovamboland and he decided to meet them. He left Otjimbingue on Dec. 29th upon his last journey. He travelled the old route to the north which he had once opened up, passed the eastern part of Etosha Pan and reached Ondangua where his hunters were assembled. Malaria was rampant among his party, but trading had prospered. And ERIKSSON had made a fine collection of birds for him, including some new species. On February 9th his hunters started southwards, but he himself stayed on with ERIKSSON. Usually he was in bad condition from intestinal disorder. Intestinal ulcer or cancer developed and he became very weak. In spite of this he revived his old plan to go through to the Cunene. In mid-May he started with AXEL ERIKSSON and a couple of Ovambos. They passed through well-cultivated, well-populated country. On June 15th they reached the Cunene valley and next day came to the river. ANDERSSON tried to cross it but in vain. They left on the same day. ANDERSSON was quite exhausted and they proceeded slowly to the southeast. On July 9th, 1867, he passed away. ERIKSSON buried his remains west of Namakunde (some 45 miles NW Ondangua) on the Angola border.

ANDERSSON's sixteen years in South Africa was an uninterrupted struggle for life. As an explorer, a trader, a scientist he always seemed to be disfavoured by fortune. If she once smiled on him, it was only to give him a hard blow at the end. The biography "Fortune my Foe" by WALLIS gives the theme of his life already in the title.

The above summary of his travels has been extracted from his books: "Lake Ngami" (London 1856. Swedish edition: Stockholm 1856), "The Okavango River" (London 1861. Swedish edition: Stockholm 1862), and "Notes of Travel in South Africa" (edited by L. LLOYD, London 1875). A most useful source is the above-mentioned biography by J. P. R. WALLIS (London 1936). WALLIS had access to ANDERSSON's diaries and letters (then in the private possession of ANDERSSON's sons in Cape Town) and further examined Cape archives, periodicals etc. for notes on the explorer. ANDERSSON's first journey to Lake Ngami is also described in FRANCIS GALTON's "Typical South Africa" (London 1853). His last journey is dealt with in "Minnen från en flerårig vistelse i Sydvästra Afrika" by T. G. EEN (Stockholm 1872). This volume also contains interesting personal information about ANDERSSON.

ANDERSSON's projected work on the "Avi Fauna of South Africa" had advanced a great deal by the time he passed away. Careful descriptions were ready and a great many very good plates had been executed by the artist THOMAS BAINES.

It is a pity that it appeared only in a very abridged edition: "Notes on the Birds of Damara Land and the Adjacent Countries of South-West Africa", edited by J. H. GURNEY (London 1872). The descriptions were excluded, as well as much other information, e.g. many data as to the distribution of the species. Previously ANDERSSON had published some notes on South African birds in the Proceedings of the Zoological Society of London, 1864, p. 3-8 (Notes on the habits of some South African birds) and in The Ibis for the year 1865, p. 64-66 (Note on the two Flamingoes of South Africa). Further, he contributed an ornithological appendix to J. CRAFMAN's "Travels in the Interior of South Africa" (London 1868). Among the papers which

► ANDERSSON left behind him was a manuscript "Notices of several of the Stripedps indigenous to Damaraland and neighbouring Countries". It was never

ANDERSSON's collections have been scattered and no doubt much has disappeared. Part was given to the South African Museum in Cape Town, part to Swedish Museums, e.g. Riksmuseum, Stockholm, the Naturhistoriska Museet in Göteborg, and his old University of Lund which honoured him with the degree of Phil. Dr. h.c.—a decision which reached Cape Town almost a year after ANDERSSON's death. The chief part of his collections went to England, however, and was for long in private possession. Now most of it is in the Nottingham Museum.

**THE "EUGENIE" EXPEDITION.** When travelling round the world in 1851-1853, the Swedish frigate *Eugenie* cruised in South African waters in March and April 1852. She cast anchor on the roads off Cape Town on the 8th of April and remained in Table Bay until April, 20th. In the meantime collecting of terrestrial animals was carried out in the environments of Cape Town, chiefly by Dr. J. G. M. KINBERG, surgeon and zoologist of the expedition.

The voyage has been described by C. SKOGMAN in "Fregatten Eugenies Resa omkring Jorden 1851-1853", 2 vols. Stockholm 1854-1855.

The collections belong to the Riksmuseum, Stockholm. They have been dealt with in: "Kongliga Svenska Fregatten Eugenies Resa omkring Jorden under befäl av C. A. VIRGIN. Åren 1851-1853. Vetenskapliga Iakttagelser", edited by K. Svenska Vetenskaps Akademien. Vol. II Zoologi contains descriptions of Coleoptera (BOEHMANN, edited in 1858), Hemiptera (STÅL, 1859), Orthoptera (STÅL, 1860), Lepidoptera (WALLENGREN, 1861), Hymenoptera (HOLMGREN, 1868), Diptera (C. G. THOMSON, 1868), Araneae (THORELL, 1910), and Polychaeta (KINBERG, 1910).

**J. F. VICTORIN (1831-1855), student of Natural History at Uppsala University.**

VICTORIN travelled in South Africa in 1853-1855. He arrived at Cape Town on November 11th, 1853, and settled at Rondebosch. For about three months he collected on Cape Peninsula, chiefly in Cape Town, Rondebosch, Newlands, Wynberg, Kalk Bay, and on Table Mountain. However, VICTORIN had met J. A. WAHLBERG, who had told him about the beautiful eastern Cape and urged him to continue his collect-

ing in these rich fields. So he sailed for Mosselbay late in February. He arrived on March 4th, and next day set out for Knysna by ox wagon, travelling via Klein-Brakrivier, Groot-Brakrivier, George, the Gat at the mouth of the Kaaimans river, Swartvlei, Groenvlei, Goukamma and Belvidere. He remained at Knysna from March 18th to December 1st, 1854, fascinated by the primeval forest which yielded rich harvests of insects and birds. During this time he also collected at Westford, Plettenbergbaai, and Redburn.

Then he decided to visit the Little Karoo and study the fauna of the arid plains. On December 2nd he returned to George, whence he branched off to Oudtshoorn. He travelled via Blaenau, Montagu Pass, Perdepoort, Kammanassie, and proceeded along the Oudtshoorn River to the Karoo. At Vredenburg he established his headquarters. After a short stay he set out to visit the farm Zandvlei, about 12 miles from Oudtshoorn, he went to the Cango Caves via Schoemanspoort. VICTORIN returned to George via Armoed on March 1st, 1855. Then he set off for Mosselbay and sailed to Cape Town where he arrived on March 12th, 1855. Some days later he embarked on a ship bound for Sweden. He passed away of a pulmonary disease a few months after his return home.

VICTORIN made considerable collections, concentrating on mammals, birds, reptiles and insects. The material was given to the Swedish Academy of Sciences and is now in the Riksmuseum, Stockholm.

During his journey VICTORIN wrote a volume "Zoologiska Anteckningar" (Zoological Notes) which was edited in 1858 by J. W. GRILL and published in Kungl. Svenska Vetenskaps Akademien's Handlingar (Stockholm). It deals with the vertebrates and includes descriptions of four new species. The story about VICTORIN's journey has been told in a book by J. W. GRILL "J. F. Victorin's Resa i Kaplandet åren 1853-1855" (Stockholm 1863). Insects collected by VICTORIN have been described separately by C. STÅL (1858, 1871: Orthoptera and Hemiptera) and by H. LOEW (1858, 1861, 1862: Diptera).

**AXEL W. ERIKSSON (1846-1901)** came to Cape Town early in 1866. With CHARLES JOHN ANDERSSON and T. G. EEN he sailed for Walvis Bay on May 2nd, 1866. After a week on the barren shore they traversed the coastal Namib by ox wagon and proceeded along the Swakop river by Salem to Otjimbingue which was their headquarters. ERIKSSON started collecting birds for ANDERSSON, who was writing on his *Avifauna* in leisure hours.

ERIKSSON was a very skilled bird hunter and soon was sent by ANDERSSON on a special expedition for bird collecting. He started with EEN at the end of July 1866. They proceeded along the Otjirude River to Barmen M.S., at this time conducted by the missionary P. BRINCK, whence they walked to the well Otjindu at the Omaruru R. and back to Otjimbingue, where they arrived at the end of August. When ERIKSSON collected in the environments he was once injured by a leopard which attacked him.

ERIKSSON also took part in the last expedition sent out to Damaraland by ANDERSSON. They left in the middle of September and passed by Okongava, Omaruru, Otjikango (Chikango), Najdaus (Nejdaus), Otjikoto, eastern Etosha Pan, and Omatinja to Ondongua, the centre for trading in Ovamboland at this time. The journey took 42 days. ERIKSSON and GREEN lived here in a comfortable house which belonged to ANDERSSON and had been erected by one of his hunters. ERIKSSON arrived in made long and successful excursions in the environments. ANDERSSON arrived in



Fig. 5. AXEL W. ERIKSSON 1846-1901.

March 1867 and in the middle of May he set out for the Cunene with ERIKSSON. As described above, this expedition ended with ANDERSSON's death on July 9th, 1867, on the Angola border. Eriksson brought ANDERSSON's belongings to Ondongua where he stayed until EEN sent a wagon from Otjimbingue to fetch him. He followed the "trunk road" (as described above) back to Aukas, 45 miles NW Otjimbingue, and arrived at this place in March 1868. It was the headquarters of the British DR. PALGRAVE. ERIKSSON had procured some field equipment from ANDERSSON and now he used it for a short hunting expedition in this area before he went to Cape Town in May-June 1868.

In Cape Town a Swedish trading Company, Messrs BORGSTRÖM & OHLSSON, had become interested in trading in Damaraland and were searching for agents. They engaged EEN and ERIKSSON. Having returned to South West Africa, they started by moving their headquarters to Omaruru, which had been founded by CH. J. ANDERSSON and which was then for a long time the site of a Swedish colony. In the beginning it was inhabited by the Swedes EEN, ERIKSSON, LINDHOLM, BERNHARDT, CEDERBERG, and SWANLUND.

In August 1870 ERIKSSON again set out for Ovamboland. He made a detour to

hunt elephants and arrived at Ondongua in December. Early in 1871 he was hurt in his eye by a whip lash and forced to return to Omaruru where he arrived in March. He soon had to continue to Cape Town to undergo an operation. He returned to Omaruru in May. Then he again set out for Ovamboland where he stayed for some months. In September he went back to Omaruru. Now he married a Miss STEWARDSON, daughter of a late Briton who had been working in South West Africa and whose widow lived in Omaruru with her two daughters.

It is probable that AXEL's brother, ALBERT ERIKSSON († in 1894 in Omaruru) came out soon after AXEL's marriage and took over part of the local trading. Further, AXEL ERIKSSON engaged other Swedes as hunters and traders. This made it possible for him to be more stationary for the next few years. From DE VYDLER's diaries (vide below) covering the period July 1873-May 1875 in this part of the country, it is apparent that ERIKSSON spent the years chiefly in Omaruru. No long expeditions to the interior are mentioned, but short visits to Epako and other places in nearby Damaraland and a stay at Walvis Bay from March 2nd-May 10th, 1874. When DE VYDLER left on May 25th, 1875, he was accompanied by AXEL ERIKSSON. In Sweden the latter met an old friend, HJ. A. LINDEDAHL, who heard about his collections of South African birds and animals with considerable interest. Before ERIKSSON left he had agreed to give the collections to his native town, Vänersborg. The first part arrived in 1881 and others followed. For a long time they formed the basis of the Department of Natural History of the Vänersborg Museum, opened in 1891.

ERIKSSON's bird collections indicate that 1876 again was spent in Omaruru.

In 1877 a period of long journeys began. Early in that year ERIKSSON set out for eastern Ovamboland. In April we meet him at Etale and in May and June he is collecting and trading at the Okavango river and the Omuramba-Ongama. Late in July he works at Okorokambe. Early in August he passes Ondomne on the way back to Omaruru. ERIKSSON seems to have spent 1878 in Omaruru, making excursions to Okahandja, Rehoboth, the Erongo mountains, and Swakop.

In 1879 he set off again. In April he passed northwards by Otjikongo, Otjomungundi (Aimap), Otjowasandu, Ombika to Okahakana west of Etosha Pan where he arrived on April 24th. He proceeded along the Ecuma river to Ondongua which place was his headquarters for some time. From here he pushed on to the Okavango river via Ongombe and the Omuramba-Ombongo. Next year he continued his work in northernmost Ovamboland, South Angola, and along the Cunene river.

Being now quite familiar with Southern Angola and the country around the central Cunene, in 1881 he determined to give up the trekking to Cape Town along the road opened by CHARLES JOHN ANDERSSON. He turned northwards and opened a new commercial route from Omaruru to Mossamedes. After having returned to Omaruru he went to Cape Town by boat in 1882. Next year he travelled to Europe. In August he was back in Mossamedes, staying for some time in southern Angola.

We meet him again in the field in 1884. Via Tebra country, to the west of Lake Ngami, he travelled eastwards and spent the latter half of the year at the Nkezi

River in Southern Rhodesia. At this time he bought a large estate at the Crocodile river. In 1885 he collected frequently along the Marico R., Limpopo R. and in the adjoining country. In July-September he made an excursion to Ngami via the Botletle River. In 1886 he was still at his estate, now also collecting in the other parts of the northern Transvaal: Zeerust, Matlabas, Vienaars River. In order to sell the produce of his farm he visited Pretoria in November 1886 and January 1887. Thence he went to Cape Town and in April sailed for Walvis Bay. After a short stay at Omaruru he was on the trek again. The chief part of the next three years was spent in intense travelling along the Okavango R. and further north: to the Kassai R., in northernmost Ovamboland, and southern Angola. At this time ERIKSSON several times used the track to Mossamedes for transport of cattle and native products.

There are letters indicating that he was in Cape Town early in 1890. From there he went back to Omaruru via Swakopmund planning a trek to Mossamedes with droves of oxen and other merchandise. Via the Cunene he arrived there probably in September.

In 1893 ERIKSSON left for Sweden. In this country he interested many people in a trading and hunting expedition to southern Africa. When he left, he was the leader of a party, including five more Swedes, viz. REINHOLD ERIKSSON (AXEL's brother), OSKAR NYBERG, EFRAIM ERIKSSON, E. ROSENBLAD, and SVANSTRÖM. They arrived in Mossamedes in August 1894. The party crossed the Namib and drove to Chibia. On Sept. 7th they set out southwards, passing Humbe some weeks later and reaching the Cunene river at Ruacana on Oct. 1st. They pitched camp. The district was rich in big game and they stayed hunting. In December some of ERIKSSON's companions from Omaruru came up and joined them. The expedition crossed the river by ERIKSSON's drift and on Jan. 3rd, 1895, they commenced their journey through Ovamboland. After five days, they arrived at Ovenkenyama. Thence they drove to Ondongua via Ukuambi (Oquambe) and Naholongo, forced southwards by hard rains. The plain was a vast mud field and they proceeded very slowly. After a short stay at Ondongua they pushed on to Aukas, near Grootfontein in Damaraland. It seems that ERIKSSON now made Aukas his headquarters for trading in this part of the country. Late in May, ERIKSSON and ROSENBLAD drove to Walvis Bay to fetch provisions. They passed by Waterberg, Omatako mountains, and Okahandja to Otjimbingue where they stayed for some days. Via Heigamkhab (Hykomkap) they soon arrived in Walvis Bay. On the way back ERIKSSON made a detour to Windhoek. From Okahandja they returned to Aukas.

One day the German explorer and cartographer HARTMANN came to their camp and asked ROSENBLAD to accompany him into the Kaokoveld. ROSENBLAD accepted. Since ROSENBLAD collected zoological material for HARTMANN and ERIKSSON during this trip, it will be summed up shortly. After preparations, the expedition set out in October 1895. Via Outjo and Otjimbingue they came into the Kaokoveld and at first pushed on to Gauko-Otavi. In November they proceeded further north and in December arrived at the Cunene. Thence ROSENBLAD with part of the expedition drove to the southwest until they reached the mouth of the Khumib river. While HART-

MANN with another part of the expedition investigated northern areas, ROSENBLAD pushed on to the south, chiefly along the shore, the Skeleton Coast. By the Hoarussib and Huab Rivers he arrived at the mouth of the Ugab. He ran short of ammunition and food, so that he was just like a skeleton when he reached Goabis. From here he rode to Brandberg where the expedition had a main camp for excursions along the Ugab and to Cape Cross. From Brandberg they returned via Cape Cross to Swakopmund, where the expedition was disbanded. Having spent two years in the field, ROSENBLAD now needed recreation and went to the Cape and to the Transvaal.

During this time ERIKSSON went on trading in Damaraland. Again he decided to go to Angola with the material that had been collected during the past year. Late in October he arrived at the Cunene River, at Humbe, where he met a Swede, Captain P. MÖLLER, on an expedition to southeastern Angola, Ovamboland, and Damaraland. He proceeded to Mossamedes and sold his goods. On return he reached the Cunene in the middle of December and again met MÖLLER. Together they drove eastwards until they arrived at the Ukanyama (Ovaquenyama, Ovenkenyama) territory, whence they turned south early in January 1896. After some days in Ondongua ERIKSSON drove to Aukas via Grootfontein and from there to Omaruru.

ROSENBLAD again arrived at Walvis Bay early in 1896. Via Otjimbingue he went to Omaruru where he met ERIKSSON. They now set out on a trip to Ovamboland. By Waterberg they drove to the colony at Aukas. After some time they pushed on to Namutoni, near the eastern shore of Etosha Pan, where ROSENBLAD stayed while ERIKSSON proceeded to Angola. He was back in Namutoni in December, and they returned via Aukas. In February 1897 they arrived safely in Omaruru. ERIKSSON rode to Windhoek and after his return they drove to Walvis Bay where E. stayed until Sept. 1897 when he moved to Omaruru. A son and a daughter came out from Sweden to see him and stayed with him for some time. Late in 1897 ERIKSSON and ROSENBLAD, from Walvis Bay, again set out for Aukas. At Karibib the latter went down with fever and decided to return to Sweden. He sailed from Cape Town late in December.

In 1898 ERIKSSON was again in Damaraland. From Omaruru he drove to his estate Marseille Farm at the Crocodile River in the northern Transvaal. In August he returned westwards, making his headquarters at Aukas and working at another large estate, Steenbokfontein, which he had quite recently acquired, close to Etosha Pan. In 1899 he visited Omaruru. In January 1901 he started for a journey to Marseille Farm, but in the field he fell ill with an intestinal disease and died at Europapa (Urupupa) in northern Damaraland on May 30th, 1901.

ERIKSSON knew his country very well. He opened new tracks and discovered waterholes and other places, many of which are still marked on the maps as ERIKSSON's Vlei, ERIKSSON's Waterhole, ERIKSSON's Kolk &c. It is a pity that he did not write an account of his travels.

The above presentation has been gathered from several sources: CH. J. ANDERSSON's Notes of Travel (London 1875), GUSTAF DE VYLDER's diaries (vide below), P. MÖLLER's Resa i Afrika (Stockholm 1899), E. ROSENBLAD's Äventyr i Sydväst-

afrika (Stockholm 1924), Vänersborgs Museums Historia by K. G. CEDERGREN (Vänersborg 1924), and information in 18 letters from ALBERT ERIKSSON and AXEL W. ERIKSSON to Mrs. ALVIX, Vänersborg, between May 6th, 1877, and July 9th, 1893. Data from these letters have been forwarded to me by Dr. C. G. A. KLINGBERG, Växjö. Reconstructions have been based on the collection of birds in the Vänersborg Museum (a list of the localities of the specimens has been handed to me by Dr. G. RUDENBECK) and an insect collection in the Entomological Museum, Lund. -- Further data are kept in manuscripts in the private possession of the Rev. A. E:SON WAERNEMAN, Torbjörntorp. Part of them has been placed at my disposal.

ERIKSSON made rich collections of mammals, birds, and insects. A considerable part was given to the South African Museum in Cape Town on various occasions. The Swedish Vänersborg Museum acquired a fine collection of birds (and also mammals) and a minor collection was given to the Zoological institute of the Uppsala University. By subsequent donations part of the collection went to the British Museum, Nat. Hist., London, and the Riksmuseum, Stockholm. So far as I know there are no separate publications on ERIKSSON's material (except short notes on some few birds and mammals) but it has been found to contain many new species, the descriptions of which have been included in various papers.

JÖNS PERSSON (\* 1843) from Höör in Scania, the southernmost province of Sweden, donated a comparatively rich collection of South African insects to the Malmö Museum in 1873. Since the collection was delivered by his brother, NILS PERSSON, the name of the latter was registered in the museum's journals and later NILS PERSSON was wrongly given as the name of the collector, both in the collection and in WALLENGREN's publications (vide below). The Rev. H. WENTZ, Höör, has provided us with some information about PERSSON's native farm and his visits to this place, but we have not succeeded in obtaining details on his South African journeys. In the newspaper *Sydsvenska Dagbladet* (Malmö, Nov. 1st, 1873) there is a short article about JÖNS PERSSON (sub nom. NILS P.) mentioning the donation to the museum and giving some data on his life. According to this article he left Sweden in 1867 for South Africa. There he worked as a diamond prospector and surveyor. He returned to Sweden late in 1872, and after some time again went to South Africa, where he remained.

WALLENGREN (in *Insecta Transvaaliensis*, 1875) mentions that PERSSON had been living for some years in the Transvaal, where he collected many insects. From the collections it can be seen that the chief part of the specimens has been gathered at Christiana. There are also many specimens from Potchefstroom and Waterberg. Pretoria is represented with a few forms. The collecting dates are present on some labels; they all fall between 1869 and 1871.

The main part of the collection consists of Lepidoptera and beetles but there are also scattered representatives of other orders. The Lepidoptera are in the Malmö

Museum, the rest has been deposited in the Entomological Museum, Zoological institute, Lund.

H. D. J. WALLENGREN worked on the collection in the 1870's. A report on the Lepidoptera, Neuroptera, and Hemiptera was published in 1875, and a first article on the Coleoptera in 1881. Many species were described as new.



Fig. 6. GUSTAF DE VYLDER (1827-1908) together with a young bushman boy whom he adopted and brought to Sweden.

GUSTAF DE VYLDER (1827-1908) was a surveyor whose burning interest for Natural History made him change his civil profession for field studies of insects and reptiles. Aged 43, he obtained a grant enabling him to realize old plans to collect in South Africa.

In the Swedish corvette "Norrköping" he left Gothenburg early in July 1871. Since South America was visited *en route*, he arrived at Cape Town rather late, in November 1871. He immediately started collecting; the first date in his lists is Nov. 11th. So far as we know he stayed in the southwestern Cape until 1873. There are collecting notes from the meantime and they all give Cape Town or Cape Peninsula as the origin of his specimens.

On March 31st, 1873, he left for Port Nolloth in a schooner, accompanied by a Swedish tradesman, BERGVALL, who wished to try his luck in South West Africa and wanted to have DE VYLDER as his agent in the field. They debarked on April 3rd. DE VYLDER found the surroundings of Port Nolloth very dry and his excursions from April 4th-8th were not successful. On April 9th they took the donkey line (Spoorwegbaan) to Anenous, whence DE VYLDER next day rode to Koufontein.

He departed from London on October 13th, and arrived in Port Natal on Nov. 1st, 1839. WAHLBERG remained collecting in the environments of Port Natal until the middle of May. Most of the time he lived in LETTERSTEDT's residence, a large house in the bosch. He visited Camps Bay, Kalk Bay, the western Cape, and several times ascended Table Mountain and the other hills. But they did not offer him much that was new, so he packed his traps and on May 15th, sailed for Natal. On board the ship was the French naturalist, M. DELEGORGUE.



Fig. 3. J. A. WAHLBERG 1810-1856.

DELEGORGUE who was to be WAHLBERG's intimate friend during five months of hunting in southeastern Africa. While staying in Port Elizabeth (May 27th and 31st May) he made excursions beyond the Swartkops River

arrived at Port Natal (Durban) on June 11th, and next day had time for collecting insects, birds, and plants. For some months he stayed in the environs of Port Natal. He made an excursion to the Umgeni River on June 27th, he set out by horse with DELEGORGUE to the Umhlanga River about 13 miles SW of Durban where they hunted hippos and met herds of elephants. On Sept. 5th they rode fairly close to the Sea southwards where they collected and hunted for some days. They returned to the Umkomaas and reached Port Natal on Sept. 10th.

There was now fresh vegetation and abundant insect life around Port Natal. WAHLBERG stayed there collecting until October 31st. On this day he started on his long journey to the Tugela River. He was delayed on the way since the chief he was leading his impis towards Chief MPANDA and was said to

fallow. Already on Nov. 11th he returned southwards via the Umvoti R., meeting lions and packs of wild dogs just as on the way to the Tugela. It was a rainy season and he stayed in Port Natal gathering many interesting birds and insects. However, on December 29th he left for a short trip inland, following the Umlazi River to its upper reaches. He spent January, 1840, in this area, having his headquarters in a zulu village. It was rather cold at times but the land was fresh and green and he made rich collections. On Feb. 7th he left for Pietermaritzburg and reached the town next day. He was fascinated by its lovely situation and collected there until March 19th, when he returned to Port Natal.

Now, WAHLBERG stayed in Port Natal and its surroundings until October. He was eagerly hunting birds and invertebrates at the Bay and in the forests around the locations. Sometimes he made excursions, e.g. to the Zeekoe Vlei (May 5th, and October 5th-8th) and to the mouth of the Umgeni River (August 23rd-31st).

On October 9th he went northwards to MAYER's kraal at the Umhlanga River, about 13 miles N of Port Natal. As usual he went on foot. He collected in these fields for about one and a half months, for some time moving his quarters to the Tongaat River (Umtugat) further to the north. On November 28th he left the Umhlanga for Port Natal where he arrived next day. Since his right foot had been hurt he had to live quietly in the town for a long time. This was easy to do, since at this time conditions were rather uncertain. The natives were troublesome. Boer commandos raided the zulu villages. And in Port Natal the Dutch inhabitants fortified the town in expectation of an English invasion.

On March 11th, 1841, WAHLBERG again left Port Natal for an excursion southwards. He walked to the Umlazi River and followed it to its mouth; he collected there until May 7th, when he returned to Port Natal. On May 16th he set out to the north, to the Umhlanga River, via the Umgeni. It was a short collecting trip and on May 20th he was already back in Port Natal. Then he worked in the surroundings, making excursions to the Zeekoe Vlei (June 3rd), to the lower reaches of the Umgeni River (June 4th-19th) and to the mouth of the Umhlanga River (June 24th-July 1st). He made fine collections of insects and birds.

On July 29th WAHLBERG left Port Natal for Pietermaritzburg, where he stayed collecting until August 24th. He made another visit to Pietermaritzburg between September 9th-21st, this time to arrange for a voyage to the interior.

After detailed preparations he left Port Natal on October 7th, accompanied by DORIS POTGIETER, WILLEM NELL and two native servants. He had loaded his equipment on an ox wagon. The party took six days to reach Pietermaritzburg. They climbed the slopes northwest of the town and admired the scenery. On the road northwestwards they waded the Umgeni River on Oct. 15th and WAHLBERG saw the Drakensbergen blue in the distance. Next day he waded the Mooie River and pushed on to the Bushmans River, at present Estcourt. The way was rough and driving hard, so he stopped to rest and to make collections at the river. Passing