

Data Supplement item II for Ring et al. 2024

The Samail subduction zone dilemma: Geochronology of high-pressure rocks from the Saih Hatat window, Oman, reveals juxtaposition of two subduction zones with contrasting thermal histories. Earth Science-reviews

This figure accompanies Figure 7 in the main paper and provides an additional, geometrical feasible interpretation of the development of the major shear zones above and below the Ruwi Nappe. Figure II-1 is the basis for the interpretation in Figure 7b and c. The evolutionary steps duplicate the geometry and match the age data. The interpretation in Figure 7b and c is the only model that is geometrically feasible given the current data base.

Note that our structural interpretation of the Yenkit and Hamriyah shear zones, as well as the juxtaposition of the Yiti and Ruwi nappes have changed from Ring et al. (2023; Fig. 1d and Fig. 2) compared to the new interpretation presented in the main paper (Fig. 1d and Fig. 2).

Reference:

Ring, U., Glondy, J., Scharf, A., Hansman, R. (2023). Some like it cold: The conundrum of Samail revisited. *Tectonics*, *Tectonics*, 42, e2022TC007531, <https://doi.org/10.1029/2022TC007531>.

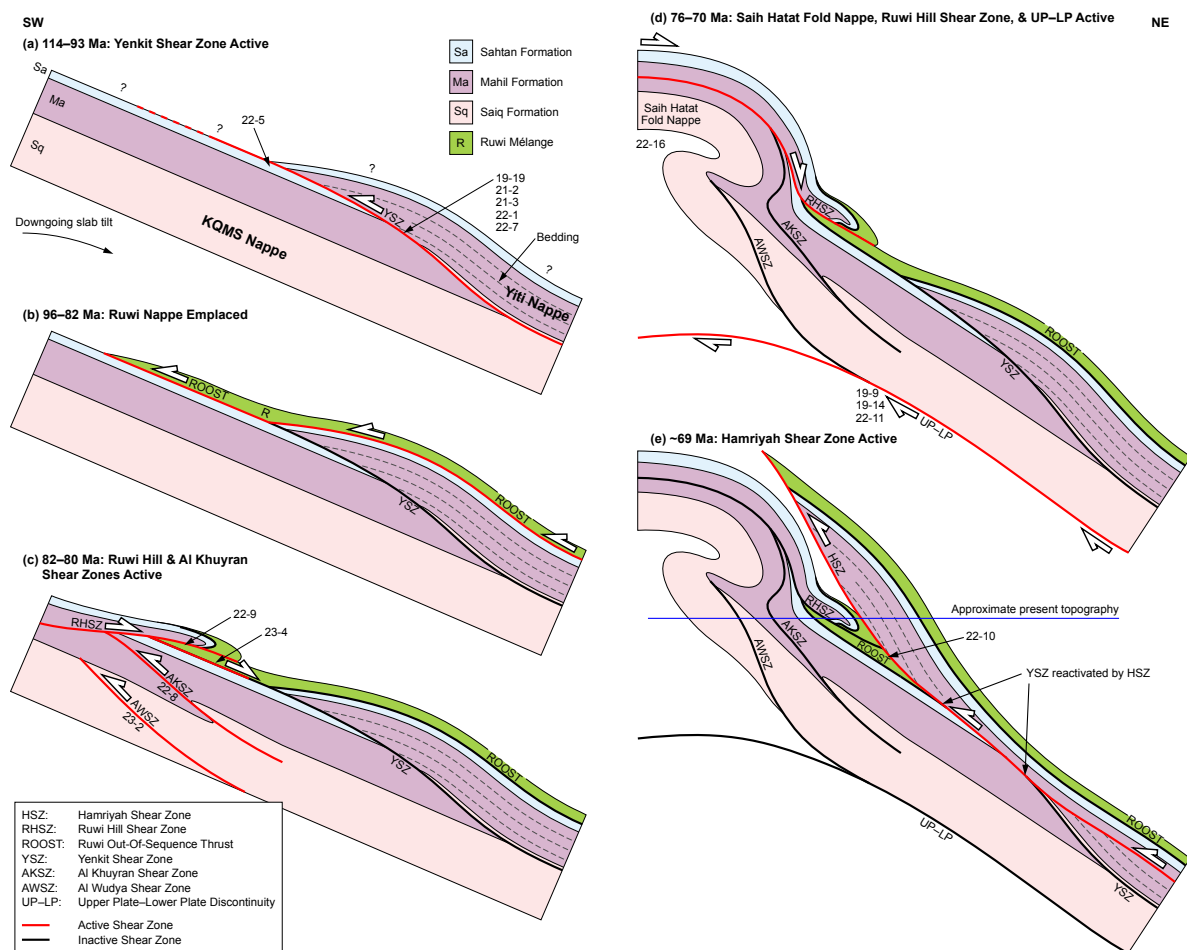


Fig. II-1. Schematic illustrations showing interpreted structural evolution of major features at Al Hamriyah in Saih Hatat window (compare to Fig. 7 of main paper). (a) Top-SW displacement along Yenkit shear zone, duplicating Mahil and Sahtan formations (Yiti and Al Khuryan-Quryat-Mayh-Saih Hatat (KQMS) nappes) on top of Arabian Platform. (b) Ruwi Nappe emplaced on top of Sahtan Formation along Ruwi out-of-sequence-thrust (ROOST) (note abundant top-SW kinematic indicators mapped in lower Ruwi Nappe). (c) Top-NE movement along Ruwi Hill shear zone, juxtaposing Mahil and Sahtan Formations of KQMS Nappe on top of Ruwi Nappe. Top-SW movement on Al Khuyran and Al Wudya shear zones. (d) Upper Plate—Lower Plate (UP-LP) Discontinuity and Saih Hatat fold nappe active, possible top-NE reactivation of Ruwi Hill shear zone. (e) Top-SW Hamriyah shear zone, emplacing Mahil formation (Yiti Nappe) on top of Ruwi Nappe, reactivating segments of Yenkit shear zone.