In Sicily, the onset of basin opening (Imerese-Sicanian) occurred during the Triassic. It was interposed between carbonate platforms (Panormide-Hyblean-Pelagian). In the basal deep-water sediments, lenses of olistostromes with olisholiths and basaltic extrusions related to crustal stretching were deposited at the basin margins. These olistoliths were derived from mass-wasting of the Late Permian-Lower Triassic carbonate platform. Late Triassic sedimentation (pelagic marls and limestones) suggests relatively quiet tectonic activity, followed by increased crustal stretching, as suggested by olistoliths of Lower Triassic clastic limestones embedded upwards. Jurassic-Early Cretaceous sedimentation is represented by deep-water siliceous marls and radiolarites, containing several horizons of carbonate turbidites and breccias derived from erosion of the fault-controlled basin flanks. From the beginning of Late Cretaceous, deposition of basin-plain marls and limestones indicates the mature stage of basin dynamics. Upward in the succesion, thick horizons of resedimented carbonate breccias are very common, indicating the onset of tectonic inversion, from pre-orogenic extension to the chain building.

Pentlandite mineralization related to Albanian Ophiolites

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The Jurassic ophiolites in Albania are characterized by several mineralization types including chromites, Fe-Ni-Cu sulfides and arsenides, Fe-Ti-minerals and minerals of the Platinum Group Elements (PGE). Pentlandite-bearing mineralization is related to upper mantle serpentinized harzburgites, chromitite deposits associated with upper mantle dunites, dunites of the supra-Moho zone, ultramafic-mafic intrusions (wehrlites, lherzolites, pyroxenites and gabbros) and to cumulate layered sequences of olivine-gabbros and gabbronorites. Pentlandite occurs in several mineral associations including Ni-bearing sulfides, Fe-Ni-Cu-Co-PGE-bearing sulfides and chromite + Ni-bearing sulfides + PGM. It accompanies chromite, olivine, pyrrhotite, chalcopyrite, cubanite, magnetite, native copper, valleriite, mackinawite, heazlewodite, millerite and PGM. The chemical composition of pentlandite (metal: sulfur ratios, Fe:Ni ratios and Co and PGE contents) is variable depending on the geological setting, mineral associations and textural relationships. It is suggested that the pentlandite-bearing mineralization hosted within chromitite deposits, related to upper mantle dunites and dunites of the supra-Moho zone, is of primary magmatic origin, but the one hosted within upper mantle serpentinized harzburgites, ultramafic-mafic intrusions and to cumulate layered sequences of olivine-gabbros and gabbronorites is genetically related to hydrothermal activity combined with serpentinization processes, which played an essential role for the remobilization of some elements from the host rocks and the transformation of primary sulfides and PGM.

Maastrichtian dinosaurs in SW Transylvania (Romania)

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Although the first dinosaur discoveries from the Transylvanian Basin were made at Bărăbanţ near Alba-Iulia as early as the end of the 19th century, the Latest Cretaceous Transylvanian dwarf dinosaurs gained their worldwide notoriety only after Baron F. Nopcsa reported his first discoveries in the Haţeg Basin. Nopcsa realized the dwarfing tendencies of these dinosaurs and related this tendency to their limited environment, which he called "the