

Subduction, Underplating, and Return Flow Recorded in the Cycladic Blueschist Unit exposed on Syros Island, Greece

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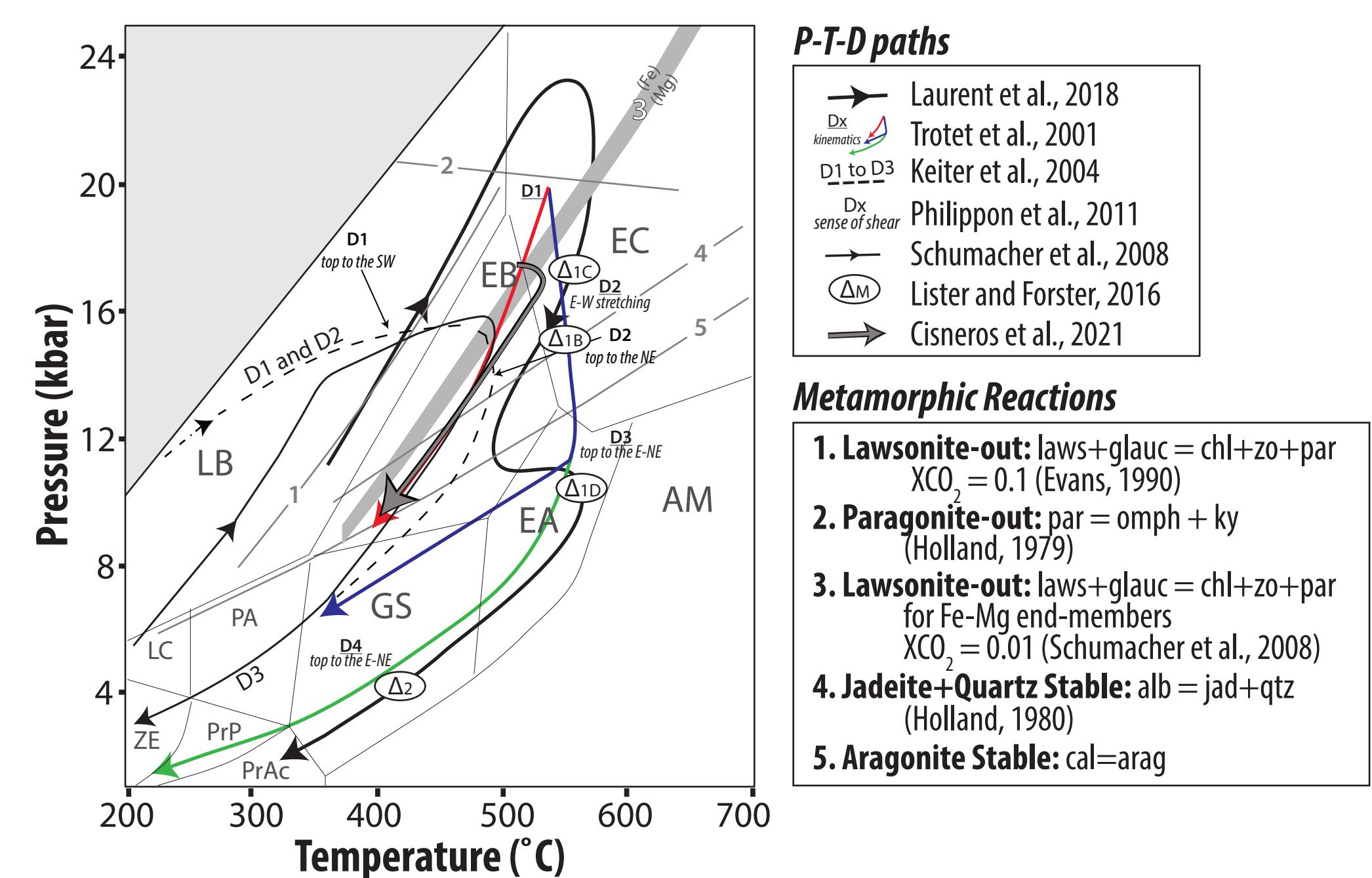


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1. Subduction P-T-D-t paths

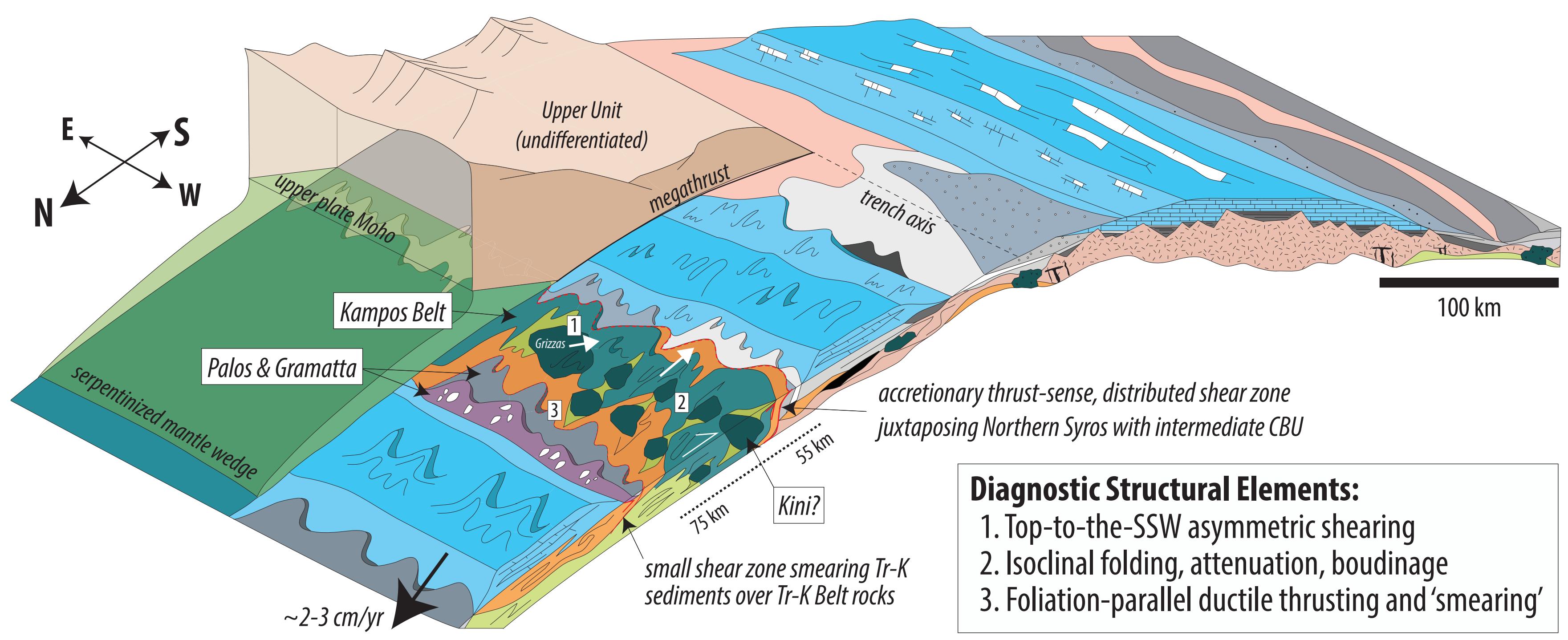
Deformation-metamorphism histories of exhumed subduction shear zones provide constraints on interface architecture and thermal structure.



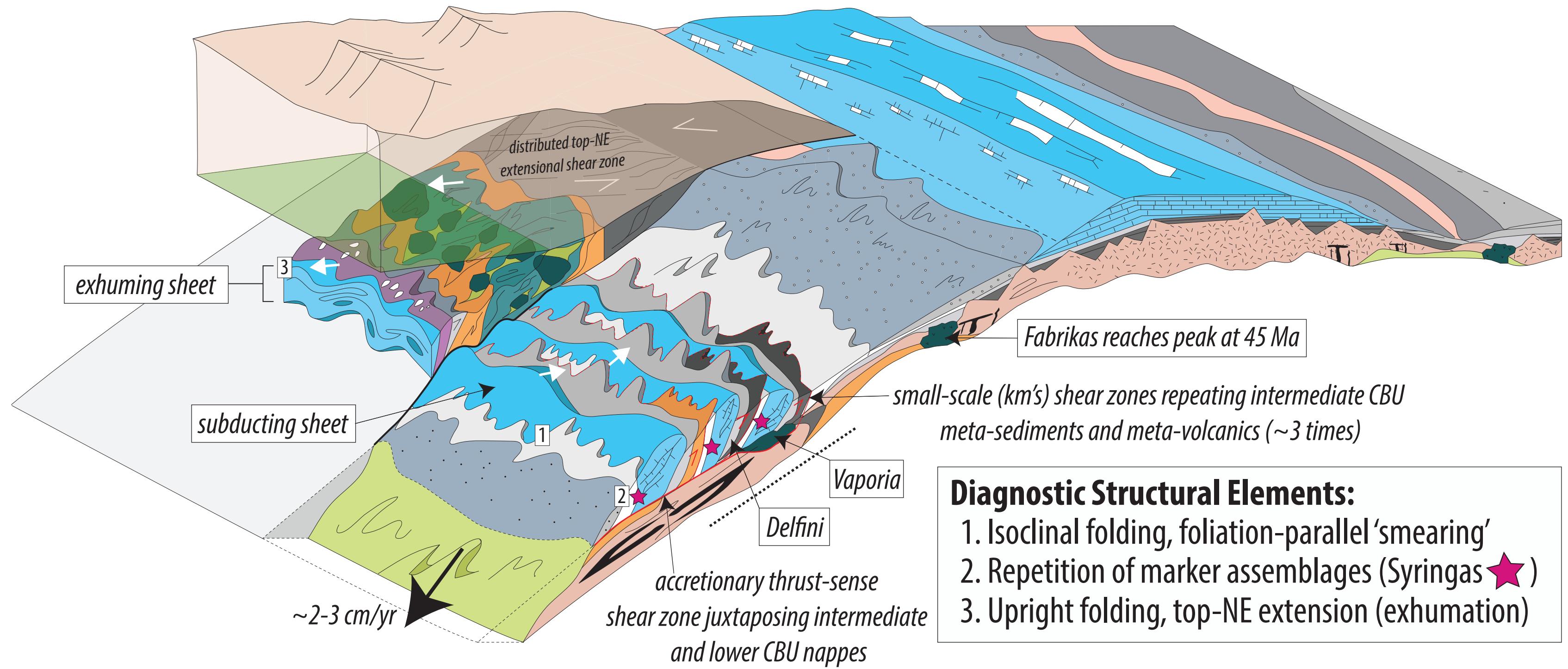
Rocks on Syros Island (Cyclades, Greece) record Eocene subduction to blueschist-eclogite facies conditions. The structural evolution, peak P-T, and timing of subduction-exhumation are debated, but crucial to understanding subduction interface processes.

4. Revised Tectonic Model for the CBU on Syros

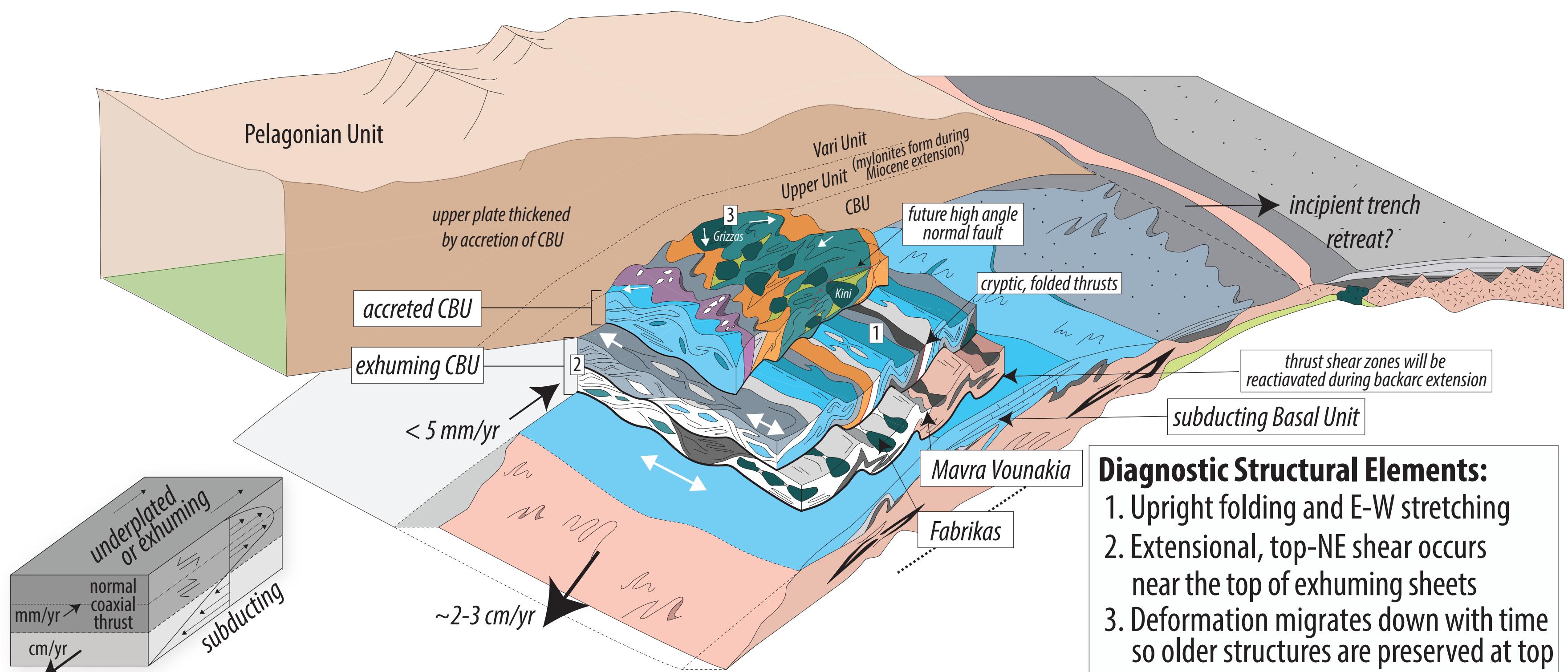
53 Ma - Subduction of the northern tectonic slice to peak conditions (Ds)



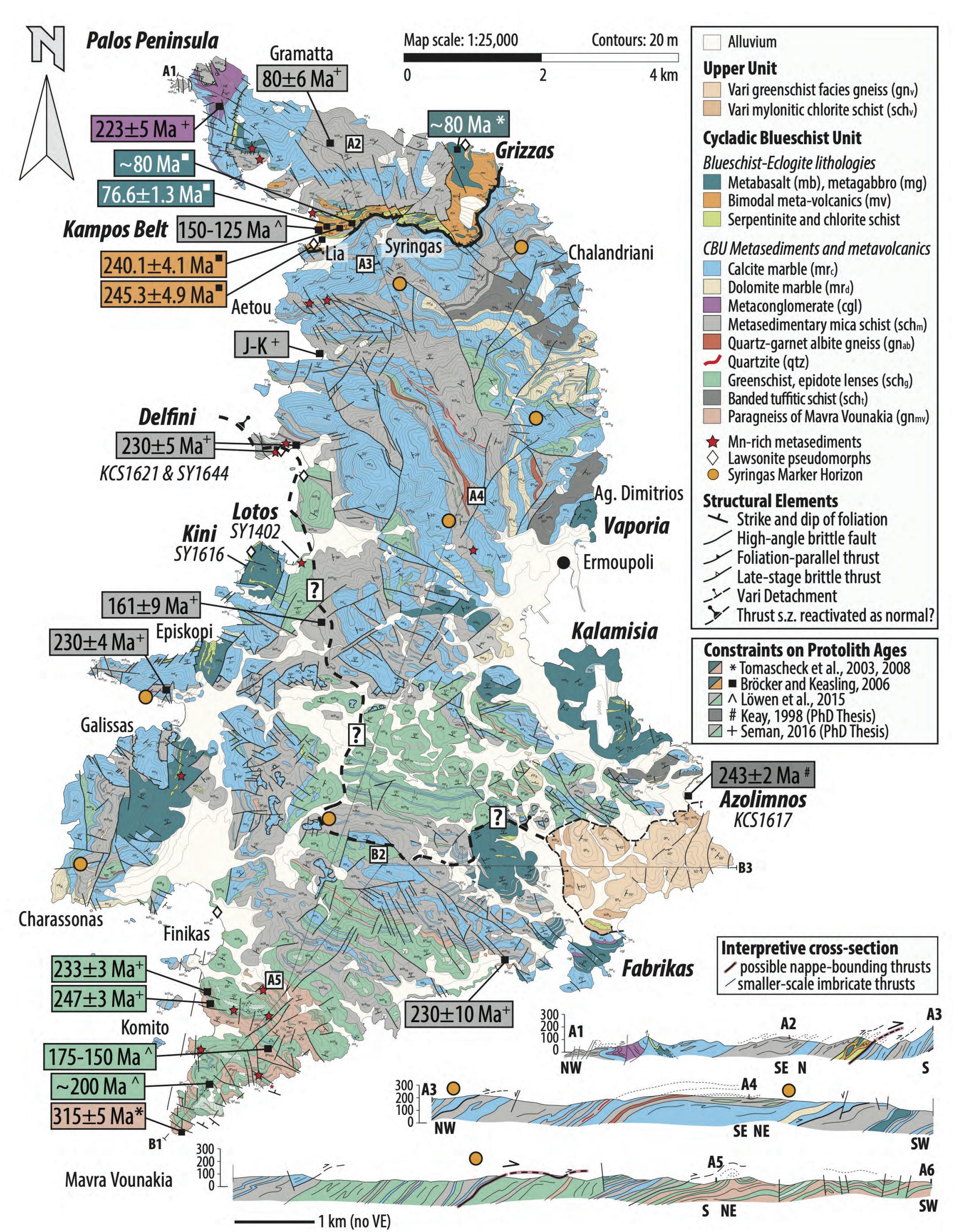
50 Ma - Imbrication of central slice (Ds) and exhumation of northern slice (Dt1)



36 Ma - Exhumation of central and southern slices (Dt2), strain localization towards base

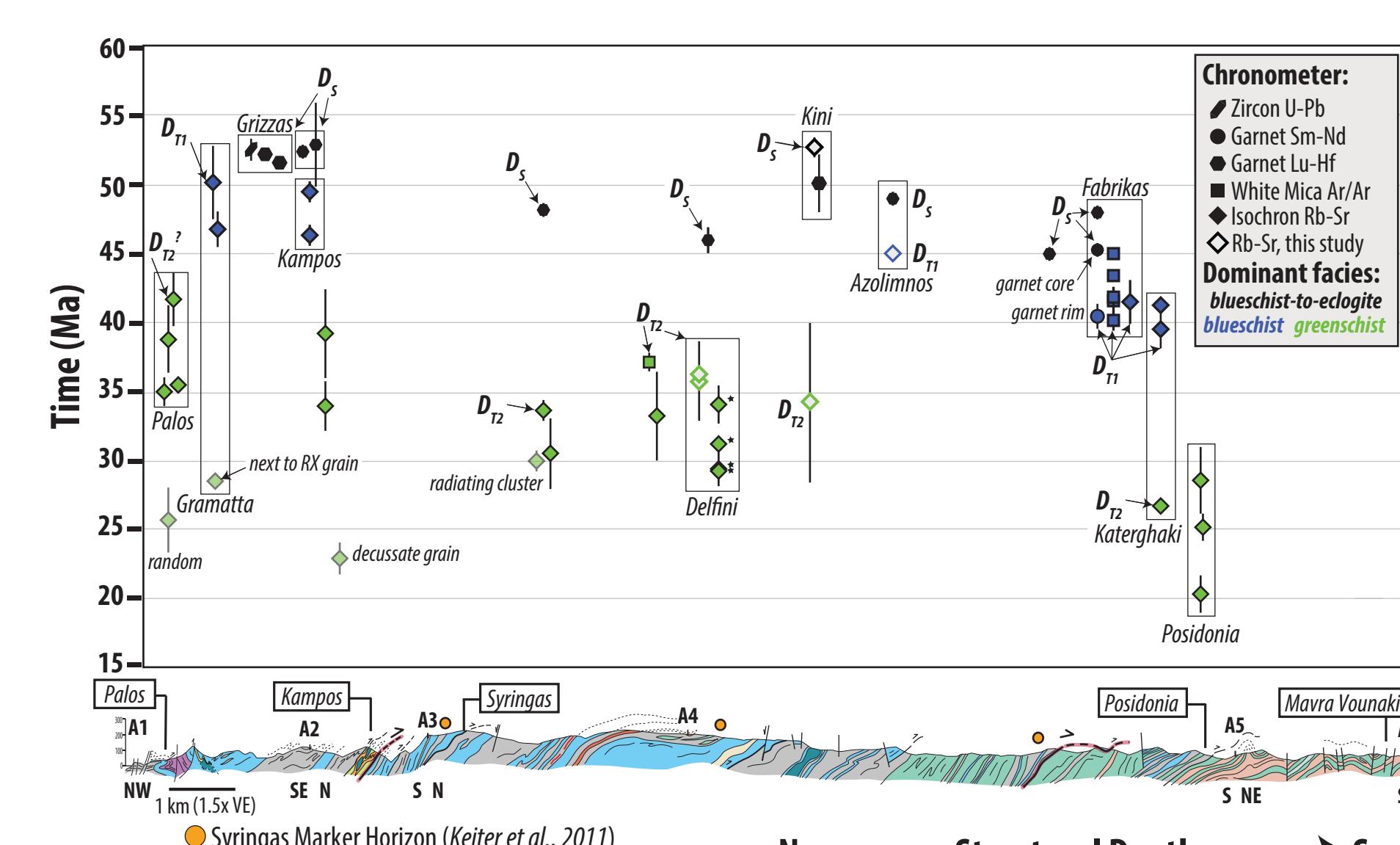
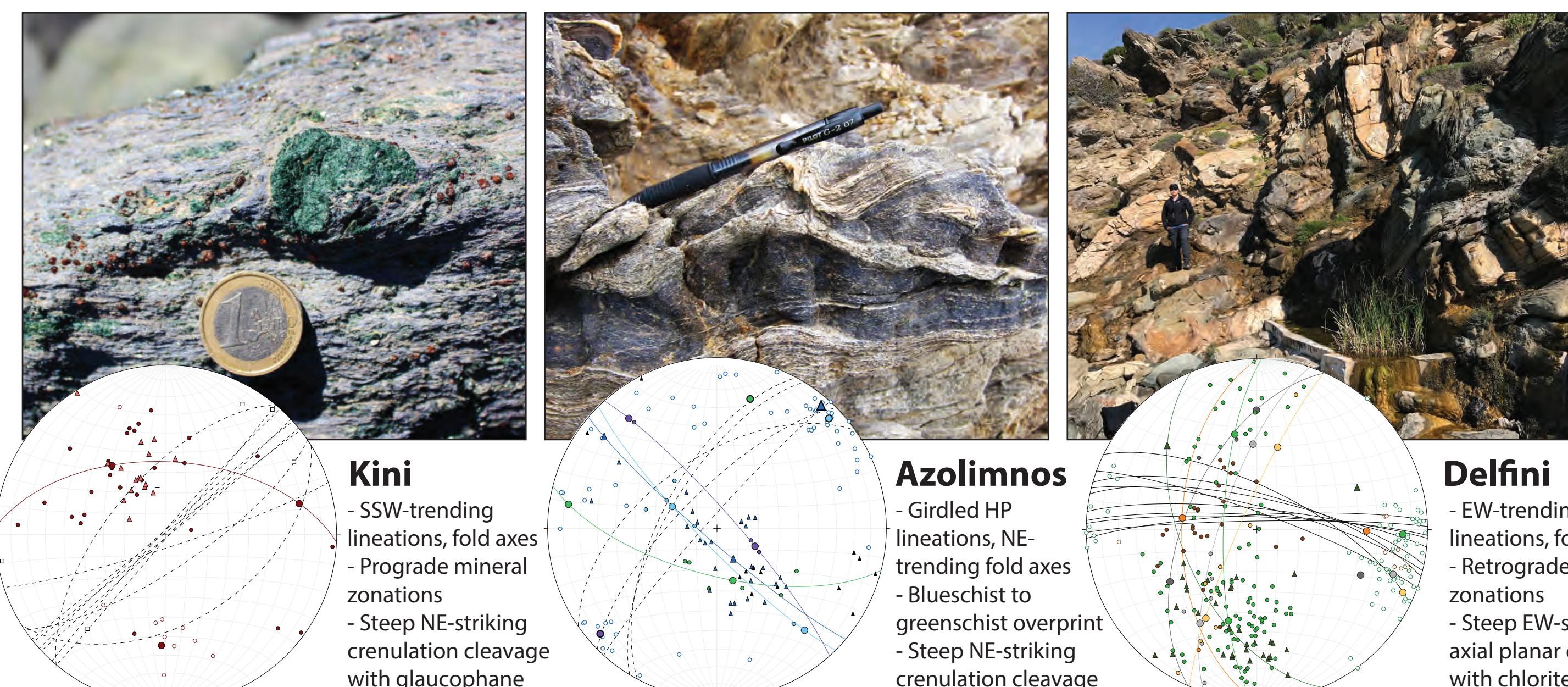


2. Geology of Syros Island



3. New structural, petrologic, and geochronologic constraints

Subduction and exhumation are marked by kinematic rotations and down-section younging of fabric development.



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