WRI-17 Post conference fieldtrip

P4: Ryoke metamorphic rocks: from accretionary complex to anatectic migmatites

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In this field trip, we will visit the Ryoke belt exposed in Kyoto prefecture and Mie prefecture. The Ryoke belt represents the crustal section that records plutono-metamorphism at the Cretaceous Eurasian continental margin. We will observe progressive change of the Mino-Tamba accretionary complex into the high-temperature/low-pressure type Ryoke metamorphic rocks (schists and anatectic migmatites), in addition to gneissose and massive granitoids intruding into the metamorphic rocks.

- We will leave Kyoto University at ~9:00 am on the first day (24 August), so staying at Kyoto on 23 August is strongly recommended.
- We will use two bans (8-9 persons each) for the trip. The ban has no extra space for large luggage. Therefore, please bring compact luggage suitable for two-day trip. Ask your hotel in Kyoto to keep large suitcases during the field trip. Please consult us if you want us to keep the suitcases during the field trip.
- Because the arrival to Kyoto University on the second day of the trip may vary depending on traffic jams, we strongly recommend to reserve a hotel in Kyoto on the second day (25 August).
- Also note that August in Japan is very hot and humid.
- The field trip may be canceled in case typhoon hits Kansai area (low possibility, though).

PLAN

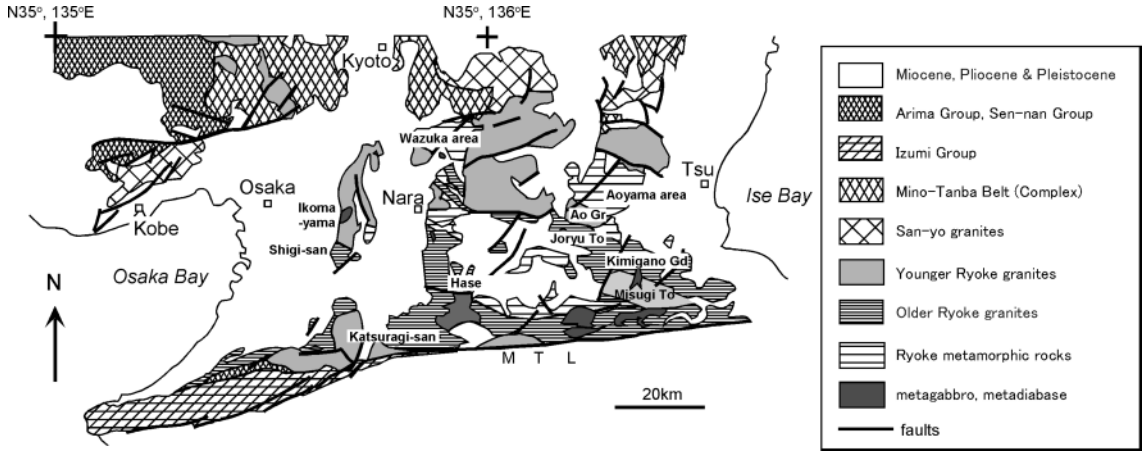


Fig. 1 Simplified geological map of the Kinki district showing the Waduka and Aoyama areas (Kawakami and Nishioka, 2012).

(Day-1)

We will visit the Wazuka area (Kyoto Prefecture). We start from observation of unmetamorphosed accretionary wedge material exposed in Kyoto (Uji-city), followed by low-grade pelitic schists, andalusite- and cordierite-bearing pelitic schists developed at the contact metamorphic aureole around the massive granitoids. We will move to Iga-city and stay there.

Stop 1

Mino-Tamba Complex at Amagase-dam.

We will observe protolith of Ryoke metamorphic rocks, the Mino-Tamba Complex. In this outcrop, duplex structures can be well observed (Kusunoki, 2020).

Stop 2

Lenses of green rock and limestone in low-grade metapelites.

Stop 3

Bt-zone grade slates at Inu-uchi pass.

Stop 4

Contact metamorphic zone of Crd+And grade developed around the massive Bt granite (Koya Granite).

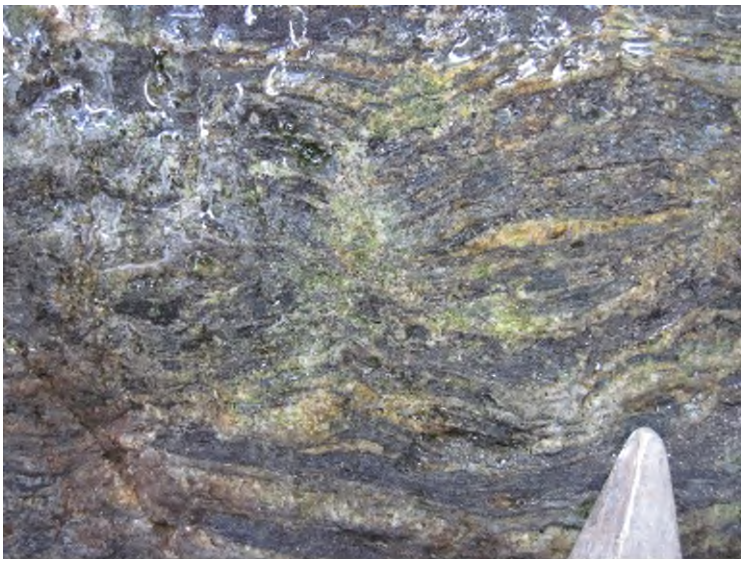
Drive to Iga city (stay at a hotel).

(Day-2)

We will visit the Aoyama area (Mie Prefecture). We start from pelitic schists of andalusite/sillimanite transition grade, followed by metatexite migmatites and diatexites. We will also visit an outcrop of gneissose granitoid/massive granitoid contact. We will arrive at Kyoto University after dusk.

Stop 5

Pelitic schist at the low-*T* part of the Grt-Crd zone containing Sil transformed from And. Interboudin partitions filled with leucosome may be observed, and magmatic And may be found within the leucosome (Kawakami, 2002). Tourmaline-out isograd (Kawakami, 2001) lies near this locality.



Stop 6

Lens-shaped leucosomes developed in migmatites. (We will walk into an outcrop in a river.)

Stop 7

Metatexite migmatites in the Grt-Crd zone (Kawakami, 2001) at Bano river. These migmatites are likely affected by the massive granitoid intrusions as suggested by bimodal age recorded in monazite (Kawakami & Suzuki, 2011).

Stop 8

Diatexite migmatites in the Grt-Crd zone (Kawakami, 2001) at Okuin river. Mafic lens may be observed. Glass inclusions were found in zircon from diatexite migmatites (Kawakami et al. 2013). Most of the zircon domains are considered to have grown during the anatectic melt crystallization when garnet breaks down to release Zr (Kawakami et al. 2019).

Stop 9

Contact between a gneissose granite (Joryu Tonalite) and a massive granite (Ao Granite).

Drive back to Kyoto University using highway.

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