# The Yuli Belt in Taiwan: Part of the suture zone separating Eurasian and Philippine Sea plates

Yiqiong Zhang, Chin-Ho Tsai, Nikolaus Froitzheim, and Kamil Ustaszewski

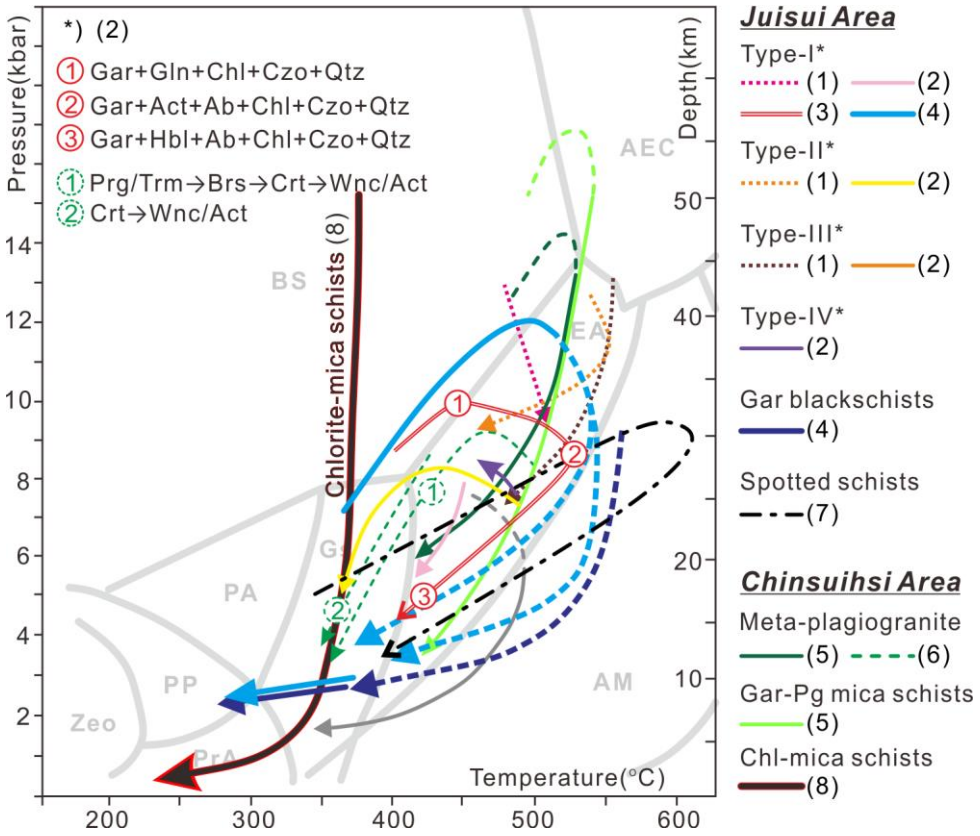


Fig. S1. P-T diagram (simplified after Maruyama et al. 1986) showing calculated metamorphic conditions and P-T-t paths suggested for high-pressure rocks in the Yuli belt with various metamorphic parageneses, as well as for a chlorite-mica schist from the metasedimentary unit (bold path-8). Type-I (Amp + Qz + Ep + Gar+ Chl + Rt/Ttn; Type-II: Pg + Amp + Qz + Ep + Gar + Chl + Ttn + Bt + Mag), Type-III (Amp + Qz + Ab + Ep + Gar + Rt + Hem + Ttn), and Type-IV (Amp +Ep + Pg+ Qz + Ab) are from Tsai et al. (2013). Mineral abbreviations follow those of Whitney and Evans (2010). Other abbreviations are Zeo, zeolite facies, PP, prehnite-pumpellyite facies; PA, pumpellyite–actinolite facies; PrA, prehnite-actinolite facies; GS, greenschist facies; EA, epidote-amphibolite facies; AM, amphibolite facies; BS, blueschist facies; AEC, amphibole eclogite facies. Sources: (1) Baziotis et al. 2017; (2) Tsai et al. 2013; (3) Sandmann et al. 2015; (4) Beyssac et al. 2008; (5) Lan et al. 1996; (6) Lo 2018; (7) Chiang 2003; (8) Conand et al. 2020.

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Table S1. Summary of deformation phases of the Yuli Belt metasediments from previous studies.

| Reference | Area | Method | Deformation phases and age (if any) |
|---|---|---|---|
| Stanley et al. 1981 | Southern Cross island highway | Schistosity and folding crosscutting relationships; Lithological correlations | **S1** = Cryptic<br>**S2** = Penetrative axial surface<br>**F2** = West vergent folds and faults<br>**S3** = NE strike; W dipping; Crenulation cleavage<br>**F3** = East verging; hinge plunge NE<br>**S4** = NE strike; NW dip; **F4** = minor folds deforming<br>**F5 and F6** = kink folds; variable orientation; flexing of dominant schistosity |
| Pelletier and Hu 1984 | Southern Cross Island Highway; East and South Taiwan | Structural analysis | **F0** = southward directed slumps<br>**D1** = EW to NW-SE compression; **S1** = Axial planar<br>**T1** = west vergent thrust<br>**F2** = kink-folds verging to the East, backfolding<br>**S2** = Crenulation cleavage<br>**F3** = North verging, E-W axis |
| Hu and Tsan 1984 | Southeastern Taiwan, Central Range | Structural and sedimentological analysis | **F0** = NS (EW depositional folds)<br>**S2** = NWW-SEE (NS-overturned tight folds and cleavage)<br>**D3** = bending of S2 cleavage |
| Faure et al. 1991 | Central and Southern cross island highway | Microstructural analysis and synthesis of previous works | **S1** = fracture cleavage (in the W. slate belt)<br>**F1** = overturned to the west (in slate belt)<br>**L1** = non-coaxial, top to the NW shear sense<br>**D2** =3.5 Ma (Pelletier and Stephan 1986)<br>**F2** = overturned to the E., axis trend 100N (back folding);<br>**S2** = axial planar crenulation<br>**F3** = axis S dipping<br>**D4** = Normal faulting |
| Clark et al. 1992 | Northern and Southern Cross Island Highway | Microstructural analysis (syntectonic fibrous growth orientation) | **D1**; **D2**; **D3** = **D2**; **D4** of Stanley et al. 1981<br>**S1** = dipping ~40SE; **L1** = updip; Clockwise rotation of elements + asymmetric folds and boudins → non-coaxial (simple shear)<br>**S2** = crenulation cleavage with fanning structure<br>**F2** = west vergent folds and axis dipping ~35° to the NE<br>**L2** = indicate fold-axis parallel extension and left-lateral shear<br>**Normal Faults** = σ 3 plunge towards the NE, parallel to S2 |

| Reference | Area | Method | Deformation phases and age (if any) |
|---|---|---|---|
| | | | **S3** = crenulation cleavage dipping NW, locally transposing S2 (in the east) |
| Fisher 1999; Fisher et al. 2002 | Easternmost Backbone Slates | Structural and microstructural analysis | **S2** = local crenulation, moderately W dipping<br>**F2** = axis gentle NE plunging.<br>**L2** = moderately NE dipping<br>**Normal Faults** = late W-dipping |
| Yeh 2004 | Eastern Central Range | Structural and microstructural analysis | **S0** = 37/096, overturned<br>**S1** = 31/075 strong pervasive slaty cleavage<br>**S2** = 36/308 pervasive foliation<br>**F2** = kink-folds verging to the East; backfolding<br>**S3** = 27/215, slaty cleavage<br>**F3** = kink-folds verging to the North; fold axis 21/025<br>**S4** = weak crenulation cleavage<br>**Normal Faults** = 45/045, 45/205, top-to-NE/SW shear |
| Ho and Lo 2015 | Shoufeng Hsi (Wanjung area) | Structural and microstructural analysis | **S1** = commonly destroyed; in the microlithon<br>**S2** = moderately NW dipping<br>**F2** = east-vergence isoclinal folding<br>**S3** = sub-horizontal axial plane cleavage<br>**F3** = recumbent folds; fold hinge plunge NW |
| Ho 2015 | Southern Cross Island Highway | Structural and microstructural analysis | **S1**; **S2**; **S3** of Ho and Lo 2015<br>**Normal Faults** |
| Mondro et al. 2017 | Eastern Central Range (Eocene slates) | Syntectonic fibrous growth orientation | **S2** of Fisher et al. 2002<br>bulk coaxial strain and lateral extrusion effects |