

## TWINNED PHILLIPSITE CRYSTALS IN THE BASALTS OF THE TÁTIKA GROUP, BALATON HIGHLAND, HUNGARY

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We studied twinned phillipsite crystals from cavities of young alkaline basalts of the western part of the Bakony–Balaton Highlands Volcanic Field (BBHVF), Hungary. This mineralisation is characterised by zeolites, carbonates and smectites.

Pliocene volcanic rocks are found on the northern part of the Keszthely Mts. These rocks are separated from the main volcanic zone of the Balaton Highland and form a distinctive cluster. The volcanic rocks in this area form a north-west to south-east trending zone. The immediate pre-volcanic rocks are Neogene siliciclastic siltstones, sandstones, silt and sand. Pyroclastic rocks crop out in large volumes only at the Uza locality, and in smaller volumes on Tátika Hill. The other localities show only basanite. The mountains are a shallow subsurface sill and dyke complex (MARTIN & NÉMETH, 2004). The ages of the lava flows are among the youngest of the Pliocene intraplate volcanic rocks in the western Pannonian Basin and range between 3,4 to 2,7 My (BALOGH *et al.*, 1986).

Phillipsite forms pseudo-orthorhombic twinned prismatic crystals, commonly elongated along the *a*-axis. Blocky, equant crystals and radiating aggregates are common. Some of the twins imitate a tetragonal prism.

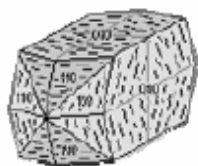
Phillipsite always forms complex penetration twins. Untwinned phillipsite crystals have not been found. The complex interpenetration twinning of phillipsite was classified by LACROIX (1897) to include the Morvenite twin, Marburg twin, Perier twin and Stempel twin according to the dominant habits.

The first studies on phillipsite from Hungarian localities go back to the first decades of the 20<sup>th</sup> century. Twinned phillipsite crystals were first described by LIFFA (1914) from the Badacsony Hill at Badacsonytomaj. Later complex phillipsite twins were identified by MAURITZ (1929, 1931, 1955) and ERDÉLYI (1941) from Hermántó Hill at Zalasántó, Uza quarry at Lesenceistvánd, Kovácsi Hill at Vindornyaszőlős, Prága Hill at Bazsi and Sarvally Hill at Sümeg but they have never been classified into the groups of LACROIX.

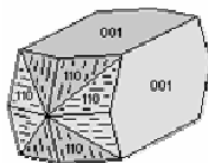
In this work we identified by binocular microscopy some types of phillipsite twins (Marburg, Perier and Stempel twins).

### References

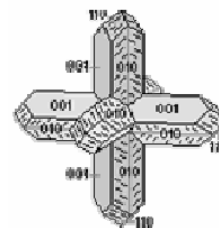
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Marburg twin



Perier twin



Stempel twin