

ORUBARE GLACIER - UGANDA

00.50°N 29.85°E

The Orubare Glacier covers a face of Uganda's Mount Rwenzori (Bantu for 'Rainmaker') standing on the border with the Democratic Republic of Congo, marked by the Rwenzori Range. Mount

Rwenzori, also called Mount Stanley, reaches 5109 metres and is the third highest point in Africa. The Orubare ('Snow' in Bantu) glacier, also known as Elena, drains southeast into Lakes George and Edward, then back northward through the Semliki River at the foot of the Virunga National Park of the Democratic Republic of Congo to Lake Albert and the White Nile. There are currently six peaks in the Rwenzori Range with glaciers-totalling five square kilometres at most.

The glaciers of the Rwenzori are very difficult to monitor by satellite because the cloud cover remains dense throughout the year. The region is remote and efforts to study the unique combination of climatological influences are sporadic. An initial survey of the area in 1949 was followed by nearly two decades of monitoring which ended abruptly in 1967 during political turmoil that lasted for more than a decade. During the 1980s, baseline biodiversity surveys listed many plants unique to the Rwenzori and many more plants and animals that are limited in range to the Great Rift high montane environment. Today the retreating glaciers are studied by Georg Kaser at the University of Innsbruck.

As scientists revisit the surveys and maps produced by earlier expeditions they find that the glaciers are more numerous but not because snowcover is increasing. Instead the numbers increase because the glaciers are breaking into smaller patches with less total area. For instance, our 1906 photograph shows one large glacier on Mount Rwenzori. A compilation drawn up in 1984 indicates four smaller glaciers on that face, still fairly evident in the 1994 photograph.

The Rwenzori are mountains of myth and legend. Ancient naturalists believed that the source of the Nile lay in the snow-capped Mountains of the Moon. During the second century, Claudius Ptolemy described a map projection that placed the "Lune Mons" far to the south of the equator. Subsequent map makers followed his directions until well into the 19th century: An 1823 map brings the Mountains of the Moon north of the equator but stretches them from the Sudan across the Sahel to Cote d'Ivoire. Their existence was finally verified by Henry Morton Stanley's documentation in 1888 and photographs were taken from afar in 1891. The mountains were more thoroughly explored in 1906 by the Duke of Abruzzi who brought renowned mountain photographer Vittorio Sella with him to visually record the moonglow beauty of these truly wondrous mountain glaciers.

The remarkable result of Rwenzori's perennially wet, high elevation is the proximity of ice to the lush vegetation. The western side of the Great Rift Valley is a series of northeast- southwest trending blocks that are tilted with a gentler slope to the east and the steep side to the west. In this region the steep side plunges down through the Virunga to the Semliki and shelters the



V. Sella, courtesy of the Fondazione Sella



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mountain gorilla within its cloud forest. The whole complex catchment basin is vitally important to densely populated Uganda, supplying 500,000 people with water--the discharge through Lake Albert to the Nile is that river's most consistent supply.

In 1906, Abruzzi and his party observed the glaciers were retreating rapidly from adjacent moraines--sandy, rocky ridges--that marked greater areas and volumes of ice. The process continues: There are three major areas of glaciation in Africa, all lying close to the equator--the Rwenzori, Mount Kenya, and Mount Kilimanjaro. In 1987's "Glaciers of Africa", the scientific judgement stated, "There has been substantial and virtually continuous wastage of the glacier ice for more than 100 years". But the moisture surrounding Orubare and the other Rwenzori glaciers gives them a longer life span than their sisters on Mount Kenya and Kilimanjaro--those glaciers are simply evaporating faster than they can accumulate.

The rich biodiversity characterising both slopes of the Mountains of the Moon--the Rwenzori in Uganda and the Virunga in the Democratic Republic of Congo--are still sustained by the 'Rainmaker' capacity of the high elevation catching moisture from regional monsoon patterns. But there is no guarantee that the climate will stay the same in this corner of Africa while the greater patterns surrounding these Great Rift highlands adjust to greater concentrations of greenhouse gases in the Earth's atmosphere. Optimistic East African governments and Western aid agencies have great hopes of installing hydropower facilities and engineering efficient canals to harness the potential of the White Nile's consistent upstream discharge. If the monsoons adopt different patterns--a process some suggest is already underway along the earth's mid-latitudes--such schemes will remain on the drawing board. And the unmatched biodiversity in these mysterious heights may soon show 'substantial wastage' that will devastate the region for more than the next 100 years.

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