Paleozoic subduction metamorphism in Japan: A review and more

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The Japanese island arc is a long-sustained active Pacific-type orogen displaying oceanward growth since early-Paleozoic time. The earlier stage accretion of scraps of oceanic and continental materials took place during the approximate interval 470-300 Ma, reflecting convergence between one or more paleo-Pacific plates and the stable, non-subducted Middle and Late Proterozoic continental lithosphere. A cold geotherm in paleo-subduction zone is attested to by the presence of lawsonite-blueschist and high-grade blueschist and rare glaucophane-eclogite in the Paleozoic geotectonic units. The polarity of subduction reflects underflow of the dominantly oceanic crust-capped paleo-Pacific lithosphere beneath the East Asian continental crust. Still, the nature of metamorphic and geochronologic data provides important constraints on the tectonic development of an earlier stage of the orogen growth and consumption of an oceanic plate. However, the correct interpretation of the paleo-subduction record and further understanding of subduction-zone process now require more comprehensive approach to focus on *in-situ* geochemical and isotopic analyses of prograde metamorphic minerals.

In this paper, new insights and new perspectives on the Japanese Paleozoic subduction metamorphism are presented.