

## **From Triassic Sea to Cretaceous Orogen - The Austroalpine Sector of the Tethyan Shelf (Eastern Alps; Austria).**

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During Permo-Triassic to Early Jurassic times the Austroalpine region has been part of the Pangean continental margin, which was flanked by the Tethys ocean toward the southeast.

Sedimentation has started with evaporites and siliciclastics in Late Permian to Early Triassic. Middle to Late Triassic is characterized by extended reef-rimmed carbonate platforms and coeval basinal realms between, both occasionally influenced by terrigenous input from the European hinterland during Early Carnian and Latest Norian. The distal deeper shelf was the depositional site of Hallstatt-type facies, affected by syndimentary diapirism of Permian evaporites. The adjacent Tethyan oceanic realm is represented only as olistolites in small tectonic klippen, incorporated into the alpine nappe stack.

The Jurassic opening of the Penninic oceanic realm, coupled with the plate-tectonic birth of the Central Atlantic, has separated the Austroalpine realm as a part of the Apulian microcontinent from "Stable Europe". Penninic spreading was partly compensated by strike slip dissection of Apulia and compression/subduction of adjacent parts of the Tethyan ocean. The sedimentary sequence of the distal Austroalpine shelf became detached from its crystalline basement, forming the Juvavic System of nappes, olistolites and syntectonic clastics, gravitative transported toward the Austroalpine radiolarite basins in earliest Upper Jurassic. A cover of Late Jurassic to Early Cretaceous carbonates has sealed this first structural event.

Subsequent additional thrusting of "Austroalpine" (Hauterivian/ Barremian) and "Mediterranean" phases (Pre-Upper Turonian) led to a first mountain belt, a Cretaceous precursor of the today's Eastern Alps.