



## **SHRIMP evidence for complex pre-Variscan history in the Western Bohemian Massif**

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Zircons from three orthogneiss complexes and a Sill-granitoid from the Saxothuringian-Moldanubian transition zone (Western Bohemian Massif) were studied using SHRIMP-RG. The results suggest a complex pre-Variscan magmatic and metamorphic history for the rocks in this area. Conventional U-Pb analyses of zircon from the Saxothuringian-Moldanubian transition zone often result in extremely discordant ages influenced by lead loss, high common lead contents, and uranium gain. Hence, conventional U-Pb age determinations should be used with caution. The new SHRIMP data provide more insight into the complex age pattern of the zircon populations from the Saxothuringian-Moldanubian transition zone. SHRIMP-U-Pb ages show a widespread distribution between 200 Ma and 3200 Ma. For the Saxothuringian orthogneisses, main age peaks at approximately 470 Ma and 520 Ma reflect the last magmatic stages and emplacement of those rocks. Two major older age peaks reflect an earlier magmatic stage at approximately 570 Ma and an inherited magmatic event at about 630 Ma. An additional small amount of older inherited zircons suggest previous magmatic events at approximately 1000 Ma, 1950 Ma and 2500 Ma. The age pattern of the Moldanubian rocks is far more complex. While the last magmatic stage of the investigated orthogneiss at approximately 530 Ma falls in the range of magmatic events in the Saxothuringian, the intrusion age of the sill-granitoid 319 Ma ago reflects Variscan emplacement. Cores of Moldanubian zircons dating 700 Ma to 3200 Ma reflect inherited earlier crustal events. Variscan LP/HT metamorphism was followed by late stage hydrothermal activity, which is believed to be responsible for lead loss and apparent ages between 330 and 200 Ma.