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## The 3.9 km-thick Carboniferous-Permian Brécyc Basin (SW Paris Basin, France), a missing link between late Variscan basins in southern and northern Europe

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From the end of the Carboniferous onwards, the over-thickened and hot Variscan crust collapsed (late-orogenic collapse), accompanied by the rise of high-grade metamorphic domes along low-angle detachment faults and the development of mainly half-graben or pull-apart type asymmetric intramountain coal basins.

These Carboniferous-Permian late orogenic basins widely developed around 300 Ma and were filled with siliciclastic continental material, accompanied by a widespread intrusive and extrusive magmatic activity. These basins crop out in the internal parts of the belt south of the Variscan Front in several limited locations in and around the Variscan basement of Western Europe (Massif Central, Vosges-Black Forest, Alps, Harz). They occur as small isolated and disconnected “basins” with incomplete sedimentary series. Their present-day area does not reflect their initial extent and thickness, which can be explored by studying their subsurface prolongation beneath their Meso-Cenozoic sedimentary covers.

We propose a geological overview of the late Variscan Carboniferous-Permian Brécyc basin (SW Paris basin, France), based on the reprocessing and interpretation of vintage seismic lines and related deep boreholes. We aim (i) to discuss its sedimentary filling, which is hidden beneath the Meso-Cenozoic cover of the Paris basin, (ii) to present thickness maps of its 3.9 km-thick sedimentary filling, and (iii) to describe its structural extensional features related to a syn- to post-rift tectonic scenario. We finally compared our new results to other Carboniferous-Permian deposits in France (to discuss its lateral correlation with neighboring basins) and northwest Europe, suggesting that the Brécyc Basin may represent - due to its thickness and location - a missing link between late Variscan basins in southern and northern Europe.