

where we could obtain more. The expedition returned to Singapore on September 5th.

The failure to reach Gunong Tahan was due chiefly to the failure of the commissariat. Food for two months was taken, the time allotted by government, which was exceeded owing to the great difficulties of the route. The amount that the coolies can carry through this jungle is very small. Two men can carry little more than food for thirty men for one day, so that for ten days, out of thirty men twenty are required to carry food for themselves, and only ten remain for the baggage.

I shall hope soon to try the expedition again, taking the same route, but sending a plentiful supply of provision forward as far as the Tenok river, and making a headquarters store there.

The route was mapped by Lient. Kelsall, and a copy is appended. Although the two chief plant collectors were ill during the most important part of the expedition, with the aid of the third I succeeded in obtaining a large series of herbarium specimens, over 2000, besides live plants, cuttings, and seeds. An account of these will shortly be published. In the zoological collections many birds, including several new species, a small number of mammals, chiefly squirrels, and insectivora, a good number of insects, reptiles, fish, mollusca, &c., were obtained. Several nests and eggs hitherto unknown were also obtained.

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*Emin Pasha's Expedition to Lake Albert Edward and  
Lake Albert.*

THE latest telegrams announce the safe return of Emin Pasha to Bukoba, on the Victoria Nyanza, from his journey to the Lake Albert Edward Nyanza and the Equatorial Province. A preliminary account of this important expedition is contributed to the June number of Petermann's 'Mitteilungen,' by Dr. F. Stuhlmann, who accompanied Emin. The object of the expedition was twofold: first, to ascertain whether the Lake Albert Edward extended to 1° south latitude, and to explore the country in the vicinity of the lake; and secondly, to open up communications with Emin's people, who had, it was understood, wandered south-westwards from Wadelai. On March 22nd, 1891, Emin left Kafuro, followed on April 1st by Dr. Stuhlmann with the rest of the caravan. The general direction of the route was north-north-west. At Kivona, Stanley's route was left to the east, and the party descended to a valley plain about 4130 feet high, which swarmed with rhinoceroses; to the north of this plain are two small lakes without outlets. Nearly all the mountain ranges which were now crossed slope away gently to the west, but abruptly and with precipitous rocks to the east. Descending into the plain of the Kagera River, a halt was made at

Kavinyo, on the banks of the stream, here about 30 yards broad, to enable the two sections of the caravan to unite. The march to the lake was then continued through the mountains of Mpororo, which consist of primitive slate and granite; the intervening valleys everywhere contain papyrus swamps. Proceeding in a general north-west direction across several mountain ranges, from one of which a glimpse of a snowy range to the north (probably Ruwenzori) was obtained, the party reached Katanye on April 30th, having passed on the borders of Ruhanda a small lake (Ruaketenye), situated in a broad valley.

After crossing the high mountain range, Kyenkezi was reached, and then, in a few days' march, the River Ruchuru, which flows out of a broad savannah-covered southern valley into the Lake Albert Edward, where a few hours later the party arrived, and halted at Vichumbi, at the south-west end of the lake ( $0^{\circ} 44' S.$ ). Vichumbi is a place of some 2000 inhabitants, which carries on the trade with Usongora by boat, and with Ruhanda by land. The lake contains neither crocodiles nor aetheria. Its altitude above the sea is 2850 feet. The whole country to the south of the lake, here called Ngezi,\* is a flat savannah. Down the south-western end two broad plains stretch away to the south, both being separated from Buitwa by the Kasali Mountains. The eastern plain, which is the larger of the two, is watered by the Ruchuru, and the other by the Ruanda River. The former plain is bounded on the east by the lofty mountains of Butumbi, Mpimbi, and Mpororo, and on the south by a low hilly region, from which rise isolated cones with steep and rugged sides. The most easterly of these summits is designated "Mfumbiro" by the Waganda and the people of Karagwe. These peaks, of which there are six, stretch to west-south-west from about  $30^{\circ} 0' E.$  long., and are undoubtedly volcanic. The highest, Kisigali, is also the most precipitous, and Dr. Stuhlmann estimated its altitude at about 13,000 feet.

The most distant and westerly of the volcanoes, viz., Virunyo Viagongo, is, according to all the native reports, still active; it lies in the district of Ruhanda, and the others belong to Mpororo. This interesting region, containing the head-waters of the Ruchuru flowing to the north, and apparently those of the Kagera flowing to the south, is probably well watered and rich in vegetation, and presents a fine field for future exploration. The most southerly point of the lake lies at the present time at  $0^{\circ} 45' S.$  (lat.), but it appears to vary very considerably, according to the rainfall. The people of Vichumbi state that their parents were obliged to build their huts close up to the mountains on the west. On May 15th the march was continued round the south-west and

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\* "Ngezi" merely means river, or small lake. According to Mr. Stanley, Beatrice Gulf is called Ngezi (Ingezi), the lake itself being known as "Ruweru," Muta Nzige, or Nyanza of Usongora. Casati has Ruitan Nzige.—E. G. R.



up the western coasts of the lake; the mountains gradually approach the shores, and finally in the north slope almost perpendicularly down to the water's edge. At Kirima, a little to the west of the debouchure of the Semliki (here named Isango), the expedition left the lake, and struck across the steppe country to the mountains on the west, but, later on, turned to the north-east, partly to avoid the great bend of the Isango, which is bordered by virgin forest, and partly to explore the snow mountains on the other side of the stream; and after crossing the Isango on June 3rd, here about 60 yards broad, and  $1\frac{1}{2}$  to 3 feet deep, arrived at Karevia (3850 feet), at the foot of the mountains, and the outlet of the Butagu valley.\* In the steppe bush of the Isango plain numerous elephants were seen, the first which had been met with by the expedition since leaving the coast. Dr. Stuhlmann made several attempts, during the next twelve days, to ascend the mountain, but could not reach the snow-line, as his men suffered so much from the cold. The highest point attained was about 12,500 feet. The mountain is composed for the most part of mica-slate and partly of old granitic eruptive rocks, and appears to consist of a number of parallel chains running north-north-west and south-south-east; but the observations made, when worked out, will reveal more exactly the construction of this great mountain mass.

Dr. Stuhlmann distinguishes the following belts of vegetation:—

1. Bananas; high grasses (*Panicææ*): 3850 to 5350 feet.
2. Colocasia and beans cultivated; high grasses; upper limit of settlements: 5350 to 6700 feet.
3. Deciduous forest; in its upper parts *Erica*, mixed with bamboos: 6700 to 8530 feet.
4. *Erica* forest, with bogs; species of *Vaccinium*: 8530 to 11,800 feet.
5. *Erica* bushes; *Rhynchopetalum* (6700 to 12,800 feet); tree-ferns; *Senecio* (10,200 to 12,500); *Helichrysum*, a little grass, mosses, lichens: 11,800 to 12,500 feet.

The snow-line was estimated at about 13,000 feet.

At a day's march north of Karevia the party entered the forest region, and continued along the eastern side of the Isango-Semliki valley, crossing the stream somewhat above Stanley's point, and then striking in a due northerly course through Mboga Land. The Lu, or Lulu, which waters the country, and is traced on Stanley's map to the Ituri, should, according to the natives, flow into the Semliki. In this region several encounters took place with Kabrega's people. At Undusuma, a camp was pitched from July 20th to August 10th, and communications were opened up with the Sudanese who had settled

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\* The Butagu (Butahu) Valley is shown on Stanley's map. Captain Lugard was there at the end of July looking for German flags, but found none.—E. G. R.

between Kavalli's and Mpigwa's.\* Dr. Stuhlmann briefly narrates the events which took place in Wadelai after Emin left, and describes the present condition of affairs in that region. Fadl el Mulla has established himself at Wadelai, and appears to make common cause with the Mahdists, whose headquarters are in Makaraka. Selim Bey was encamped at Kavalli's. He discovered, accidentally, the ammunition buried by Mr. Stanley. The steamers have been sunk, the country of the Lur has been wasted, and the inhabitants are, moreover, being harassed by slave-raiders from the Congo State. From Undusuma—the expedition marched to the north-west, across the River Duki, a tributary of the Ituri, then northwards over a plateau down to the forest bordering the Ituri River, which here flows almost due south, and contains numerous rapids. The travellers followed the Ituri up to the borders of the Wavira country, about  $1^{\circ} 50'$  N. lat., and then intended to penetrate into the unknown region to the north-west, but were prevented by the hostile attitude of the natives. The slave-raiding Manyema hordes of the Arab Selim-bin-Abed from Nyangwe had devastated the whole country. It was therefore decided to return across the Ituri.

The journey was then continued to the east, through the territory of the Wambuba, into the grass region of Lendu, and finally to the north through a country watered by numerous deep-bedded streams, which unite to form the Abumbi, an important head-stream of the Ituri. Somewhere about  $2^{\circ} 13'$  N. the border of the Momvu country was reached; but as the whole country had been laid waste by the Manyema, and there was no guide to be had, or prospect of obtaining food, Emin reluctantly decided on September 30th to beat a retreat. A native who could speak Momvu assured the party that in three days' march they would come to a great River Tsili, which would have to be crossed in boats, and on the other side of it to the Momvu district of Moba, containing much cattle, then in two or three days to the River Andemari—the latter must be the Bomokandi.

Dr. Stuhlmann puts the head-waters of the Ituri at about  $2^{\circ} 40'$  N. lat. and  $30^{\circ} 20'$  E. long., but those of the Bomokandi much more to the north. Distant mountain ranges, seen from the most northern point attained by the expedition, may be regarded, according to him, as the watershed between the two streams. It should be stated, in connection with the decision to retreat, that the expedition was encumbered with a number of women and children, who were among the 182 Sudanese who joined the expedition of their own accord at

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\* During Emin Pasha's absence in the north, Captain Lugard arrived at Kavalli's, and took away with him Selim Bey and the rest of the Egyptians. Three hundred of these have since reached the coast, whilst others garrison Forts George and Edward, near the Albert Edward Nyanza.—E. G. R.

Undusuma. The return journey through Lendu land to the slope of the Lendu table-land, and then south, was attended with great privations and difficulties. The party finally crossed the Duki at Bilippi ( $1^{\circ} 32' N.$ ), and arrived again in Undusuma on November 12th, where the caravan, exhausted by hunger, wounds, and smallpox, halted for some time. As regards the hydrography of this region, the Ituri flows almost due south, and receives most of its tributaries from the east. Here is to be seen one of the elongated depressions which are so characteristic of the orography of Eastern Africa, although the rocks do not belong to the primitive slate formation, but are of eruptive origin.

The Duki also flows from the north or north-west. The same parallelism is noticeable in the case of the Dui and Ihuru, discovered by Stanley. The Lendu plateau is a rolling upland of from 4000 to 5000 feet, with rounded hills and ridges rising from it; its slopes to the east and west are very steep. On the south-west it is separated from the Walegga high land by the Duki Valley; but eastward, near the lake, the two are connected. From the south-west a flat upland extends, forming the watershed between the Ituri and the Lu. Dr. Stuhlmann made a short excursion to the Albert Nyanza. The lake has shrunk again considerably, so that Kassenya and Nyamsasi have become peninsulas, and a number of sandbanks have appeared. The Semliki flows into the lake much further to the west than shown by Stanley. Owing to the continued sickness in the caravan, Emin, who was himself ill, and almost blind, decided to remain for some time longer at Undusuma, but directed Dr. Stuhlmann to push on with the healthy members of the party. On December 10th Dr. Stuhlmann left Undusuma, and marched along practically the same route as before to Kiriama, then down the west bank of the Semliki to Kinyawanga ( $0^{\circ} 27' N.$ ), where he pitched a camp close to the forest boundary, intending to await Emin's arrival. However, Emin not having arrived by January 15th, and there being no tidings of him, Dr. Stuhlmann, acting on instructions, pushed on as fast as possible in the direction of Bukoba. On January 26th he arrived at Vichumbi, at the south of Lake Albert Edward, and finally, by a more southerly but more difficult route than on the outward journey, reached Bukoba on February 15th. On the way through Mpororo he caught a glimpse of the so-called "Mfumbiro," named "Virungo" by the natives of Mpororo; he estimates its altitude at 11,500 feet. All the rivers from the region flow into Lake Albert Edward; the most important of them is the Isasi. There are some interesting notes in Dr. Stuhlmann's article on the ethnography of the region traversed.

Bantu tribes appear to extend as far north as the Upper Ituri, where the Wavira occupy both banks of that river. They, as well as their neighbours, the Wandumba and the Babusese, as also the Wakumu, lower down on the Ituri, are collectively known as

Wasongorà, from their custom of filing the teeth to a point. The people of Unyavongo, to the west of Ruhanda, are also said to be Bantu, and to speak a language akin to that of the Warundi, on Lake Tanganyika.

Non-Bantu tribes, or "negroes," occupy a far larger area than the Bantu. The Walegga, according to Dr. Stuhlmann, are the descendants of the Wichwezi, who were driven out of Unyoro. They call themselves Drúgu, and are kin of the people of Lendu (the Drudu), the Wamonfa, the Logo, Kalika, Lubari, and Madi. The Momvu have kinsmen in the Walese (on the Ituri), and the Wambuba (west of the Semliki). The Walumbi, to the west of the Wakonjo, on the Lindi, are related to the Mangbatu. The Wahóko, a forest tribe on both banks of the Ituri and on the Semliki, are likewise described as "negroes." Further south, the Wakonjo occupy an extensive region to the west of the Semliki and the Albert Edward Nyanza. The Wawamba, to the east of the Semliki, are their kinsmen, as is also the bulk of the population of Butumbi and Western Mpororo (the Walenga, Wajerra, and Wasigáwa), and the aborigines of Ruhanda.

The Wahuma are the "royal" tribe in most of these territories. In eastern Mpororo they are known as Wasambo; in Western Mpororo as Ruhayàna; in Ruhanda, or Unyavungo, as Waima or Wanyavingi (according to Stanley).

Lastly, there are the dwarfish tribes, whose chief centre appears to be the forests in the Upper Ituri, although they are found also further to the south or the west of the Wakonjo. To the Walese and Momvu they are known as Efe; to the Wavera as Baiswa; to the Walumbi as Akka; to the Wanyoro as Watua; and to the Wakonjo as Wasumbo.

The details of the results of this important expedition will be awaited with interest.

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### *The Beni Amer Country.*

THE Governor-General of the Red Sea Littoral, Lewa Holled Smith, C.B., and Bimbashi Reginald S. Curtis, Superintending Engineer of the Suakin District, made a journey into the Beni Amer country in February, 1892. The reports of both officers, with the accompanying map, here reproduced on a smaller scale, are important contributions to the geography of the little-known country lying back from the Red Sea coast. The journey was made on camels, and the jarring of the aneroids by the motion prevents the heights recorded from being as accurate as they might otherwise be.

On February 4th a landing was made at Akik-el-Sogheir, where there is a good harbour and a village of about 300 inhabitants, chiefly fishers and herdsmen. A road running across a plain covered with tall