Ophiolites and Ocean Plate Stratigraphy from the Northern and Southern belts in western Yarlung Zangbo Suture Zone, Tibet: Constraint on tectonic evolution of Neotethys ocean

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The Yarlung Zangbo suture zone (YZSZ) separates India and its northern passive margin units to the south from Eurasia and its active continental margin units of Xigaze forearc basin and Gangdese batholith to the north. The western YZSZ in southern Tibet is divided by the Zhongba terrane into the northern and southern belts. Ophiolites in northern belt (NB) are dismembered as ophiolitic mélanges. Peridotite, cumulated gabbros, ocean plate stratigraphy (OPS) of seamount remnants and pelagic-hemipelagic sequences as blocks in serpentinite matrix are mainly observed, from west to east, in Dajiweng, Baer, Kazhan, Cuobuzha, Zhalai, Gongzhu. Ophiolites in southern belt (SB) are absent ophiolitic units of sheeted dikes and MORB-like pillow lavas, occur as much larger peridotite massifs (i.e.,Dongbo, 400 km^2; Purang, 650 km^2; Xiugugabu, 700 km^2; Dangqiong, 300 km^2) that are intruded by mafic dike swarms and overlain by volcanic sedimentary OPS. We propose that the NB mafic–ultramafic rocks and volcanic sedimentary OPS represent fragments of an early Cretaceous continental margin ophiolite whose magmatic evolution was influenced by 140-137 Ma plume magmatism. Relics of Late Paleocene to very Early Eocene deep-marine basin were developed in Saga and Gyirong during. In contract, the SB ophiolitic mélanges report a travel log of an oceanic plate ranging from Middle Triassic to Early Cretaceous.