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## THE BRENVA GLACIER (MT. BLANC, ALPS) HAS LOST ITS GREAT VALLEY TONGUE

**ABSTRACT:** CERUTTI A.V., *The Brenva Glacier (Mt. Blanc, Alps) has lost its valley tongue.* (IT ISSN 1724-4757, 2005).

The Brenva Glacier, one of the largest and most well known glaciers of Italy, has lost its valley tongue. In September 2004 there was the complete depletion of the flow of seracs which had joined the upper basin to the valley tongue, which was longer than 3 km. On the valley bottom of the Val Veny there now remains a large mass of ice, whilst the active front of the Glacier has settled at 2350 m a.s.l., about 1000 m higher. The Brenva Glacier has become a glacial cirque. Already subject to strong fluctuations in the Holocene, the frontal variations have always shown a strict relation with meteorological recordings. This is the most typical case of the strong contraction being undergone by the alpine glaciers. (KEY WORDS: Deglaciation, Brenva Glacier, Alps).

**RIASSUNTO:** CERUTTI A.V., *Il Ghiacciaio della Brenva (M. Bianco, Alpi) ha perduto la sua lingua valliva.* (IT ISSN 1724-4757, 2005).

Il Ghiacciaio della Brenva, uno dei più grandi e conosciuti ghiacciai delle Alpi, ha perduto la sua lingua valliva. Nel Settembre 2004 si è esaurita la colata di seracchi che congiungeva l'alto bacino con la sottostante lingua valliva, che era lunga più di 3 km. Sul fondo della Val Veny resta una grande massa di ghiaccio, mentre la fronte attiva del Ghiacciaio si è posizionata a 2350 m s.l.m., circa 1000 m più in alto. Il Ghiacciaio della Brenva è divenuto un ghiacciaio di circo. Già soggetto a forti fluttuazioni nell'Olocene, le variazioni frontali hanno sempre mostrato una stretta relazione con le registrazioni meteorologiche. È questo il caso più emblematico della fortissima contrazione dei ghiacciai alpini. (TERMINI CHIAVE: Deglaciazione, Ghiacciaio della Brenva, Alpi).

The most typical case regarding linear and volumetric contractions occurring in recent years to glacial bodies is that of the Brenva, one of the largest and most well known glaciers of Italy.

In September 2004 there was the disappearance of the flow of seracs that joined the high basin to the valley tongue below: the two sectors are now completely split and in this way the Brenva has lost its typical valley glacier features which had characterised the body for centuries.

The highest point of this glacier is the summit of Mt. Blanc and therefore its source basin is at a very high altitude: about 350 hectares of the glacial body is at an altitude greater than the average limit of the perpetual snows. Exposed to the humid Atlantic winds, the area receives a great quantity of solid precipitation, amounting to an equivalent of 3000 mm of water. The volume of ice forming in the glacier, until a short time ago, was able to supply

a glacial system with a surface area of almost 800 hectares with a valley tongue extending down into the bottom of the Val Veny, at an altitude of less than 1400 m a.s.l., the lowest of the glaciers on the Italian side of the Alps.

The valley tongue was about three kilometres long, with a mean width of 400 metres, well supplied also in the recent past. Between 1960 and 1988 the ice flowed at about 50 metres per year and despite the strong melting due to its low altitude, it maintained a considerable linear and volumetric expansion. This was assessed by Corrado Lesca as a mean annual increase corresponding to around three million cubic metres of water.

The feeding of the valley sector was guaranteed by large falls of seracs which descended from the high basin along the steep walls of the *Pierre a Moulin*, the great rocky crag that marked the boundary of the bed of the valley tongue. This crag until recently had the appearance of a *rocky window* surrounded on all sides by impressive glacial lobes.

These large seracs began their depletion towards the end of the 1980s when the new climatic warming phase

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